Nepal

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

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

1.1 ANTIMICROBIAL RESISTANCE (AMR)

1.1.1 AMR surveillance, detection, and reporting

1.1.1a

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

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

Current Year Score: 2

There is a national antimicrobial resistance (AMR) plan for the surveillance, detection and reporting of priority AMR pathogens in Nepal. Nepal's National Antimicrobial Resistance Containment Action Plan 2016 is the national plan for combating AMR. A section of the plan deals with laboratory-based AMR surveillance. [1] Laboratory surveillance for AMR started as early as 1999. The Epidemiology & Disease Control Division of the Department of Health Services used national surveillance programs to monitor different infectious diseases and to respond to the outbreaks with diagnostic support from National Public Health laboratory (NPHL). National Public Health laboratory through its existing 20 network laboratories monitored antimicrobial resistance among the possible isolates from patients (AMR surveillance network). The AMR plan seeks to expand the AMR surveillance in Nepal. It states that a 'National Antimicrobial Surveillance Center will be established at NPHL, targeting towards detection and characterization of antimicrobial resistance in all aspects of one health (animal, human, antimicrobial residues in human/animal food, and environment). This includes Quality Assurance (International & national), data quality & sensitivity of surveillance system through monthly monitoring the reports from the network labs (human, animal, food & agriculture) and their performance quality. Number of organisms and sites for AMR surveillance will be expanded to effectively cover the entire country'. [1,2] The AMR surveillance programme covers all five regions of the country and has expanded to ten pathogens of interest: viz. Salmonella species, Shigella species, Vibrio cholerae, Streptococcus pneumoniae, Neisseria gonorrhoeae, Haemophilus influenza, Extended Spectrum Beta Lactamase (ESBL) producing E. coli and Methicillin Resistant Staphylococcus aureus (MRSA), Multidrug Resistant Klebsiella species, and Multidrug resistant Acinetobacter species. [2] The operationalism of the National Action Plan (NAP) is led by a National Multi-Sectoral Steering Committee, chaired by the Health Secretary with the Chief of Curative Division as Member Secretary and representation from several departments in the Ministry of Health and Population and the Ministry of Agriculture, Land Management and Co-operatives (Livestock Development); NGOs; and Pharmacy Council.[3]

[1] Government of Nepal. Ministry of Health and Population. "NATIONAL ANTIMICROBIAL RESISTANCE CONTAINMENT ACTION PLAN NEPAL 2016". [http://www.who.int/antimicrobial-resistance/national-action-plans/library/en]. Accessed 21 April 2021
[2] Government of Nepal. Ministry of Health and Population. Department of Health Services. National Public Health Laboratory. 'Antimicrobial Resistance(AMR) Surveillance Programme, Monthly Bulletin, April 2017'.[https://www.nphl.gov.np/images/post-pictures/1495344122-amr-bulletin-april.PDF]. Accessed 21 April 2021.
[3] World Health Organisation(WHO). Nepal Country Report. "Resource mobilisation for AMR: Getting AMR into plans and budgets of government and development partners". [https://www.who.int/antimicrobial-resistance/national-action-plans/Nepal-AMR-integration-Report-WHO-Sept-2018.pdf?ua=1]. Accessed 17 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 a national laboratory system which tests for some priority anti microbial resistance (AMR) pathogens. The National Public Health Laboratory (NPHL), under the Department of Health Services (DOHS), acts as a focal point in AMR and leads laboratory-based AMR surveillance. It works with domestic and international partners in areas of surveillance, laboratory analysis, infectious disease outbreaks confirmation, awareness and public health guidance development, together with Epidemiology & Disease Control Division of the DOHS. [1] The NPHL started its monitoring with eight participating labs, a number that gradually increased to 20 by 2014. The NPHL co-ordinates with all the participating labs, helps in capacity building, conducts training and workshops, and aids in the formulation of appropriate antibiotic policy guidelines. A total of 1539 isolates of surveillance interest were reported 2014, including Salmonella (642; 41.7%%), ESBL E. coli (574; 37.2%), Streptococcus pneumoniae (205; 13.3%) and MRSA (105; 6.8%). Only seven Haemophilus influenzae (0.45%) and six Shigella isolates (0.38%) were reported in 2014. No isolate of Neisseria gonorrhoea or Vibrio cholerae was reported from participating laboratories. [2]

[1] Government of Nepal. Ministry of Health and population. "NATIONAL ANTIMICROBIAL RESISTANCE CONTAINMENT ACTION PLAN NEPAL 2016". [http://www.who.int/antimicrobial-resistance/national-action-plans/library/en]. Accessed 17 December 2020
[2] Government of Nepal. Ministry of Health and Population. Department of Health Services. National Public Health Laboratory. [https://www.nphl.gov.np/department/microbiology]. Accessed 17 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 insufficient evidence that the government conducts detection or surveillance activities for antimicrobial residues or AMR organisms. The National Action Plan mentions a National Antimicrobial Surveillance Centre, to be established under the National Public Health Laboratory (NPHL) for detection and characterisation of antimicrobial resistance in all aspects of One Health, which includes the environment. [1] Accordingly, antimicrobial surveillance is carried out by the NPHL. However, there is insufficient evidence that the NPHL carries out surveillance for AMR organisms in the environment. [2] The Department of Environment was established under the Ministry of Science, Technology and Environment (MoSTE) in July 2012. As an implementing organisation of environmental laws, the department also provides technical assistance to MoSTE while formulating policies and laws on environment-related issues. The department is also responsible for harmonising environmental activities to comply with international obligations, in collaboration with MoSTE. However, there is insufficient evidence that the department focuses on environment and water quality. [3] The key institutions providing reference laboratory-level services and research involved in AMR surveillance at a national level currently are the NPHL (in the human health sector) and the Central Veterinary Laboratory (in the animal health sector). No evidence of environmental surveillance is apparent from the websites of these institutions. [4]

[1] Government of Nepal. Ministry of Health and population. Department of Health Services. "NATIONAL ANTIMICROBIAL RESISTANCE CONTAINMENT ACTION PLAN NEPAL 2016". [http://www.who.int/antimicrobial-resistance/national-action-

plans/library/en]. Accessed 17 December 2020.
[2] Government of Nepal. Ministry of Health and population. Department of Health Services. National Public Health Laboratory. [https://www.nphl.gov.np/]. Accessed 17 December 2020.
[3] World Health Organisation (WHO). "Nepal Country Report". "Resource mobilisation for AMR: Getting AMR into plans and budgets of government and development partners". [https://www.who.int/antimicrobial-resistance/national-action-plans/Nepal-AMR-integration-Report-WHO-Sept-2018.pdf?ua=1]. Accessed 17 December 2020.
[4] Government of Nepal. Ministry of Agriculture and Livestock Development. Department of Livestock Services. Directorate of Animal Health. Central Veterinary Laboratory. [http://www.cvl.gov.np/en/]. Accessed 17 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: 1

Nepal has national legislation or regulation in place requiring prescriptions for antibiotic use for humans but there is evidence of gaps in enforcement. Nepal legislation mandates prescription for purchase of antibiotics for human use, but unauthorised dispensing is rampant. 'Self-medication is common in Nepal and most people do not comply with the treatment prescribed by the physician . Most patients fail to follow a full course of treatment and usually stop taking medicines after 2-3 days when symptoms start to subside. They then store the leftover medicines for future self-medication, thereby prolonging the duration of illness and speeding up the rate of development of resistance. In addition, antibiotics are easily available from pharmacies without prescriptions. Antibiotics are prescribed for colds, coughs and diarrhoea that are likely to heal following a simple course of supportive treatment . Health care workers commonly dispense incorrect doses and provide incorrect guidance on how medicines should be taken. Pharmaceutical companies with vested interests offer incentives to physicians to prescribe "their" drugs. Some physicians attempt to deprive people of their money by prescribing too many drugs, e.g., ciprofloxacin plus other antibiotics, with no consideration of product compatibility. In some hospitals and in intensive care units overuse of antibiotics and a high density of patients contribute to the increased pace of antimicrobial resistance'.[1]The Department of Drug Administration (DDA), operating under the Ministry of Health, regulates the approval for production and sale of antimicrobial drugs that are used in humans and animals. Its capacity in regulating the strict prescription based sale of medicines, that is restricting over the counter availability of antibiotics, needs to be strengthened. [2,3] The Nepal National Drug Policy of 1995 entrusts the Ministry of Health and Population (MoHP) with developing relevant legislation, guidance and monitoring tools to ensure prudent use of antibacterials in humans and animals. Standard Treatment Guidelines, which include antibiotic use, were issued in 2014 by the MoHP's Curative Division but have hardly been used. There have been no updates to the guidelines since 2014 and there is no surveillance system to monitor antibiotic consumption in the country. Although it is the national regulatory authority of Nepal, the DDA has limited human and economic resources to undertake such activities. [3,4]

[1] Krishna Prasad Acharya, R.Trevor Wilson. 'Antimicrobial Resistance in Nepal'.Frontiers in Medicine.2019. May 24; 6:105.[https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6543766/] Accessed 21 January 2021
[2] Government of Nepal. Ministry of Health and Population. Department of Drug Administration. Policies. National Drug Policy.1995. [http://www.dda.gov.np/content/national-drug-policy-1995]. Accessed 17 December 2020.
[3] Government of Nepal. Ministry of Health and Population.Department of Health Services. "NATIONAL ANTIMICROBIAL RESISTANCE CONTAINMENT ACTION PLAN NEPAL 2016". [http://www.who.int/antimicrobial-resistance/national-action-plans/library/en]. Accessed 17 December 2020
[4] World Health Organisation (WHO). Nepal Country Report."Resource mobilisation for AMR: Getting AMR into plans and

budgets of government and development partners". [https://www.who.int/antimicrobial-resistance/national-action-plans/Nepal-AMR-integration-Report-WHO-Sept-2018.pdf?ua=1]. Accessed 17 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: 1

Nepal has national legislation or regulation in place requiring prescriptions for antibiotic use for animals but there is evidence of gaps in enforcement. Nepal legislation mandates prescription for antibiotic use in animals. There are three major policies that pertain to antibiotic use and antimicrobial resistance (AMR) within Nepal's agricultural sector: the Animal Health and Livestock Services Act of 1999, the Nepal Veterinary Council Act of 1999 and the National Drug Policy of 1995. [1] Specifically, the National Drug Policy requires prescriptions for antibiotic use in animals.[2] This policy mandates the prudent use of antibiotics and mentions the classification of antibiotics into different groups for prescribing purposes by veterinary doctors. The policy further entrusts the Ministry of Health and Population (MoHP) with developing relevant legislation, guidance and monitoring tools to ensure prudent use of antibacterials in humans and animals. [2] Within the MoHP, the monitoring of antibiotic use is the responsibility of the Department of Drug Administration, which is supported by the Ministry of Agriculture, Land Management and Co-operative (Livestock Development) to regulate antibiotic use in animals. Although there are several efforts underway to strengthen surveillance in the animal health sector through a One Health approach, sustained support will be required to scale up AMR related policies and programme. [1] There is enough evidence to suggest that the regulations in place are inadequate for the use of veterinary drugs and there is an absolute lack of antimicrobial resistance surveillance in the veterinary field . 'Antimicrobials are often imported as feed additives or feed supplements as these are free of or pay a low rate of customs duty and registration charges. Poultry products are used without consideration of withdrawal periods even by commercial producers. There is extreme abuse of antibiotics in cattle, pigs and poultry as growth promoters and to minimize production losses. Sub-therapeutic doses used for growth promotion and disease prevention are likely to create resistant microbes that are transmissible to humans. Safe and judicious use of antibiotics on dairy farms is still not practised and the risk to public health of residues in meat and milk is high. A survey on distributors of veterinary medicines and feed supplements in 2003 in six Nepali districts reported annual sales of USD 6.7 million. Some 13% of total veterinary expenditure was on antibiotics whose sales rose by 50% between 2008 and 2012. Over 70% of veterinary drug sales were obtained from para-professionals or retail outlets (which do not have proper storage facilities and whose staff usually have no veterinary training) and not prescribed by veterinary professionals. Tetracycline, enrofloxacin, neomycin-doxycycline, levofloxacin, colistin, and tylosin are the top seven antibiotics consumed in Nepal with ampicillin, amoxicillin, ceftriaxone, and gentamicin being the most inappropriately prescribed medicines. A study by Acharya showed that 35.1% of drug sellers practised self-prescription whereas 40.4% of dispensed antibiotics were based on prescription by veterinarians. Similarly, 71% of veterinary drugs sold in Nepal were based on prescription by paraprofessionals and drug retailers. One study that examined prescription behavior by drug dispensers in Biratnagar, Kathmandu, Chitwan, Pokhara, and Surkhet (the main hotspots for drug sales in Nepal) found around 46% of veterinary drugs were sold under self-prescription and 12% were based on farmer demand. Retailers and distributors do not have adequate knowledge on effective dosage and the possible side effects of veterinary drugs. Several farmers administer antibiotics usually in consultation with neighbours and their own previous experience rather than qualified veterinarians/ practitioners'. [3] Further, 'According to the Department of Drug Administration (DDA), veterinary drugs worth 70 million rupees were imported by Nepal in 2006 when domestic production was 14 million rupees and drugs to the value of 155 million rupees were sold. There is an abundance of high cost, poor quality drugs on the market but administration to animals does not consider veterinary ethics.Thus, in the absence of effective veterinary drug regulation and co-ordination among authorities, the veterinary antimicrobial market is unorganized and haphazard'.[3]

[1] World Health Organisation (WHO). "Nepal Country Report"."Resource mobilisation for AMR: Getting AMR into plans and budgets of government and development partners". [https://www.who.int/antimicrobial-resistance/national-action-plans/Nepal-AMR-integration-Report-WHO-Sept-2018.pdf?ua=1]. Accessed 17 December 2020
[2] Government of Nepal. Ministry of Health and Population. Department of Drug Administration. Policies. National Drug Policy.1995. [http://www.dda.gov.np/content/national-drug-policy-1995]. Accessed 17 December 2020.
[3] Krishna Prasad Acharya, R.Trevor Wilson. 'Antimicrobial Resistance in Nepal'.Frontiers in Medicine.2019. May 24; 6:105.[https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6543766/] Accessed 21 January 2021

1.2 ZOONOTIC DISEASE

1.2.1 National planning for zoonotic diseases/pathogens

1.2.1a

Is there national legislation, plans, or equivalent strategy documents on zoonotic disease?
Yes = 1 , No = 0

Current Year Score: 1

There is evidence of a national strategy document on zoonotic disease in Nepal. The Epidemiology and Disease Control Division (EDCD) under the Department of Health Services is responsible for the Zoonoses Control Program. Six zoonoses (Taeniosis/cysticercosis /Neurocysticercosis, Leptospirosis, Hydatidosis, Brucellosis; Toxoplasmosis and Avian Influenza) have been identified as priority zoonotic diseases with epidemic potential. [1] The Zoonotic and Other Communicable Diseases Control Section under the EDCD provides support in preparing national laws, policies, strategies and guidelines for prevention, control, elimination and management of zoonotic diseases including rabies; assists in capacity development for prevention, control and management of zoonotic diseases; co-ordinates and co-operates in the development of technical human resources for diagnosis, treatment and management of zoonotic diseases; provides support to co-ordinate with provinces and local level authorities for prevention, control, elimination and management of zoonotic diseases; provides support for preparation and implementation of federal-level annual work plans related to zoonotic diseases; supports and co-ordinates in study and research activities related to zoonotic diseases; co-ordinates and facilitates supply of all the essential materials for the prevention, control and management of zoonotic diseases including anti-rabies vaccine; co-ordinates in information management and related activities of zoonotic diseases; and provides support at national level for monitoring and evaluation, surveys, surveillance and research-related activities regarding zoonotic diseases. [2,3]

[1] Government of Nepal. Ministry of Health and Population. Department of Health Services. Epidemiology and Disease Control Division. "Zoonoses Control Program". [http://www.edcd.gov.np/section/zoonoses-control-program]. Accessed 17 December 2020.
[2] Government of Nepal. Ministry of Health and Population. Department of Health Services. Epidemiology and Disease Control Division. "Zoonotic and Other Communicable Disease Control Section". [http://www.edcd.gov.np/section/zoonotic-section]. Accessed 17 December 2020.
[3] Government of Nepal. Ministry of Health and Population. Department of Health Services. "2018/2019 Annual Report". [http://dohs.gov.np/wp-content/uploads/2020/11/DoHS-Annual-Report-FY-075-76-.pdf]. Accessed 17 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 of national legislation, plans or equivalent strategy document(s) which includes measures for risk identification and reduction for zoonotic disease spillover events from animals to humans in Nepal. It is to be noted that there is evidence ofa national strategy document on zoonotic disease in Nepal. The Epidemiology and Disease Control Division (EDCD) under the Department of Health Services is responsible for the Zoonoses Control Program. Six zoonoses (Taeniosis/cysticercosis /Neurocysticercosis, Leptospirosis, Hydatidosis, Brucellosis; Toxoplasmosis and Avian Influenza) have been identified as priority zoonotic diseases with epidemic potential. [1] The Zoonotic and Other Communicable Diseases Control Section under the EDCD provides support in preparing national laws, policies, strategies and guidelines for prevention, control, elimination and management of zoonotic diseases including rabies; assists in capacity development for prevention, control and management of zoonotic diseases; co-ordinates and co-operates in the development of technical human resources for diagnosis, treatment and management of zoonotic diseases; provides support to co-ordinate with provinces and local level authorities for prevention, control, elimination and management of zoonotic diseases; provides support for preparation and implementation of federal-level annual work plans related to zoonotic diseases; supports and co-ordinates in study and research activities related to zoonotic diseases; co-ordinates and facilitates supply of all the essential materials for the prevention, control and management of zoonotic diseases including anti-rabies vaccine; co-ordinates in information management and related activities of zoonotic diseases; and provides support at national level for monitoring and evaluation, surveys, surveillance and research-related activities regarding zoonotic diseases. [2,3] However, there is no evidence of any plans that mention measures for risk identification and reduction for zoonotic disease spillover events from animals to humans in these documents. [1,2,3] No further evidence is found under the Ministry of Health or Ministry of Agriculture websites. [4,5]

[1] Government of Nepal. Ministry of Health and Population. Department of Health Services. Epidemiology and Disease Control Division. "Zoonoses Control Program". [http://www.edcd.gov.np/section/zoonoses-control-program]. Accessed 17 December 2020.
[2] Government of Nepal. Ministry of Health and Population. Department of Health Services. Epidemiology and Disease Control Division. "Zoonotic and Other Communicable Disease Control Section". [http://www.edcd.gov.np/section/zoonotic-section]. Accessed 17 December 2020.
[3] Government of Nepal. Ministry of Health and Population. Department of Health Services. "2018/2019 Annual Report". [http://dohs.gov.np/wp-content/uploads/2020/11/DoHS-Annual-Report-FY-075-76-.pdf]. Accessed 17 December 2020
[4] Government of Nepal. Ministry of Health and Population. Department of Health Services.[https://dohs.gov.np/] Accessed 17 December 2020
[5] Government of Nepal. Ministry of Agriculture and Livestock Development.[https://www.moald.gov.np/].Accessed 17 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 insufficient evidence that there are national plans for the surveillance and control of multiple zoonotic pathogens of public health concern in Nepal. The Epidemiology and Disease Control Division (EDCD) of the Department of Health Services is responsible for the surveillance and control of zoonotic diseases in Nepal. Six zoonoses (Taeniosis/cysticercosis /Neurocysticercosis, Leptospirosis, Hydatidosis, Brucellosis; Toxoplasmosis and Avian Influenza) have been identified as priority zoonotic diseases with epidemic potential. [1] The Zoonotic and Other Communicable Diseases Control Section under

the EDCD provides support in preparing national laws, policies, strategies and guidelines for prevention, control, elimination and management of zoonotic diseases including rabies; assists in capacity development for prevention, control and management of zoonotic diseases; co-ordinates and co-operates in the development of technical human resources for diagnosis, treatment and management of zoonotic diseases; provides support to co-ordinate with provinces and local level authorities for prevention, control, elimination and management of zoonotic diseases; provides support for preparation and implementation of federal-level annual work plans related to zoonotic diseases; supports and co-ordinates in study and research activities related to zoonotic diseases; co-ordinates and facilitates supply of all the essential materials for the prevention, control and management of zoonotic diseases including anti-rabies vaccine; co-ordinates in information management and related activities of zoonotic diseases; and provides support at national level for monitoring and evaluation, surveys, surveillance and research-related activities regarding zoonotic diseases. However, there is no evidence of specific plans on surveillance and control of the aforementioned zoonoses.[2] Although it is mentioned that the goal of the National Zoonosis Control Program is to prevent, control and manage outbreaks and epidemics of zoonosis, it is also mentioned that the public health activities are focused on snake bites and dog bites. [3] No further evidence is found under the Ministry of Health or the Ministry of Agriculture.[4,5]

[1] Government of Nepal. Ministry of Health and Population. Department of Health Services. Epidemiology and Disease Control Division. "Zoonoses Control Program". [http://www.edcd.gov.np/section/zoonoses-control-program]. Accessed 17 December 2020.
[2] Government of Nepal. Ministry of Health and Population. Department of Health Services. Epidemiology and Disease Control Division. "Zoonotic and Other Communicable Disease Control Section". [http://www.edcd.gov.np/section/zoonotic-section]. Accessed 17 December 2020
[3] Government of Nepal. Ministry of Health and Population. Department of Health Services. "2018/2019 Annual Report". [http://dohs.gov.np/wp-content/uploads/2020/11/DoHS-Annual-Report-FY-075-76-.pdf]. Accessed 17 December 2020
[4] Government of Nepal. Ministry of Health and Population. Department of Health Services.[https://dohs.gov.np/] Accessed 17 December 2020
[5] Government of Nepal. Ministry of Agriculture and Livestock Development.[https://www.moald.gov.np/].Accessed 17 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 insufficient evidence that the department dedicated to zoonotic disease control in Nepal functions across ministries. The Epidemiology and Disease Control Division (EDCD) under the Ministry of Health and Population's Department of Health Services is responsible for the following areas: epidemic/outbreak preparedness and control, malaria pre-elimination, kala-azar elimination, lymphatic filaria elimination, dengue control, disaster management, control of zoonotic diseases (especially dog bites), avian influenza control and surveillance, and communicable disease research. However, there is insufficient evidence that the EDCD functions across ministries on a regular basis. [1] The Veterinary Epidemiology Centre, operating under the Directorate of Animal Health, is the national focal point for animal disease surveillance, including rabies. Passive surveillance for bite incidents (due to dogs and other animals) is covered by the Health Management Information System, managed by the Department of Health Services (DoHS) under the Ministry of Health and Population. The Epidemiology and Disease Control Division, operating under the DoHS, is responsible for prevention and control of rabies in Nepal, recording human rabies cases and Post Exposure Prophylaxis (PEP) administration. [2]However, there is not enough evidence to demonstrate regular and formal collaboration across ministries. [3] No further evidence is found under the Ministry of Health

or the Ministry of Agriculture.[4,5]

[1] Government of Nepal. Ministry of Health and Population. Department of Health Services. Epidemiology and Disease Control Division. [http://www.edcd.gov.np/about-us/welcome-to-edcd]. Accessed 17 December 2020.
[2] Devleesschauwer D. 12 February 2016. Journal of Neglected Tropical Diseases. "Epidemiology, Impact and Control of Rabies in Nepal: A Systematic Review". [https://journals.plos.org/plosntds/article?id=10.1371/journal.pntd.0004461]. Accessed 17 December 2020.
[3] Government of Nepal. Ministry of Agriculture and Livestock Development.Department of Livestock Services. Veterinary Epidemiology Section. [http://www.epivet.gov.np/en/]. Accessed 17 December 2020
[4] Government of Nepal. Ministry of Health and Population. Department of Health Services.[https://dohs.gov.np/] Accessed 17 December 2020
[5] Government of Nepal. Ministry of Agriculture and Livestock Development.[https://www.moald.gov.np/].Accessed 17 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: 1

There is a national mechanism in place for owners of livestock to conduct and report on disease surveillance to a central government agency. A National Disease Notification System exists in Nepal whereby private veterinarians or owners of domestic animals notify the Livestock Service Centre/Sub-Centre, which then informs the District Livestock Services Office (DLSO). The DLSO then informs Central Agency (Central Veterinary Laboratory (CVL) / Veterinary Epidemiology Centre(VEC)/ Directorate of Animal Health (DAH)/ Department of Livestock Services (DLS) under the Ministry Of Agricultural Development. [1,2] The National Disease Notification System mentions that currently there is active surveillance and reporting implemented only for avian influenza and rinderpest, although there are around 21 notifiable diseases mentioned including anthrax and brucellosis. [2]

[1] World Organisation for Animal Health (OIE). "National Contingency Plan for Prevention and Control of Avian Influenza in Nepal". [http://www.oie.int/downld/AVIAN%20INFLUENZA/Nepal-HPAI%20Contingency%20Plan.pdf]. Accessed 17 December 2020
[2] Government of Nepal. Ministry of Agriculture and Livestock Development. Department of Livestock Services. "National Disease Notification System and Legislation and its enforcement on HPAI". [https://report.nat.gov.tw/ReportFront/PageSystem/reportFileDownload/C09804157/024]. Accessed 17 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 evidence to confirm that there are laws and guidelines that safeguard the confidentiality of information generated through surveillance activities for animals (for owners). Although there are guidelines on reporting of animal diseases in the Animal Health and Livestock Services Rules of 2000, there is no mention of guidelines to safeguard the confidentiality of the same information. [1] No evidence is available via the Ministry of Agriculture and Livestock, Ministry of Health or the World Organisation for Animal Health. [2,3,4]

[1] Government of Nepal. National Law Commission. "Animal Health and Livestock Services Rules,2000". [http://extwprlegs1.fao.org/docs/pdf/nep40221.pdf]. Accessed 18 December 2020
[2] Government of Nepal.Ministry of Agriculture and Livestock Development. [http://www.moad.gov.np/en]. Accessed 18 December 2020.
[3] Government of Nepal. Ministry of Health and Population. [http://www.mohp.gov.np/eng/index.php]. Accessed 17 December 2020.
[4] World Organisation for Animal Health (OIE). "National Contingency Plan for Prevention and Control of Avian Influenza in Nepal". [http://www.oie.int/downld/AVIAN%20INFLUENZA/Nepal-HPAI%20Contingency%20Plan.pdf]. Accessed 18 December 2020

1.2.2c

Does the country conduct surveillance of zoonotic disease in wildlife (e.g., wild animals, insects, other disease vectors)?
Yes = 1 , No = 0

Current Year Score: 0

Nepal does not conduct surveillance of zoonotic disease in wildlife. Surveillance is limited to insect-borne diseases. According to reports on Nepal, presented at the 65th Annual International Conference of The Wildlife Disease Association in 2016, very few resources are allocated towards diseases in the wildlife. [1] Although the Central Veterinary Laboratory, operating under the Ministry of Agriculture, works on epidemic investigation, as well as surveillance and investigation of various diseases, this surveillance is limited to domestic animals, and there is no evidence listed on surveillance of zoonotic disease in wild animals. [2] However, the Entomology Section and its laboratory, an integral part of the Epidemiology and Disease Control Division of Department of Health Services, plans, implements, monitors and supervises entomological activities including surveillance, risk assessments and the operational research of vector- and carrier-borne diseases including malaria, visceral leishmaniasis, filariasis, dengue, chikungunya, zika, Japanese encephalitis, chandipura encephalitis, scrub typhus, leptospirosis, plague, gastroenteritis and emerging and re-emerging diseases with the potential of epidemic outbreaks. It is also responsible for assuring the quality of tests to diagnose vector-borne diseases. [3,4] There is no evidence of surveillance of zoonotic diseases in wildlife in World Organisation for Animal Health (OIE) Reports. [5] No further evidence is found under the Ministry of Health or the Ministry of Agriculture.[6,7]

[1] The Wildlife Disease Association.65th Annual International Conference of the Wildlife Disease Association.2016. "Establishing priorities for wildlife disease surveillance in Nepal: starting from scratch". [http://programme.exordo.com/wda2016/delegates/presentation/52/]. Accessed 18 December 2020
[2] Government of Nepal. Ministry of Agriculture and Livestock Development. Department of Livestock Services. Directorate of Animal Health.Central Veterinary Laboratory. [http://www.cvl.gov.np/en/]. Accessed 18 December 2020.
[3] Government of Nepal. Ministry of Health and Population. Department of Health Services Epidemiology and Disease Control Division. [http://www.edcd.gov.np/]. Accessed 18 December 2020.
[4] Government of Nepal. Ministry of Health and Population. Department of Health Services. "2018/2019 Annual Report". [http://dohs.gov.np/wp-content/uploads/2020/11/DoHS-Annual-Report-FY-075-76-.pdf]. Accessed 18 December 2020
[5] World Organisation for Animal Health (OIE). "National Contingency Plan for Prevention and Control of Avian Influenza in Nepal". [http://www.oie.int/downld/AVIAN%20INFLUENZA/Nepal-HPAI%20Contingency%20Plan.pdf]. Accessed 18

December 2020
[6] Government of Nepal. Ministry of Health and Population. Department of Health Services.[https://dohs.gov.np/] Accessed 18 December 2020
[7] Government of Nepal. Ministry of Agriculture and Livestock Development.[https://www.moald.gov.np/].Accessed 18 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: 2.66

2018

OIE WAHIS database

1.2.4b

Number of veterinary para-professionals per 100,000 people

Input number

Current Year Score: 67.55

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

The national plan on zoonotic disease does not include mechanisms for working with the private sector in controlling or responding to zoonoses. Although The Epidemiology and Disease Control Division (EDCD) of the Ministry of Health mentions collaboration with the private sector in controlling or responding to zoonoses there is not enough evidence supporting the existence of this. [1] It is in fact mainly NGO-aided programs in Nepal that are linked with government programmes in controlling zoonoses in the country. The main activities of the control room of the Disease Surveillance and Research Section of the EDCD are supported by the World Health Organisation (WHO), the Nepal Health Sector Support Program and Deutsche Gesellschaft für Internationale Zusammenarbeit. [1]There is no evidence to support the existence of mechanisms through which the government works with the private sector to control zoonoses under the Ministry of Health, Ministry of Agriculture, Veterinary Epidemiology Center,National Public Health Laboratory websites or World Organisation For Animal Health (OIE) reports. [2,3,4,5,6]

[1] Government of Nepal. Ministry of Health and Population. Department of Health Services. Epidemiology and Disease Control Division. "Zoonotic Disease Control Programme". [http://mohp.gov.np/eng/program/communicable-disease/zoonotic-disease-control-programme]. Accessed 18 December 2020.
[2] Government of Nepal. Ministry of Health and Population. Department of Health Services. "2018/2019 Annual Report". [http://dohs.gov.np/wp-content/uploads/2020/11/DoHS-Annual-Report-FY-075-76-.pdf]. Accessed 18 December 2020.
[3] Government of Nepal. Ministry of Agriculture and Livestock Development.[https://www.moald.gov.np/].Accessed 21 January 2021
[4] Government of Nepal. Ministry of Agriculture and Livestock Development. Department of Livestock Services. Animal Disease Investigation and Control Division. Veterinary Epidemiology Centre. [http://www.epivet.gov.np/en/]. Accessed 18 December 2020
[5] Government of Nepal. Ministry of Health and Population. Department of Health Services. National Public Health Laboratory. [https://www.nphl.gov.np/]. Accessed 18 December 2020
[6] World Organisation for Animal Health (OIE). "National Contingency Plan for Prevention and Control of Avian Influenza in Nepal". [http://www.oie.int/downld/AVIAN%20INFLUENZA/Nepal-HPAI%20Contingency%20Plan.pdf]. Accessed 18 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

Nepal does not have a record, updated within the past five years, of the facilities in which especially dangerous pathogens and toxins are stored or processed. Nepal has regulations on biosecurity dealing with containment and transfer of hazardous animal pathogens. [1] However, there is no evidence of a record of the facilities in which especially dangerous pathogens and toxins are stored or processed under the Ministry of Health, Ministry of Forests and Environment, Ministry of Agriculture, Ministry of Defence or the Nepal Health Research Council websites. [2,3,4,5,6] Although Nepal is party to the UN Biological Weapons Convention (BWC), there is no publicly available evidence that it has submitted Confidence Building Measure

Reports in accordance with decisions of BWC Review Conferences. [7] The VERTIC database has no evidence of a record of the facilities in which especially dangerous pathogens and toxins are stored or processed. [8]

[1] Government of Nepal. Ministry of Agriculture and Livestock Development. Directorate of Animal Health. Veterinary Standards and Drug Administration Office. "Standard for the transfer and biocontainment of hazardous animal pathogens". [http://vsdrl.gov.np/downloadfile/veterinary7-2073_1567511849.pdf] Accessed18 December 2020.
[2] Government of Nepal. Ministry of Health and Population. Department of Health Services. National Public Health Laboratory. [https://www.nphl.gov.np/]. Accessed 18 December 2020
[3] Government of Nepal. Ministry of Forests and Environment. [http://www.mofe.gov.np/content/39/2018/87971196/]. Accessed 18 December 2020
[4] Government of Nepal. Ministry of Agriculture and Livestock Development. [http://mold.gov.np/]. Accessed 18 December 2020
[5] Government of Nepal.Ministry of Defence. [http://mod.gov.np/en]. Accessed 18 December 2020.
[6] Government of Nepal.Nepal Health Research Council. [http://nhrc.gov.np/publication-category/guidelines/]. Accessed 18 December 2020
[7] United Nations Biological Weapons Convention. "Confidence Building Measures". Nepal.[https://bwc-ecbm.unog.ch/]. Accessed 18 December 2020
[8] VERTIC. "BWC Legislation Database". Nepal.[http://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/n/]. Accessed 18 December 2020

1.3.1b

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

Yes = 1 , No = 0

Current Year Score: 0

Although Nepal has some regulations related to biosecurity that address requirements such as physical containment and operation practices for laboratories in which especially dangerous pathogens and toxins are stored, there is insufficient evidence of focus on prevention of unauthorised access to and misuse of such pathogens. There is a published manual of standards and regulations on biosecurity that addresses the standards and requirements for transfer and biocontainment of hazardous animal pathogens and toxins. The manual includes standards and regulations on specimen containers, receipt of specimens in the laboratory, opening of specimen packages, movement of biohazardous materials within laboratories, storage of hazardous pathogens in the laboratory, as well as listing the responsibilities of laboratories, cleaning and disinfection, and disposal of biomedical waste. [1] No evidence of legislation on biosecurity for prevention of unauthorised access to dangerous pathogens is available via the National Public Health Laboratory, Ministry of Defence, National Health Research Council or the National Public Health Institute websites. [2,3,4,5] Although Nepal is party to the UN Biological Weapons Convention (BWC), there is no publicly available evidence that it has submitted Confidence Building Measure Reports in accordance with decisions of BWC Review Conferences. [6] The VERTIC database does not contain biosecurity legislation beyond that which established Nepal as a party to the BWC. [7]

[1] Government of Nepal. Ministry of Agriculture and Livestock Development. Directorate of Animal Health. Veterinary Standards and Drug Administration Office. "Standard for the transfer and biocontainment of hazardous animal pathogens". [http://vsdrl.gov.np/downloadfile/veterinary7-2073_1567511849.pdf]. Accessed 18 December 2020
[2] Government of Nepal. Ministry of Health and Population. Department of Health Services. National Public Health Laboratory. [https://www.nphl.gov.np/]. Accessed 18 December 2020

[3] Government of Nepal. Ministry of Defence. [http://mod.gov.np/en]. Accessed 18 December 2020
[4] Government of Nepal.National Health Research Council. [http://nhrc.gov.np/]. Accessed 18 December 2020
[5] Government of Nepal.National Public Health Institute.
[http://www.ianphi.org/membercountries/memberinformation/nepal.html]. Accessed 18 December 2020
[6] United Nations Biological Weapons Convention. "Confidence Building Measures". Nepal. [https://bwc-ecbm.unog.ch/]. Accessed 18 December 2020
[7] VERTIC. "BWC Legislation Database". Nepal. [http://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/n/]. Accessed 18 December 2020

1.3.1c

Is there an established agency (or agencies) responsible for the enforcement of biosecurity legislation and regulations?
Yes = 1 , No = 0

Current Year Score: 0

There is insufficient evidence of an established agency responsible for the enforcement of biosecurity legislation. Although Nepal has some regulations related to biosecurity that address requirements such as physical containment and operation practices for laboratories in which especially dangerous pathogens and toxins are stored, there is insufficient evidence of focus on prevention of unauthorised access to and misuse of such pathogens. There is a published manual of standards and regulations on biosecurity that addresses the standards and requirements for transfer and biocontainment of hazardous animal pathogens and toxins. The manual includes standards and regulations on specimen containers, receipt of specimens in the laboratory, opening of specimen packages, movement of biohazardous materials within laboratories, storage of hazardous pathogens in the laboratory, as well as listing the responsibilities of laboratories, cleaning and disinfection, and disposal of biomedical waste. [1] No evidence of legislation on biosecurity for prevention of unauthorised access to dangerous pathogens is available via the National Public Health Laboratory, Ministry of Defence, National Health Research Council or the National Public Health Institute websites. [2,3,4,5] Although Nepal is party to the UN Biological Weapons Convention (BWC), there is no publicly available evidence that it has submitted Confidence Building Measure Reports in accordance with decisions of BWC Review Conferences. [6] The VERTIC database does not contain biosecurity legislation beyond that which established Nepal as a party to the BWC. [7]

[1] Government of Nepal. Ministry of Agriculture and Livestock Development. Directorate of Animal Health. Veterinary Standards and Drug Administration Office. "Standard for the transfer and biocontainment of hazardous animal pathogens". [http://vsdrl.gov.np/downloadfile/veterinary7-2073_1567511849.pdf]. Accessed 18 December 2020
[2] Government of Nepal. Ministry of Health and Population. Department of Health Services. National Public Health Laboratory. [https://www.nphl.gov.np/]. Accessed 18 December 2020
[3] Government of Nepal. Ministry of Defence. [http://mod.gov.np/en]. Accessed 18 December 2020
[4] Government of Nepal.National Health Research Council. [http://nhrc.gov.np/]. Accessed 18 December 2020
[5] Government of Nepal. National Public Health Institute.
[http://www.ianphi.org/membercountries/memberinformation/nepal.html]. Accessed 18 December 2020
[6] United Nations Biological Weapons Convention. "Confidence Building Measures". Nepal. [https://bwc-ecbm.unog.ch/]. Accessed 18 December 2020
[7] VERTIC. "BWC Legislation Database". Nepal.[http://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/n/]. Accessed 18 December 2020

1.3.1d

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

Yes = 1 , No = 0

Current Year Score: 0

There is no public evidence to show that the Nepal has taken action to consolidate its inventories of especially dangerous pathogens and toxins into a minimum number of facilities under the National Public Health Laboratory, Ministry of Agriculture, Ministry of Defence or the Nepal Health Research Council websites [1,2,3,4] Although Nepal is party to the UN Biological Weapons Convention (BWC), there is no publicly available evidence that it has submitted Confidence Building Measure Reports in accordance with decisions of BWC Review Conferences. The VERTIC Legislation Database contains the Biological and Toxin Weapons Convention, which mentions regulation of hazardous pathogens and biological weapons to prevent their deliberate or unintentional misuse release, production or containment, but there is no evidence of plans to consolidate Nepal's inventories of especially dangerous pathogens and toxins into a minimum number of facilities. [5]

[1] Government of Nepal. Ministry of Health and Population. Department of Health Services. National Public Health Laboratory. [https://www.nphl.gov.np/]. Accessed 18 December 2020
[2] Government of Nepal.Ministry of Agriculture and Livestock Development. [http://mold.gov.np/]. Accessed 18 December 2020.
[3] Government of Nepal. Ministry of Defence. [http://mod.gov.np/en]. Accessed 18 December 2020
[4] Government of Nepal. Nepal Health Research Council. [http://nhrc.gov.np/]. Accessed 18 December 2020
[5] United Nations Biological Weapons Convention. "Confidence Building Measures".Nepal. [https://bwc-ecbm.unog.ch/]. Accessed 18 December 2020
[6] VERTIC. "BWC Legislation Database." Nepal. [http://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/n/]. Accessed 18 December 2020

1.3.1e

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

Yes = 1 , No = 0

Current Year Score: 0

There is insufficient evidence of in-country capacity to conduct Polymerase Chain Reaction (PCR) based diagnostic testing for anthrax or Ebola. The National Laboratory System of Nepal comprises of The National Public Health laboratory (NPHL; in the human health sector) and the Central Veterinary Laboratory (CVL; in the animal health sector), which also serve as the reference laboratories in the respective sectors. [1] The NPHL operates a biosafety level (BSL) II lab with Real Time Polymerase Chain Reaction (RT-PCR), which is in use for testing viral load and avian influenza, including swine flu but there is no evidence of its capacity to conduct PCR tests for anthrax or Ebola. [2] The CVL also has the capacity to detect avian flu viruses using PCR-based testing, but there is no evidence that it has the capacity to conduct PCR tests for anthrax or Ebola. [3] There is also no evidence available of the use of PCR testing for anthrax and Ebola via the Ministry of Defence or the National Public Health Institute websites. [4,5] Although Nepal is party to the UN Biological Weapons Convention (BWC), there is no publicly available evidence that it has submitted Confidence Building Measure Reports in accordance with decisions of BWC Review Conferences. [6] The VERTIC database does not contain any evidence on Nepal's capacity to conduct Polymerase Chain Reaction for anthrax or Ebola. [7]

[1] World Organisation for Animal Health (OIE). "OIE Collaborating Centres Reports, Activity". [http://www.oie.int/fileadmin/Home/fr/Our_scientific_expertise/colcenterreports/2017/report_92_2017_Emerging_and_Re-Emerging_Zoonotic_Diseas_UNITED_STATES_OF_AMERICA.pdf]. Accessed 18 December 2020.
[2] Government of Nepal. Ministry of Health and Population. Department of Health Services. National Public Health Laboratory. [https://www.nphl.gov.np/page/about]. Accessed 18 December 2020
[3] Government of Nepal. Ministry of Agriculture and Livestock Development. Department of Livestock Services.Directorate of Animal Health. Central Veterinary Laboratory. [http://www.cvl.gov.np/en/molecular-biology]. Accessed 18 December 2020
[4] Government of Nepal. Ministry of Defence. [http://mod.gov.np/en]. Accessed 18 December 2020.
[5] The International Association of National Public Health Institutes. "Member information: Nepal". [http://www.ianphi.org/membercountries/memberinformation/nepal.html]. Accessed 18 December 2020
[6] United Nations Biological Weapons Convention. "Confidence Building Measures". Nepal. [https://bwc-ecbm.unog.ch/]. Accessed 21 April 2021
[7] VERTIC. "BWC Legislation Database". Nepal.[http://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/n/]. Accessed 21 April 2021

1.3.2 Biosecurity training and practices

1.3.2a

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

Yes = 1 , No = 0

Current Year Score: 0

There is not enough evidence to show that Nepal requires biosecurity training, using a standardised approach through a common curriculum, for personnel working in facilities housing or working with especially dangerous pathogens, toxins or biological materials with pandemic potential. There is evidence that Nepal trained veterinarians and medical doctors under the World Bank Assisted Regional Training Programme in Epidemiology and Bio-security in 2013. A government report, "Nepal Zoonoses Control Project. Environment Management Plan (2012/13-2013/14) published in March 2012, mentions an initiative financed by the Avian Human Influenza Facility. The Regional Training Programme in Epidemiology and Bio-security would also train Livestock Service officers, para-vets, farmers, security personnel and other key stakeholders on disease awareness, inspection/detection, prevention and bio-security. However there is lack of evidence to suggest if this is implemented through a common, standardised curriculum. Training is limited to certain pathogens, such as avian human influenza, and there is a need for expanded biosecurity training. [1] No evidence of training on biosecurity is available via the National Public Health Laboratory, Ministry of Defence, Ministry of Agriculture or Nepal Health Research Council websites. [2,3,4,5] Although Nepal is party to the UN Biological Weapons Convention (BWC), there is no publicly available evidence that it has submitted Confidence Building Measure Reports in accordance with decisions of BWC Review Conferences. [6] The VERTIC database has no evidence of a standardised training on biosecurity in Nepal. [7]

[1] Government of Nepal. Ministry of Agriculture and Cooperatives. "Nepal Zoonoses Control Project. Environment Management". (2012/13-2013/14). 30 March 2012[http://documents.worldbank.org/curated/en/651671468053931300/E30090REVISED00912B0SAR0EMP0P130089.doc]. Accessed 19 December 2020
[2] Government of Nepal. Ministry of Health and Population. Department of Health Services. National Public Health Laboratory. [https://www.nphl.gov.np/]. Accessed 19 December 2020
[3] Government of Nepal. Ministry of Defence. [http://mod.gov.np/en]. Accessed 19 December 2020

[4] Government of Nepal. Ministry of Agriculture and Livestock Development. [http://mold.gov.np/]. Accessed 19 December 2020.
[5] Government of Nepal. Nepal Health Research Council. [http://nhrc.gov.np/]. Accessed 19 December 2020.
[6] United Nations Biological Weapons Convention. "Confidence Building Measures". Nepal. [https://bwc-ecbm.unog.ch/]. Accessed 19 December 2020.
[7] VERTIC. BWC Legislation Database. Nepal.[http://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/n/]. Accessed 19 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 to suggest 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. The Nepal Health Research Council's "Health Care Waste Management and National Environment Health Impact Guidelines" have highlighted workers' health and safety with focus on proper training, personal protective equipment, effective occupational health, immunisations and medical surveillance. However, there is no evidence available in favour of such checks via the Nepal Health Research Council, the National Public Health Laboratory, the Ministry of Agriculture, the Ministry of Defence or the National Public Health Institute. [1,2,3,4,5] Although Nepal is party to the UN Biological Weapons Convention (BWC), there is no publicly available evidence that it has submitted Confidence Building Measure Reports in accordance with decisions of BWC Review Conferences. [6] The VERTIC Database has no evidence to suggest that security and other personnel with access to especially dangerous pathogens, toxins or biological materials with pandemic potential are subject to the said checks. [7]

[1] Government of Nepal. Nepal Health Research Council. [http://nhrc.gov.np/publication-category/guidelines/]. Accessed 19 December 2020.
[2] Government of Nepal. Ministry of Health and Population. Department of Health Services.National Public Health Laboratory. [https://www.mohp.gov.np/eng/about-us/department-of-health/nphl/infectious-disease-laboratory]. Accessed 19 December 2020.
[3] Government of Nepal. Ministry of Agriculture. [http://www.moad.gov.np/en]. Accessed 19 December 2020
[4] Government of Nepal. Ministry of Defence. [http://mod.gov.np/en]. Accessed 19 December 2020
[5] The International Association of National Public Health Institutes. "Member information: Nepal". [http://www.ianphi.org/membercountries/memberinformation/nepal.html]. Accessed 19 December 2020
[6] United Nations Biological Weapons Convention. "Confidence Building Measures". Nepal. [https://bwc-ecbm.unog.ch/]. Accessed 19 December 2020
[7] VERTIC. BWC Legislation Database. "Biological and Toxin Weapons Convention". Nepal. [http://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/n/]. Accessed 19 December 2020

1.3.4 Transportation security

1.3.4a

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

Yes = 1 , No = 0

Current Year Score: 1

Publicly available information on regulations on the safe and secure transport of infectious substances (Category A and B) can be found in Standards for the Transfer and Biocontainment of Hazardous Animal Pathogens 2012", approved by the Department of Livestock Services. Regulations on the safe and secure transport of infectious substances (Category A and B) are laid out under the section "International Shipment, Packaging, Labelling and Documentation Requirements for Infectious Substances in Category A and Category B". [1] Although Nepal is party to the UN Biological Weapons Convention (BWC), there is no publicly available evidence that it has submitted Confidence Building Measure Reports in accordance with decisions of BWC Review Conferences. [2] The VERTIC database contains evidence of regulation highlighting the safe handling, treatment and transport of hazardous pathogens and biological weapons under the Biological and Toxin Weapons Convention. [3]

[1] Government of Nepal. Ministry of Agriculture and Livestock Development.Department of Livestock Services.Veterinary Standards and Drug Administration Office. "Standard for the transfer and biocontainment of hazardous animal pathogens". [http://vsdrl.gov.np/downloadfile/veterinary7-2073_1567511849.pdf]. Accessed 19 December 2020
[2] United Nations Biological Weapons Convention. "Confidence Building Measures". Nepal. [https://bwc-ecbm.unog.ch/]. Accessed 19 December 2020
[3] VERTIC. "BWC Legislation Database". Nepal. [http://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/n/]. Accessed 19 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

Nepal has guidelines in place to oversee the cross-border transfer and end-user screening of toxins and pathogens with pandemic potential. "Standard for the transfer and biocontainment of hazardous animal pathogens 2012", approved by Department of Livestock Services, contains guidelines for the cross-border transfer and end-user screening of especially dangerous pathogens with pandemic potential. Roles of the shipper, carrier and receiver, applicable to both domestic and international transfer have been laid out in the guidelines. [1] Although Nepal is a state party to the Biological Weapons Convention (BWC), there is no publicly available evidence that Nepal has submitted Confidence Building Measure Reports in accordance with decisions of BWC Review Conferences. [2] The VERTIC database contains evidence of regulation highlighting the safe containment and transfer of hazardous pathogens and biological weapons under the Biological and Toxin Weapons Convention. [3]

[1] Government of Nepal. Ministry of Agriculture and Livestock Development. Department of Livestock Services.Veterinary Standards and Drug Administration Office. "Standard for the transfer and biocontainment of hazardous animal pathogens".

[http://vsdrl.gov.np/downloadfile/veterinary7-2073_1567511849.pdf]. Accessed 19 December 2020
[2] United Nations Biological Weapons Convention. "Confidence Building Measures". Nepal. [https://bwc-ecbm.unog.ch/]. Accessed 19 December 2020.
[3] VERTIC. "BWC Legislation Database". Nepal. [http://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/n/]. Accessed 19 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

Nepal does not have in place national biosafety legislations or regulations. The country has regulations on biosecurity, guiding the transfer and biocontainment of hazardous animal pathogens; "Standard for the transfer and biocontainment of hazardous animal pathogens 2012" was approved by the Department of Livestock Services in 2012. [1]The Nepal Health Research Council's "Health Care Waste Management and National Environment Health Impact Guidelines" highlight workers' health and safety with focus on proper training, personal protective equipment, effective occupational health, immunisations and medical surveillance. However, there is no evidence of specific biosafety legislation for the protection of personnel working with hazardous pathogens or biologicals of pandemic potential. [2] Nepal's National Biosafety Framework (2007) is applicable to the development, production, contained use, field test, intentional introduction into the environment, and import and export of genetically modified organisms (GMOs) that may have an adverse effect on the conservation of biological diversity and the environment, also taking into account risks to human health. The framework mainly covers the scientific research and testing of seed, plants, food, feed and animals with GMOs, whether imported or produced within the country. [3] No evidence of biosafety legislation is available via the National Public Health Laboratory or Ministry of Agriculture. [4,5] Although Nepal is party to the UN Biological Weapons Convention (BWC), there is no publicly available evidence that it has submitted Confidence Building Measure Reports in accordance with decisions of BWC Review Conferences. [6] The VERTIC database has no evidence of legislation on biosafety, although the safe containment, handling, treatment and transfer of dangerous pathogens and biologicals of pandemic potentials has been highlighted under the Biological and Toxin Weapons Convention. [7]

[1] Government of Nepal. Ministry of Agriculture and Livestock Development. Department of Livestock Services.Veterinary Standards and Drug Administration Office. "Standard for the transfer and biocontainment of hazardous animal pathogens". [http://vsdrl.gov.np/downloadfile/veterinary7-2073_1567511849.pdf]. Accessed 19 December 2020
[2] Government of Nepal. Nepal Health Research Council. [http://nhrc.gov.np/publication-category/guidelines/]. Accessed 19 December 2020
[3] Government of Nepal. Ministry of Forests and Soil Conservation."National Biosafety Framework". [http://www.apaari.org/web/wp-content/uploads/2017/11/Nepal.pdf]. Accessed 19 December 2020
[4] Government of Nepal. Ministry of Health and Population. Department of Health Services. National Public Health Laboratory. [https://www.nphl.gov.np/page/about]. Accessed 19 December 2020
[5] Government of Nepal. Ministry of Agriculture and Livestock Development. [http://www.moad.gov.np/en]. Accessed 19 December 2020.
[6] United Nations Biological Weapons Convention. "Confidence Building Measures". Nepal. [https://bwc-ecbm.unog.ch/]. Accessed 19 December 2020

[7] VERTIC. BWC Legislation Database. "Biological and Toxin Weapons Convention". Nepal.[http://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/n/]. Accessed 19 December 2020

1.4.1b

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

Yes = 1 , No = 0

Current Year Score: 0

There is no evidence of an agency responsible for the enforcement of biosafety legislation and regulations in Nepal. Nepal does not have in place national biosafety legislations or regulations. The country has regulations on biosecurity, guiding the transfer and biocontainment of hazardous animal pathogens; "Standard for the transfer and biocontainment of hazardous animal pathogens 2012" was approved by the Department of Livestock Services in 2012. [1]The Nepal Health Research Council's "Health Care Waste Management and National Environment Health Impact Guidelines" highlight workers' health and safety with focus on proper training, personal protective equipment, effective occupational health, immunisations and medical surveillance. However, there is no evidence of specific biosafety legislation for the protection of personnel working with hazardous pathogens or biologicals of pandemic potential. [2] Nepal's National Biosafety Framework (2007) is applicable to the development, production, contained use, field test, intentional introduction into the environment, and import and export of genetically modified organisms (GMOs) that may have an adverse effect on the conservation of biological diversity and the environment, also taking into account risks to human health. The framework mainly covers the scientific research and testing of seed, plants, food, feed and animals with GMOs, wither imported or produced within the country. [3] No evidence of biosafety legislation is available via the National Public Health Laboratory or Ministry of Agriculture. [4,5] Although Nepal is party to the UN Biological Weapons Convention (BWC), there is no publicly available evidence that it has submitted Confidence Building Measure Reports in accordance with decisions of BWC Review Conferences. [6] The VERTIC database has no evidence of legislation on biosafety, although the safe containment, handling, treatment and transfer of dangerous pathogens and biologicals of pandemic potentials has been highlighted under the Biological and Toxin Weapons Convention. [7]

[1] Government of Nepal. Ministry of Agriculture and Livestock Development. Department of Livestock Services.Veterinary Standards and Drug Administration Office. "Standard for the transfer and biocontainment of hazardous animal pathogens". [http://vsdrl.gov.np/downloadfile/veterinary7-2073_1567511849.pdf]. Accessed 19 December 2020
[2] Government of Nepal. Nepal Health Research Council. [http://nhrc.gov.np/publication-category/guidelines/]. Accessed 19 December 2020
[3] Government of Nepal. Ministry of Forests and Soil Conservation. "National Biosafety Framework". [http://www.apaari.org/web/wp-content/uploads/2017/11/Nepal.pdf]. Accessed 19 December 2020.
[4] Government of Nepal. Ministry of Health and Population. Department of Health Services. National Public Health Laboratory. [https://www.nphl.gov.np/page/about]. Accessed 19 December 2020.
[5] Government of Nepal.Ministry of Agriculture and Livestock Development. [http://www.moad.gov.np/en]. Accessed 19 December 2020
[6] United Nations Biological Weapons Convention. "Confidence Building Measures". Nepal. [https://bwc-ecbm.unog.ch/]. Accessed 19 December 2020.
[7] VERTIC. BWC Legislation Database. "Biological and Toxin Weapons Convention". Nepal.[http://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/n/]. Accessed 19 December 2020

1.4.2 Biosafety training and practices

1.4.2a

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

Yes = 1 , No = 0

Current Year Score: 0

There is no evidence that Nepal requires biosafety training, using a standardised, required approach, for personnel working in facilities housing or working with especially dangerous pathogens, toxins, or biological materials with pandemic potential. The regulations on biosecurity developed by the Department of Livestock Services do not mention such training. Adequate importance is not given to the safety of these personnel. [1] The "Biosafety Waste Management in Nepal" guidelines document, developed by the Nepal Health Research Council, has guidelines on biosafety and personal protection for personnel working with hazardous waste and has stressed the need of the biosafety committee to develop a national training package adapted to meet the training needs of all categories of staff who manage waste, as well as a national "training of trainers" course to provide the skills for a core of individuals to conduct continuing education on the waste management. [2] There is no evidence of such training via the National Public Health Laboratory. [3] Although Nepal is party to the UN Biological Weapons Convention (BWC), there is no publicly available evidence that it has submitted Confidence Building Measure Reports in accordance with decisions of BWC Review Conferences.[4] The VERTIC database has no evidence of requirement of a standardised biosafety training for personnel working with dangerous pathogens, toxins or biologicals with pandemic potential in Nepal.[5]

[1] Government of Nepal. Ministry of Agriculture and Livestock Development. Directorate of Animal Health. Veterinary Standards and Drug Administration Office. "Standard for the transfer and biocontainment of hazardous animal pathogens". [http://vsdrl.gov.np/downloadfile/veterinary7-2073_1567511849.pdf]. Accessed 19 December 2020
[2] Government of Nepal. Nepal Health Research Council. "Biosafety waste management in Nepal". [http://nhrc.gov.np/publication-category/guidelines/]. Accessed 19 December 2020
[3] Government of Nepal. Ministry of Health and Population. Department of Health Services. National Public Health Laboratory. [https://www.nphl.gov.np/]. Accessed 19 December 2020
[4] United Nations Biological Weapons Convention. "Confidence Building Measures". Nepal. [https://bwc-ecbm.unog.ch/]. Accessed 19 December 2020
[5] VERTIC. "BWC Legislation Database. Nepal.[http://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/n/]. Accessed 19 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 evidence that Nepal has conducted an assessment to determine whether ongoing research is occurring on especially dangerous pathogens, toxins, pathogens with pandemic potential or other dual research. The National Public Health Laboratory, the Epidemiology and Disease Control Division of the Ministry Of Health and the Central Veterinary Laboratory (CVL) conduct surveillance and investigation of various diseases, but there is no evidence available via these bodies, the Ministry of Defence or the Nepal Health Research Council to show that there is ongoing research on dangerous pathogens and toxins, or if an assessment has been done to determine whether such research is occurring. [1,2,3,4,5] Although Nepal is party to the UN Biological Weapons Convention (BWC), there is no publicly available evidence that it has submitted Confidence Building Measure Reports in accordance with decisions of BWC Review Conferences. [6] The VERTIC database has no evidence that Nepal has conducted an assessment to determine whether ongoing research is occurring on especially dangerous pathogens, toxins, pathogens with pandemic potential, or other dual research. [7]

[1] Government of Nepal. Ministry of Health and Population. Department of Health Services. National Public Health Laboratory. [https://www.nphl.gov.np/]. Accessed 19 December 2020
[2] Government of Nepal. Ministry of Health and Population. Department of Health Services. Epidemiology and Disease Control Division. [http://www.edcd.gov.np]. Accessed 19 December 2020
[3] Government of Nepal. Ministry of Agriculture and Livestock Development. Directorate of Animal Health. Central Veterinary Laboratory. [http://mold.gov.np/]. Accessed 19 December 2020.
[4] Government of Nepal. Ministry of Defence. [http://mod.gov.np/en]. Accessed 19 December 2020.
[5] Government of Nepal. Nepal Health Research Council. [http://nhrc.gov.np/]. Accessed 19 December 2020.
[6] United Nations Biological Weapons Convention. "Confidence Building Measures". Nepal. [https://bwc-ecbm.unog.ch/]. Accessed 19 December 2020
[7] VERTIC. "BWC Legislation Database". Nepal. [http://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/n/]. Accessed 19 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

Nepal does not have a national policy requiring oversight of dual research, such as research with especially dangerous pathogens, toxins and/or pathogens with pandemic potential. No evidence to support a national policy could be found via the National Public Health Laboratory, Directorate of Livestock Services, Ministry of Defence or the Nepal Health Research Council. [1,2,3,4] Although Nepal is party to the UN Biological Weapons Convention (BWC), there is no publicly available evidence that it has submitted Confidence Building Measure Reports in accordance with decisions of BWC Review Conferences. [5] The VERTIC database has no evidence of a national policy requiring oversight of dual research, such as research with especially dangerous pathogens, toxins and/or pathogens with pandemic potential. [6]

[1] Government of Nepal. Ministry of Health and Population. Department of Health Services. National Public Health Laboratory. [https://www.nphl.gov.np/]. Accessed 19 December 2020.
[2] Government of Nepal. Ministry of Agriculture and Livestock Development. Department of Livestock Services. [https://www.moald.gov.np/]. Accessed 19 December 2020
[3] Government of Nepal. Ministry of Defence. [http://mod.gov.np/en]. Accessed 19 December 2020.
[4] Government of Nepal. Nepal Health Research Council. [http://nhrc.gov.np/]. Accessed 19 December 2020
[5] United Nations Biological Weapons Convention. "Confidence Building Measures". Nepal. [https://bwc-ecbm.unog.ch/]. Accessed 19 December 2020

[6] VERTIC. "BWC Legislation Database". Nepal. [http://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/n/]. Accessed 19 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 of a specific agency responsible for oversight of research with especially dangerous pathogens, pathogens with pandemic potential, and/or other dual-use research via the National Public Health Laboratory, the Directorate of Livestock Services, the Ministry of Defence or the Nepal Health Research Council. [1,2,3,4] Evidence is limited to research and surveillance on communicable diseases being conducted by the Epidemiology and Disease Control Division under the Ministry of Health. [5] Although Nepal is party to the UN Biological Weapons Convention (BWC), there is no publicly available evidence that it has submitted Confidence Building Measure Reports in accordance with decisions of BWC Review Conferences. [6] The VERTIC database has no evidence of a specific agency responsible for the oversight of research with especially dangerous pathogens, pathogens with pandemic potential, and/or other dual-use research. [7]

[1] Government of Nepal. Ministry of Health and Population. Department of Health Services. National Public Health Laboratory. [https://www.nphl.gov.np/]. Accessed 19 December 2020
[2] Government of Nepal. Ministry of Agriculture and Livestock Development. Department of Livestock Services. [https://www.moald.gov.np/]. Accessed 19 December 2020.
[3] Government of Nepal. Ministry of Defence. [http://mod.gov.np/en]. Accessed 19 December 2020
[4] Ministry of Nepal. Nepal Health Research Council. [http://nhrc.gov.np/]. Accessed 19 December 2020
[5] Government of Nepal. Ministry of Health and Population. Department of Health Services. Epidemiology and Disease Control Division. [http://www.edcd.gov.np]. Accessed 19 December 2020.
[6] United Nations Biological Weapons Convention. "Confidence Building Measures". Nepal.[https://bwc-ecbm.unog.ch/]. Accessed 19 December 2020
[7] VERTIC. "BWC Legislation Database". Nepal.[http://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/n/]. Accessed 19 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 national legislation, regulation, policy or other guidance, requiring screening of synthesised DNA before it is sold. One report states that "national biotechnology policy is non-existent as yet. Draft of the Policy prepared by Ministry of Environment, Science and Technology has been years in gestation in the Cabinet". No evidence on regulation of synthesised DNA is available via the Ministry of Science and Technology, the National Public Health Laboratory, the Ministry of Agriculture, the Ministry of Defence or the Nepal Health Research Council. Although Nepal is party to the UN Biological Weapons Convention (BWC), there is no publicly available evidence that it has submitted Confidence Building Measure

Reports in accordance with decisions of BWC Review Conferences. [7] The VERTIC database has no evidence of national legislation, regulation, policy or other guidance requiring screening of synthesised DNA before it is sold. [8]

[1] Tuladhar S. "Biotechnology in Nepal: A Synopsis".2006.[https://www.slideserve.com/chapa/biotechnology-in-nepal]. Accessed 19 December 2020
[2] Government of Nepal. Ministry of Education,Science and Technology. [https://moe.gov.np/]. Accessed 19 December 2020
[3] Government of Nepal. Ministry of Health and Population. Department of Health Services. National Public Health Laboratory. [https://www.nphl.gov.np/]. Accessed 19 December 2020
[4] Government of Nepal. Ministry of Agriculture and Livestock Development. [http://mold.gov.np/]. Accessed 19 December 2020
[5] Government of Nepal. Ministry of Defence. [http://mod.gov.np/en]. Accessed 19 December 2020
[6] Government of Nepal. Nepal Health Research Council. [http://nhrc.gov.np/]. Accessed 19 December 2020
[7] United Nations Biological Weapons Convention. "Confidence Building Measures". Nepal. [https://bwc-ecbm.unog.ch/]. Accessed 19 December 2020
[8] VERTIC. "BWC Legislation Database". Nepal. [http://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/n/]. Accessed 19 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: 2

The national laboratory system of Nepal has the capacity to conduct diagnostic tests for all six World Health Organisation (WHO) commonly defined core tests. The National Public Health laboratory, which is the reference laboratory of Nepal, conducts the following tests: Universal Flu A PCR, Universal Flu B PCR, Influenza subtyping A/H1N1,pdm 09, A/H3, A/H5, A/H7, Microscopy for Mycobacterium Tuberculosis (AFB Stain), Serology for HIV (HIV Viral Load, HIV ELISA, HIV Western Blot, HIV Rapid, HIV Combi), Rapid Diagnostic Testing for Malarial parasites Antigen and Blood Culture for Salmonella Enteritidis subtype typhi. [1,2] However, there is no evidence that Nepal has defined the four country-specific tests. [1]

[1] Government of Nepal. Ministry of Health and Population. Department of Health Services. National Public Health Laboratory. [https://www.nphl.gov.np/]. Accessed 19 December 2020
[2] Gautam K. Nepal Medical College Journal. 2012;14
[3] :204-206."Studies on Extended Spectrum Beta Lactamase (ESBL) producing Salmonella isolates from clinical samples of Nepal". [https://pdfs.semanticscholar.org/4159/21fd9947f662e0b406029fce440fabd5cd21.pdf]. Accessed 19 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

In light of the present COVID-19 pandemic Nepal does have plans in place to scale testing and define goals for testing. As of July 2020, Nepal had expanded the testing centers to 20 designated functional COVID-19 testing laboratories capable of conducting Reverse Transcriptase-Polymerase Chain Reaction (RT-PCR) tests and over 200,000 samples had been tested. [1] The Health Sector Emergency Plan for COVID-19 Pandemic, published in May 2020, states that Nepal Public Health Laboratory (NPHL) will collaborate with public and private hospitals and laboratories to establish and strengthen testing capacity based on the need. Moreover, each hospital and laboratory should assess their needs and collaborate with the NPHL. [2] However, there is no evidence this plan could be used for novel pathogens, scaling capacity, and defining goals for testing for multiple disease outbreaks in the future. No further evidence for such a plan is found under the Ministry of Health,

Nepal Health Research Council or Ministry of Agriculture.[3,4,5]

[1] World Health Organization(WHO) Country Office for Nepal. Situation Update 11: Coronavirus Disease 2019. 01 July 2020.[https://www.who.int/docs/default-source/nepal-documents/novel-coronavirus/who-nepal-sitrep/11-who-nepal--situpdate-covid-19-03072020.pdf?sfvrsn=7cae8a64_2] Accessed 19 December 2020.
[2] Government of Nepal. Ministry of Health and Population.Health Sector Emergency Response Plan. COVID-19 Pandemic. May 2020.[https://www.who.int/docs/default-source/nepal-documents/novel-coronavirus/health-sector-emergency-response-plan-covid-19-endorsed-may-2020.pdf?sfvrsn=ef831f44_2] Accessed 21 April 2021
[3] Government of Nepal. Ministry of Health and Population. Department of Health Services. National Public Health Laboratory. [https://www.nphl.gov.np/]. Accessed 19 December 2020
[4] Government of Nepal. Nepal Health Research Council. [http://nhrc.gov.np/]. Accessed 19 December 2020
[5] Government of Nepal. Ministry of Agriculture and Livestock Development. [http://mold.gov.np/]. Accessed 19 December 2020

2.1.2 Laboratory quality systems

2.1.2a

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

Yes = 1 , No = 0

Current Year Score: 0

There is no evidence that the National Public Health Laboratory or Central Veterinary Laboratory, which serve as the reference laboratories in Nepal, are accredited. No evidence is found under the Ministry of Health, Ministry of Agriculture, National Public Health Laboratory or the Central Veterinary Laboratory websites.[1,2,3,4]

[1] Government of Nepal. Ministry of Health and Population. Department of Health Services.[https://dohs.gov.np/] Accessed 21 January 2021
[2] Government of Nepal. Ministry of Agriculture and Livestock Development.[https://www.moald.gov.np/].Accessed 21 January 2021
[3] Government of Nepal. Ministry of Health and Population. Department of Health Services.National Public Health Laboratory. [https://www.nphl.gov.np/page/about]. Accessed 19 December 2020
[4] Government of Nepal. Ministry of Agriculture and Livestock Development. Department of Livestock Services.Central Veterinary Laboratory. [http://www.cvl.gov.np/en/]. Accessed 19 December 2020

2.1.2b

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

Yes = 1 , No = 0

Current Year Score: 0

There is no evidence that the National Public Health Laboratory or Central Veterinary Laboratory, which serve as the reference laboratories in Nepal, are subject to external quality assurance review. No evidence is seen under the Ministry of Health, the Ministry of Agriculture,National Public Health Laboratory or the Central Veterinary Laboratory websites.[1,2,3,4]

[1] Government of Nepal. Ministry of Health and Population. Department of Health Services.[https://dohs.gov.np/] Accessed 21 January 2021
[2] Government of Nepal. Ministry of Agriculture and Livestock Development.[https://www.moald.gov.np/].Accessed 21 January 2021
[3] Government of Nepal. Ministry of Health and Population. Department of Health Services.National Public Health Laboratory. [https://www.nphl.gov.np/page/about]. Accessed 19 December 2020
[4] Government of Nepal. Ministry of Agriculture and Livestock Development. Department of Livestock Services.Central Veterinary Laboratory. [http://www.cvl.gov.np/en/]. Accessed 19 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 a lack of evidence of a standard nationwide specimen transport system in Nepal. Such evidence is limited to the use of appropriate media, maintaining cold chain for transport of specimens for influenza testing covering a wide region of Nepal and the use of airline courier services besides road transport of clinical specimen. [1,2] There is no evidence of an effective, standard specimen transport system available via the National Public Health Laboratory or the Central Veterinary Laboratory. [1,3]

[1] Government of Nepal. Ministry of Health and Population. Department of Health Services. National Public Health Laboratory. [https://www.nphl.gov.np/department/influenza]. Accessed 19 December 2020
[2] Maharjan B.. Journal of Epidemiology and Global Health. 2016.Volume 6. Issue 4: 257-265. "A novel sputum transport solution eliminates cold chain and supports routine tuberculosis testing in Nepal". [https://www.sciencedirect.com/science/article/pii/S2210600616300089]. Accessed 19 December 2020
[3] Government of Nepal. Ministry of Agriculture and Livestock Development. Department of Livestock Services. Central Veterinary Laboratory. [http://www.cvl.gov.np/en/]. Accessed 19 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 evidence of a plan in place to rapidly authorize or license laboratories to supplement the capacity of the national public health laboratory system to scale-up testing during an outbreak. Although the present COVID-19 pandemic has seen a rapid authorization of private hospitals across Nepal to scale up testing, there is no evidence of a plan that could be used for the same during outbreaks in the future. [1,2]No evidence is found under the Epidemiology and Disease Control Division under the Ministry of Health, Nepal Health Research Council or Ministry of Agriculture websites [3,4,5]

[1] Government of Nepal. Ministry of Health and Population. Department of Health Services. National Public Health Laboratory. [[https://www.nphl.gov.np/]. Accessed 19 December 2020
[2] World Health Organization(WHO) Country Office for Nepal. Situation Update 11: Coronavirus Disease 2019. 01 July 2020.[https://www.who.int/docs/default-source/nepal-documents/novel-coronavirus/who-nepal-sitrep/11-who-nepal--situpdate-covid-19-03072020.pdf?sfvrsn=7cae8a64_2] Accessed 19 December 2020
[3] Government of Nepal. Ministry of Health and Population. Department of Health Services. Epidemiology and Disease Control Division. [http://www.edcd.gov.np] Accessed 19 December 2020
[4] Government of Nepal. Nepal Health Research Council. [http://nhrc.gov.np/].Accessed 19 December 2020
[5] Government of Nepal. Ministry of Agriculture and Livestock Development.[https://www.moald.gov.np/] Accessed 19 December 2020

2.3 REAL-TIME SURVEILLANCE AND REPORTING

2.3.1 Indicator and event-based surveillance and reporting systems

2.3.1a

Is there evidence that the country is conducting ongoing event-based surveillance and analysis for infectious disease?
Yes, there is evidence of ongoing event-based surveillance and evidence that the data is being analyzed on a daily basis = 2, Yes, there is evidence of ongoing event-based surveillance, but no evidence that the data are being analyzed on a daily basis = 1, No = 0

Current Year Score: 0

There is no evidence of Nepal having ongoing event-based surveillance and analysis for infectious disease. The Epidemiology and Disease Control Division under the Ministry of Health has an Early Warning And Reporting System (EWARS) under the Surveillance Of Communicable Disease Program but this appears to be an ongoing indicator based surveillance program for specific diseases, rather than an event based one. 'Early Warning and Reporting System (EWARS) is a hospital-based sentinel surveillance system currently identified in 118 hospitals covering all 75 districts of Nepal. EWARS is designed to complement the country's Health Management Information System (HMIS) by providing timely reporting for early detection of selected vector-borne, water and food borne diseases with outbreak potential. It mainly focuses on the weekly reporting of detailed line list of cases and deaths (including "zero" reports) of six priority diseases/syndromes—Malaria, Kala-azar, Dengue, Acute Gastroenteritis (AGE), Cholera and Severe Acute Respiratory Infection (SARI), and other epidemic potential diseases/syndromes (like enteric fever, Leptospirosis, Hydrophobia, Chickungunya etc.). It equally focuses on immediate reporting (to be reported as soon as possible within 24 hours of diagnosis) of one confirmed case of Cholera, Kala-azar, severe and complicated Malaria and one suspect/clinical case of Dengue as well as 5 or more cases of AGE and SARI from the same geographical locality in one week period.' [1] At present, in light of the COVID-19 pandemic, the surveillance and reporting is done on a daily basis according to the Ministry of Health.[2] However an active, event based surveillance for infectious diseases seems to be lacking. No evidence is found under the Epidemiology and Disease Control Division, Ministry of Health, Ministry of Agriculture or the National Public Health Laboratory websites.[1,3,4,5]

[1] Government of Nepal. Ministry of Health and Population. Department of Health Services. Epidemiology and Disease Control Division. Disease Surveillance and Research Section. Surveillance of Communicable Disease Program. [http://www.edcd.gov.np/section/surveillance-of-communicable-disease-program] Accessed 19 December 2020
[2] Government of Nepal. Ministry of Health and Population Services. Covid-19 Updates.[https://covid19.mohp.gov.np/] Accessed 19 December 2020
[3] Government of Nepal. Ministry of Health and Population. Department of Health Services.[https://dohs.gov.np/] Accessed 21 January 2021

[4] Government of Nepal. Ministry of Agriculture and Livestock Development.[https://www.moald.gov.np/].Accessed 21 January 2021
[5] Government of Nepal. Ministry of Health and Population. Department of Health Services. National Public Health Laboratory. [https://www.nphl.gov.np/page/about]. Accessed 21 January 2021

2.3.1b

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

Yes = 1 , No = 0

Current Year Score: 1

There is evidence that Nepal reported a potential public health emergency to the World Health Organization (WHO) within the last two years under the WHO and Ministry of Health websites.[1,2,3] Nepal reported its first case of COVID 19 on January 23, 2020. [4] Since then, public alert, surveillance and updates on the outbreak in the country are provided on the websites of Ministry of Health, WHO websites and Nepal is working closely with the WHO to manage the pandemic in the country . [1,2,3,5] At present, daily updates on the number of new cases, total number of active cases and the total number of deaths can be noted on the WHO and Ministry of Health websites. [1,2,3]

[1] World Health Organization (WHO). Nepal.COVID-19.[https://covid19.who.int/region/searo/country/np].Accessed 19 December 2020
[2] Government of Nepal. Ministry of Health and Population. Department of Health Services.[https://dohs.gov.np/] Accessed 19 December 2020
[3] Government of Nepal. Ministry of Health and Population Services. Covid-19 Updates.[https://covid19.mohp.gov.np/] Accessed 19 December 2020
[4] Government of Nepal. Ministry of Health and Population.Health Sector Emergency Response Plan. COVID-19 Pandemic. May 2020.[https://www.who.int/docs/default-source/nepal-documents/novel-coronavirus/health-sector-emergency-response-plan-covid-19-endorsed-may-2020.pdf?sfvrsn=ef831f44_2] Accessed 21 April 2021
[5] World Health Organization (WHO).Nepal.[https://www.who.int/nepal] Accessed 19 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: 1

The government operates an electronic reporting surveillance system at both the national and the sub-national level. The government has started operating an electronic reporting surveillance system at both the national and sub-national level.The Deutsche Gesellschaft für Internationale Zusammenarbeit, in collaboration with the Ministry of Health and Population, has taken the initiative of digitalising Nepal's health sector. E-Reporting entails the open-source and web-based District Health Information System software (DHIS2) and is designed to facilitate the collection, validation, management, analysis and presentation of health service delivery data. A major advantage of DHIS2 is its flexible user interface, which allows the software to be tailored to different health information activities without specialist programming expertise. Data can be entered anywhere-at the health facility on a computer, laptop or other device, or in the field by community health workers using mobile phones or tablets. Around 300 health facilities are covered and the government is financing the expansion of

the e-reporting support package to an additional 500 facilities, representing approximately 20% of all health facilities. [1] The Early Warning and Reporting Systems (EWARS), which is used for surveillance of communicable diseases by the Epidemiology and Disease Control Division of the Ministry of Health, is built on DHIS2. It is being used as the surveillance system for six communicable diseases. Early Warning and Reporting System (EWARS) is a hospital-based sentinel surveillance system currently identified in 118 hospitals covering all 75 districts of Nepal. EWARS is designed to complement the country's Health Management Information System (HMIS) by providing timely reporting for early detection of selected vector-borne, water and food borne diseases with outbreak potential. It mainly focuses on the weekly reporting of detailed line list of cases and deaths (including "zero" reports) of six priority diseases/syndromes—Malaria, Kala-azar, Dengue, Acute Gastroenteritis (AGE), Cholera and Severe Acute Respiratory Infection (SARI), and other epidemic potential diseases/syndromes (like enteric fever, Leptospirosis, Hydrophobia, Chickungunya etc.). It equally focuses on immediate reporting (to be reported as soon as possible within 24 hours of diagnosis) of one confirmed case of Cholera, Kala-azar, severe and complicated Malaria and one suspect/clinical case of Dengue as well as 5 or more cases of AGE and SARI from the same geographical locality in one week period. EWARS bulletin is produced every week on Sunday and shared to all the medical recorders, EWARS focal persons, rapid response team members, Health Offices, Health directriate, Ministry of Social Development, VBDTRC, all the divisions and centers of Department of Health Services, Director General, DoHS, Secretary, MoHP, , and other supporting stakeholders like WHO, Global Fund through email and uploaded to EDCD official website.[2]

[1] Deutsche Gesellschaft für Internationale Zusammenarbeit. "Digitalising Nepal's Health Sector". [http://health.bmz.de/ghpc/case-studies/digitalising_nepals_health_sector/GHPC_NEPAL_DIGI_FINAL_WEB__.pdf]. Accessed 20 December 2020.
[2] Government of Nepal. Ministry of Health and Population. Department of Health Services. Epidemiology and Disease Control Division. Surveillance Of Communicable Disease Program. Early Warning And Reporting System (EWARS).[http://edcd.gov.np/section/surveillance-of-communicable-disease-program]. Accessed 21 January 2021

2.3.2b

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

Yes = 1 , No = 0

Current Year Score: 1

There is evidence that the electronic reporting surveillance system collects ongoing or real-time laboratory data. The Early Warning and Reporting Systems (EWARS), which is used for surveillance of communicable diseases by the Epidemiology and Disease Control Division of the Ministry of Health, is built on web-based District Health Information System software (DHIS2). It is being used as the surveillance system for six communicable diseases. Early Warning and Reporting System (EWARS) is a hospital-based sentinel surveillance system currently identified in 118 hospitals covering all 75 districts of Nepal. EWARS is designed to complement the country's Health Management Information System (HMIS) by providing timely reporting for early detection of selected vector-borne, water and food borne diseases with outbreak potential. It mainly focuses on the weekly reporting of detailed line list of cases and deaths (including "zero" reports) of six priority diseases/syndromes—Malaria, Kala-azar, Dengue, Acute Gastroenteritis (AGE), Cholera and Severe Acute Respiratory Infection (SARI), and other epidemic potential diseases/syndromes (like enteric fever, Leptospirosis, Hydrophobia, Chickungunya etc.). It equally focuses on immediate reporting (to be reported as soon as possible within 24 hours of diagnosis) of one confirmed case of Cholera, Kala-azar, severe and complicated Malaria and one suspect/clinical case of Dengue as well as 5 or more cases of AGE and SARI from the same geographical locality in one week period. EWARS bulletin is produced every week on Sunday and shared to all the medical recorders, EWARS focal persons, rapid response team members, Health Offices, Health directriate, Ministry of Social Development, VBDTRC, all the divisions and centers of Department of Health Services, Director General, DoHS, Secretary, MoHP, , and other supporting stakeholders like WHO, Global Fund through email and uploaded to EDCD official

website.[1]

[1] Government of Nepal. Ministry of Health and Population. Department of Health Services. Epidemiology and Disease Control Division. Surveillance Of Communicable Disease Program. Early Warning And Reporting System (EWARS).[http://edcd.gov.np/section/surveillance-of-communicable-disease-program]. Accessed 21 January 2021

2.4 SURVEILLANCE DATA ACCESSIBILITY AND TRANSPARENCY

2.4.1 Coverage and use of electronic health records

2.4.1a

Are electronic health records commonly in use?

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

Current Year Score: 1

Electronic health records (EHRs) are not commonly in use in Nepal but there is evidence that they are used. Approximately 20% of health facilities across the country use EHRs. The Support to the Health Sector Programme (S2HSP), initiated by Deutsche Gesellschaft für Internationale Zusammenarbeit, has enabled coverage of health facilities with a package of support that includes provision of laptops, internet connection and a five-day training package covering basic computer skills, in addition to the use of the District Health Information Software 2 (DHIS2) programme. To date, S2HSP has provided more than 200 laptops equipped with Ubuntu, a LINUX operating system, and Libre Office, at a cost of less than US$500 per laptop. For many health workers, particularly those working in more remote areas of the country, the training and support that they receive on the new e-reporting system, as well as their growing computer literacy, is opening new doors. Based on the success of activities pioneered with S2HSP, the government is financing the expansion of the e-reporting support package to an additional 500 facilities, representing approximately 20% of all Nepali health facilities. These combined efforts will enable a total of more than 800 health facilities to report directly into DHIS2 on a monthly basis, and the Ministry of Health and Population plans to scale up e-reporting to the whole country by 2020. [1] 'In efforts to strengthen the coordination of integrated, person-centered care across the public and private sectors and restore public trust in services, in 2009 the Ministry of Health and Population (MOHP) partnered with Possible, a US-based non-governmental organization. The public-private partnership between the government of Nepal and Possible manages several programs. One of these programs is an innovative electronic health record program called NepalEHR, which is helping to strengthen the management and delivery of health services. In particular, NepalEHR is supporting the delivery of continuous and coordinated Primary Health Care (PHC). While NepalEHR is not yet a nationalized system, it employs easy-to-use, open-source software that functions on a range of devices, including tablets and laptops. It is compatible with the national healthcare information system (DHIS2) and is scheduled to be made interoperable with openIMIS by the end of 2019. This helps to support the adaptability and scalability of NepalEHR as a national tool for PHC planning and service delivery. While the NepalEHR program shows promise for PHC strengthening, especially related to continuity and coordination of care, it is currently only operational for a small proportion of Nepal's population. More work needs to be done to integrate and scale this program nationally in order to build a more coordinated, interoperable, and integrated electronic information system that can improve the health of all Nepalese, including those in hard to access rural and remote areas.'[2] There is no further evidence on the current use of electronic health records via the Ministry of Health, the National Public Health Laboratory or the National Public Health Institute. [3,4,5]

[1] Deutsche Gesellschaft für Internationale Zusammenarbeit. "Digitalising Nepal's Health Sector". [http://health.bmz.de/ghpc/case-studies/digitalising_nepals_health_sector/GHPC_NEPAL_DIGI_FINAL_WEB__.pdf]. Accessed

20 December 2020.
[2] The Primary Healthcare performance Initiative (phcpi). Wiken,Poudel,Raut. 2018. 'Strengthening PHC capacity in the public sector through an integrated health information system in Nepal.'[https://improvingphc.org/strengthening-phc-capacity-public-sector-through-integrated-health-information-system-nepal] Accessed 20 December 2020
[3] Government of Nepal. Ministry of Health and Population. [https://www.mohp.gov.np/eng/]. Accessed 20 December 2020.
[4] Government of Nepal. Ministry of Health and Population. Department of Health Services. National Public Health Laboratory. [https://www.nphl.gov.np/]. Accessed 20 December 2020
[5] The International Association of National Public Health Institutes. "Member information: Nepal". [http://www.ianphi.org/membercountries/memberinformation/nepal.html]. Accessed 20 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

The national public health system of Nepal does not have access to electronic health records of individuals in the country. Public healthcare in Nepal is managed by the Department of Health Services (DoHS). The overall purpose of the DoHS is to deliver preventive, promotive and curative health services throughout the country. [1] The National Public Health Laboratory is a division of the DoHS. According to the institutional framework of the DoHS and Ministry of Health and Population, the health post (from an institutional perspective) is the first contact point for basic health services. Each level above this is a referral point in a network from health post to primary health care centre, on to district, zonal and regional hospitals, and finally to speciality tertiary care centres in the capital, Kathmandu. This referral hierarchy has been designed to ensure that the majority of population receive public health and minor treatment in places accessible to them at a price that they can afford. Inversely, the system works as a supporting mechanism for lower levels by providing logistical, financial, supervisory and technical support from the centre to the periphery. Although an electric health records (EHR) system has been implemented under the Ministry of Health, there is insufficient evidence it can access individual EHRs. [2,3,4]

[1] Government of Nepal. Ministry of Health and Population.Department of Health Services. [https://dohs.gov.np/about-us/department-of-health-services]. Accessed 21 December 2020
[2] Government of Nepal. Ministry of Health and Population. Department of Health Services. National Public Health Laboratory. [/https://www.nphl.gov.np/]. Accessed 21 December 2020
[3] Deutsche Gesellschaft für Internationale Zusammenarbeit. "Digitalising Nepal's Health Sector". [http://health.bmz.de/ghpc/case-studies/digitalising_nepals_health_sector/GHPC_NEPAL_DIGI_FINAL_WEB__.pdf]. Accessed 21 December 2020.
[4] The Primary Healthcare performance Initiative (phcpi). Wiken,Poudel,Raut. 2018. 'Strengthening PHC capacity in the public sector through an integrated health information system in Nepal.'[https://improvingphc.org/strengthening-phc-capacity-public-sector-through-integrated-health-information-system-nepal] Accessed 21 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 Nepal has data standards to ensure data is comparable.The national public health system of Nepal does not have access to electronic health records of individuals in the country. Public healthcare in Nepal is managed by the

Department of Health Services (DoHS). The overall purpose of the DoHS is to deliver preventive, promotive and curative health services throughout the country. [1] The National Public Health Laboratory is a division of the DoHS. According to the institutional framework of the DoHS and Ministry of Health and Population, the health post (from an institutional perspective) is the first contact point for basic health services. Each level above this is a referral point in a network from health post to primary health care centre, on to district, zonal and regional hospitals, and finally to speciality tertiary care centres in the capital, Kathmandu. This referral hierarchy has been designed to ensure that the majority of population receive public health and minor treatment in places accessible to them at a price that they can afford. Inversely, the system works as a supporting mechanism for lower levels by providing logistical, financial, supervisory and technical support from the centre to the periphery. Although an electric health records (EHR) system has been implemented under the Ministry of Health, there is no mention of a centralised EHR of individuals. [2,3,4] There is no evidence via the Department of Health Services or the National Public Health Laboratory that data standards are adopted to ensure that data is comparable. [1,2]

[1] Government of Nepal. Ministry of Health and Population. Department of Health Services. [https://dohs.gov.np/about-us/department-of-health-services]. Accessed 21 December 2020
[2] Government of Nepal. Ministry of Health and Population. Department of Health Services.National Public Health Laboratory. [https://www.nphl.gov.np/]. Accessed 21 December 2020
[3] Deutsche Gesellschaft für Internationale Zusammenarbeit. "Digitalising Nepal's Health Sector". [http://health.bmz.de/ghpc/case-studies/digitalising_nepals_health_sector/GHPC_NEPAL_DIGI_FINAL_WEB__.pdf]. Accessed 21 December 2020.
[4] The Primary Healthcare performance Initiative (phcpi). Wiken,Poudel,Raut. 2018. 'Strengthening PHC capacity in the public sector through an integrated health information system in Nepal.'[https://improvingphc.org/strengthening-phc-capacity-public-sector-through-integrated-health-information-system-nepal] Accessed 21 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 insufficient evidence of established mechanisms at the relevant ministries responsible for animal, human and wildlife surveillance to share data although collaboration between these ministries is mentioned. The Epidemiology and Disease Control Division (EDCD) of the Department of Health Services conducts surveillance of communicable diseases. It uses the Early Warning and Reporting System (EWARS), a hospital-based sentinel surveillance system currently identified in 82 hospitals covering all 75 districts of Nepal. EWARS is designed to complement the country's Health Management Information System (HMIS) by providing timely reporting for early detection of selected vector-, water- and food-borne diseases with outbreak potential. It mainly focuses on the weekly reporting of a detailed list of cases and deaths (including "zero" reports) of six priority diseases and syndromes—Malaria, Kala-azar, Dengue, Acute Gastroenteritis, Cholera and Severe Acute Respiratory Infection—and other epidemic potential diseases and syndromes including enteric fever, Leptospirosis, Hydrophobia and Chikungunya. An EWARS bulletin is produced every week and shared with all medical recorders, EWARS focal persons, rapid response team members, health offices, the Health Directorate, the Ministry of Social Development, VBDTRC, all the divisions and centres of the Department of Health Services(DoHS), Director General, DoHS, Secretary, (Ministry of Health and Population, and other supporting stakeholders including the World Health Organisation (WHO) and the Global Fund via email, as well as being uploaded to the EDCD website. Nepal does not conduct surveillance of zoonotic

diseases in wildlife. [1] Very few resources are allocated towards diseases in wildlife. [2] Although the Central Veterinary Laboratory works on epidemic investigation, as well as surveillance and investigation on various diseases, this surveillance is limited to domestic animals, and there is no evidence of surveillance of zoonotic disease in wild animals. [3] There is not enough evidence on surveillance of zoonotic diseases in wild animals via reports produced by the World Organisation for Animal Health (OIE). [4] One Health Nepal is a non-profit service-oriented organisation dedicated to promoting improved health of people, domestic animals, wildlife, plants and the environment. It aims to improve health and well-being through the prevention of risks and the mitigation of the effect of crises that originate at the interface between humans, animals and their environment by enhancing public awareness towards the importance of zoonotic diseases, dissemination of research findings of Zoonotic disease in scientific Journals and by networking and information sharing. However, there is not enough evidence to suggest a specific mechanism of communication between the various departments responsible for human health and animal health. [5] No evidence for such a mechanism is available via the National Public Health Laboratory or the Ministry of Environment. [6,7]

[1] Government of Nepal. Ministry of Health and Population. Department of Health Services. Epidemiology and Disease Control Division. [http://www.edcd.gov.np/section/surveillance-of-communicable-disease-program]. Accessed 21 December 2020
[2] The Wildlife Disease Association.65th Annual International Conference of the Wildlife Disease Association.31 July-5 August 2016."Establishing priorities for wildlife disease surveillance in Nepal: starting from scratch". [http://programme.exordo.com/wda2016/delegates/presentation/52/]. Accessed 21 December 2020
[3] Government of Nepal. Ministry of Agriculture and Livestock Development. Department of Livestock Services. Central Veterinary Laboratory. [http://www.cvl.gov.np/en/]. Accessed 21 December 2020
[4] World Organisation for Animal Health (OIE). "National Contingency Plan for Prevention and Control of Avian Influenza in Nepal". [http://www.oie.int/downld/AVIAN%20INFLUENZA/Nepal-HPAI%20Contingency%20Plan.pdf]. Accesse21 December 2020
[5] One Health Nepal. 2019.[https://onehealthnepal.wordpress.com/]. Accessed 21 December 21 2020
[6] Government of Nepal. Ministry of Health and Population. Department of Health Services. National Public Health Laboratory. [https://www.nphl.gov.np/]. Accessed 21 December 2020
[7] Government of Nepal. Ministry of Forests and Environment. [http://www.mofe.gov.np/]. Accessed 21 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: 1

Nepal makes de-identified health surveillance data on disease outbreaks publicly available on the website of the Department of Health Services Epidemiology and Disease Control Division (EDCD). The Early Warning and Reporting System (EWARS), a hospital-based sentinel surveillance system currently identified in 82 hospitals covering all 75 districts of Nepal, is designed to complement the country's Health Management Information System (HMIS) by providing timely reporting for early detection of selected vector-, water- and food-borne diseases with outbreak potential. It mainly focuses on the weekly reporting of a detailed list of cases and deaths caused by six priority diseases/syndromes—Malaria, Kala-azar, Dengue, Acute Gastroenteritis (AGE), Cholera and Severe Acute Respiratory Infection (SARS), as well as other diseases and syndromes of epidemic potential, including enteric fever, Leptospirosis, Hydrophobia and Chikungunya. EWARS equally focuses on immediate reporting (to be reported as soon as possible within 24 hours of diagnosis) of one confirmed case of Cholera, Kala-

azar, severe and complicated Malaria and one suspect/clinical case of Dengue, as well as five or more cases of AGE and SARS from the same geographical locality in one week period. EWARS bulletin is produced every week on Sunday and shared to all the medical recorders, EWARS focal persons, rapid response team members, Health Offices, Health directorate, Ministry of Social Development, Vector Borne Disease and Training Center (VBDTRC), all the divisions and centers of Department of Health Services (DoHS), Director General, DoHS, Secretary, Ministry of Health and Population (MoHP) and other supporting stakeholders like World Health Organization(WHO), Global Fund through email and uploaded to EDCD official website [1] In light of the present COVID-19 pandemic, daily de-identified health surveillance data are made available on the Ministry of Health Website[2]

[1] Government of Nepal. Ministry of Health and Population. Department of Health Services. Epidemiology and Disease Control Division. [http://www.edcd.gov.np/section/surveillance-of-communicable-disease-program]. Accessed 21 December 2020.
[2] Government of Nepal. Ministry of Health and Population Services. Covid-19 Updates.[https://covid19.mohp.gov.np/] Accessed 21 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 Nepal makes de-identified COVID-19 surveillance data available via daily reports on the Ministry of Health website. Daily updates on the total number of cases in the country and total number of cases by province, gender, age group, total number of new cases, recovered cases, persons in isolation/quarantine, number of deaths and total number of RT-PCR testing done in the country are made available on the website [1]

[1] Government of Nepal. Ministry of Health and Population Services. Covid-19 Updates.[https://covid19.mohp.gov.np/] Accessed 21 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 insufficient evidence that Nepal has laws to safeguard the confidentiality of identifiable health information for individuals, such as that generated through health surveillance activities. The Right to Information Act of 2007 promotes the public accountability, transparency and access of people towards information of public significance, as well as seeking to protect the sensitive information negatively affecting the state and the welfare of the people. Ensuring the right of people to information, it has also identified and mentioned some areas and types of information that are protected or not disseminated by public organisations. This includes information that could create disturbances to sovereignty, national integrity, peace, international relations, or fraternity among castes and ethnic groups, as well as information that may endanger the personal privacy, health or security of a person. Stating that public institutions must ensure that personal data

must not be published or disseminated without written approval of the person in question, the Act states that personal information available can be used only if it is demanded by law or in case of controlling corruption. However, this legislation does not explicitly cover personal health information. [1,2] There is no evidence of such legislation via the Ministry of Health or the National Public Health Laboratory. [3,4]

[1] United Nations Public Administration Network. 2012. "Learners Submission: Data Protection, Provision and Practice". [https://unpanelearning.wordpress.com/tag/nepal/]. Accessed 21 December 2020
[2] Government of Nepal. Nepal Information Commission. "Right to Information Act of 2007". [https://www.right2info.org/resources/publications/nepal-rti]. Accessed 21 December 2020
[3] Government of Nepal. Ministry of Health and Population Services. [https://www.mohp.gov.np/eng]. Accessed 21 December 2020
[4] Government of Nepal. Ministry of Health and Population. Department of Health Services. National Public Health Laboratory. [https://www.nphl.gov.np/]. Accessed 21 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 not enough evidence to show that the laws safeguarding the confidentiality of identifiable health information for individuals provides protection from cyber attacks. The Right to Information Act of 2007 and Right to Information Rule of 2009 do not include cyber security. [1,2,3] The Nepal Electronic Transaction Act of 2008 serves as the cyber law in Nepal. In general it establishes legal provisions on the do's and don'ts for using technology platforms such as computers and the internet, and on the nature of content circulated online. It provides for the official and legal application of electronic transactions such as digital signature and certification, but does not state how privacy will be protected. [4] There is no evidence of the provision of such legislation via the Epidemiology and Disease Control Division or the National Public Health Laboratory. [5,6]

[1] Government of Nepal. National Information Commission. "Right to Information Act of 2007". [https://www.right2info.org/resources/publications/nepal-rti]. Accessed 21 December 2020
[2] Government of Nepal. National Information Commission. "Right to Information Rule of 2009". [https://www.right2info.org/resources/publications/nepal-rti]. Accessed 21 December 2020.
[3] Global Information Society Watch. 2014."Nepal" [https://giswatch.org/en/country-report/communications-surveillance/nepal]. Accessed 21 December 2020
[4] Government of Nepal. National Information Commission. "The Electronic Transactions Act of 2008". [http://www.tepc.gov.np/uploads/files/12the-electronic-transaction-act55.pdf]. Accessed 21 December 2020
[5] Government of Nepal. Ministry of Health and Population. Department of Health Services. Epidemiology and Disease Control Division. [http://www.edcd.gov.np/resources/download/early-warning-and-reporting-system-guidelines]. Accessed 21 December 2020
[6] Government of Nepal. Ministry of Health and Population. Department of Health Services. National Public Health Laboratory. [https://www.nphl.gov.np/page/about]. Accessed 21 December 2020

2.4.5 International data sharing

2.4.5a

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

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

Current Year Score: 2

There is evidence of a co-operative agreement to share surveillance data for multiple diseases during a public health emergency with other countries in the region. The World Health Organisation (WHO) reports that, in the past, Nepal has made co-operative agreements with neighbouring countries to share surveillance data during a public health emergency. [1] The WHO also reports that "the national disease control programmes on HIV/AIDS, TB, Malaria and Kala-azar are in operation and will be strengthened in an integrated manner by India and Nepal, giving priority to the border areas. For this purpose, India and Nepal have agreed to adopt appropriate and coherent technical policies relating to cross-border case management and interventions for control in selected pilot districts of the two countries, and to operate similar technical and operational guidelines with flexibility at the local level and to finalize a mutually agreeable plan". 'The control of Malaria, Kala-azar, Tuberculosis and HIV/AIDS along the border constitutes a distinct epidemiological paradigm requiring a partnership between the two countries. It is in this context that the Joint Plan of Action between India and Nepal for control of the four priority communicable diseases has been initiated. A bilateral and horizontal networking mechanism Cross-border Control of AIDS, TB, Malaria and Kala-azar in Pilot Districts of India and Nepal will enhance the sharing and learning process in order to control these priority communicable diseases'. This agreement also mentions an inter-alia provision of treatment facilities for patients from across borders, synchronisation of interventions and establishment of an information exchange mechanism, especially at the local level. [2]

[1] World Health Organisation (WHO).2001. " Operational Guidelines on Cross-Border Control of Priority Communicable Diseases." [https://apps.who.int/iris/bitstream/handle/10665/205592/B3325.pdf?sequence=1&isAllowed=y]. Accessed 21 December 2020.
[2] World Health Organisation (WHO).2002. "Cross-border Control of AIDS, TB Malaria and Kala-azar in Pilot Districts of India and Nepal". [https://apps.who.int/iris/bitstream/handle/10665/204921/B3323.pdf?sequence=1&isAllowed=y]. Accessed 21 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 evidence of a national system in place to provide support at the sub-national level (e.g. training, metrics standardization and necessary resources) to conduct contact tracing in the event of a public health emergency in Nepal, but

only in response to active health emergencies. Contact tracing has been given importance to control the spread of the disease in light of the present COVID-19 pandemic. The Health Sector Emergency Response Plan for COVID 19 Pandemic, published in May 2020, states that 'Case investigation and contact tracing teams (CICTTs) will be formed and mobilized at local level. Each team will be composed of Public health professional (lead), Health worker (paramedics/nurse) and Laboratory technician/assistant. At least five teams in metropolitan city (6 x 5 = 30), three in sub-metropolitan (11 x 3 = 33), two in each municipality (276 x 2 = 552) and one in rural municipalities (460 x 1 = 460) will be formed for a Total of 1075 CICTTs. All CICTTs will be trained/oriented to make them ready to deploy. During the response process numbers of the teams will be reconsidered based on the disease burden and geography of the locality. CICTT teams will work in close coordination with Rapid Response Teams. Necessary resources and protective measures according to level of risk shall be provided to the CICTTs'. [1]

[1] Government of Nepal. Ministry of Health and Population.Health Sector Emergency Response Plan. COVID-19 Pandemic. May 2020.[https://www.who.int/docs/default-source/nepal-documents/novel-coronavirus/health-sector-emergency-response-plan-covid-19-endorsed-may-2020.pdf?sfvrsn=ef831f44_2] Accessed 21 April 2021

2.5.1b

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

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

Current Year Score: 0

There is no evidence that Nepal provides wraparound services to enable infected people and their contacts to self-isolate as recommended, particularly economic support (paycheck, job security) and medical attention. In the present Covid-19 pandemic, although self isolation and quarantining of infected people and their contacts has been stressed and medical attention to these cases has been given importance, the other services particularly economic support etc has not been mentioned.[1] No evidence for such wraparound services has been mentioned under the Ministry of Health, Epidemiology and Disease Control Division or Nepal Health Research Council websites.[2,3,4]

[1] World Health Organization (WHO). Nepal. Risk Communication for Covid-19.[https://www.who.int/nepal/covid19nepal] Accessed 21 December 2020
[2] Government of Nepal. Ministry of Health and Population. Department of Health Services. [https://dohs.gov.np/about-us/department-of-health-services]. Accessed 21 December 2020
[3] Government of Nepal. Ministry of Health and Population. Department of Health Services. Epidemiology and Disease Control Division. [http://www.edcd.gov.np/section/surveillance-of-communicable-disease-program]. Accessed 21 December 2020.
[4] Government of Nepal. Nepal Health Research Council.[http://nhrc.gov.np/] Accessed 21 December 2020

2.5.1c

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

Yes = 1 , No = 0

Current Year Score: 0

There is no evidence that Nepal 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. Although contact tracing and quarantining of the contacts is given importance under the Ministry of Health and Epidemiology and Disease Control Division, there is no evidence that de-identified data on contact tracing is made available which includes percentage of new cases from identified cases specifically [1,2] However, there is de-identified data on the number of cases, active cases, discharged cases, number of deaths updated daily on the Ministry of Health Website. This data also includes a province wise and gender wise tally.[1] There is no further evidence on Epidemiology and Disease Control Division, Health Emergency Operations Center or National Public Health Laboratory websites. [2,3,4]

[1] Government of Nepal. Ministry of Health and Population Services. Covid-19 Updates.[https://covid19.mohp.gov.np/] Accessed 22 December 2020
[2] Government of Nepal. Ministry of Health and Population. Department of Health Services. Epidemiology and Disease Control Division. SOP on COVID-19. [https://www.edcd.gov.np/news/links-for-covid-19-news-and-information]. Accessed 22 December 2020
[3] Government of Nepal. Ministry of Health and Population. Health Emergency and Disaster Management Unit.Health Emergency Operation Center. "Coronavirus Disease (COVID-19) outbreak updates and resource materials".[https://heoc.mohp.gov.np/update-on-novel-corona-virus-covid-19] Accessed 22 December 2020
[4] Government of Nepal. Ministry of Health and Population. Department of Health Services. National Public Health Laboratory. [https://www.nphl.gov.np/]. Accessed 22 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 insufficient evidence of a joint plan or cooperative agreement between the public health system and border control authorities to identify suspected and potential cases in international travelers and trace and quarantine their contacts in the event of a public health emergency but only in response to active public health emergencies. In light of the Covid-19 pandemic, there is evidence of a joint plan between the public health system and the border control authorities to identify suspected and potential cases in international travellers, but there is insufficient evidence this plan includes provisions to trace and quarantine their contacts. Guidelines for Screening at Ports of Entry, both airport and ground have been given in the "Health Sector Emergency Response Plan for COVID 19 Pandemic" published in May 2020 the under the Ministry of Health. [1,2] No evidence of such a plan or agreement for public health emergencies prior to the COVID-19 pandemic is found under the Ministry of Health, Department of Immigration, Health Emergency Operations Center, Epidemiology and Disease Control Division or National Public Health Laboratory websites. [3,4,5,6,7]

[1] U.S Department of State.13 March 2020. 'Overseas Security Advisory Council Bureau of Diplomatic Security'.[https://www.osac.gov/Country/Nepal/Content/Detail/Report/b954e2d7-7e75-47b1-bfbc-18304218f807].Accessed 23 December 2020
[2] Government of Nepal. Ministry of Health and Population. Health Sector Emergency Response Plan. COVID-19 Pandemic. May 2020. [https://www.who.int/docs/default-source/nepal-documents/novel-coronavirus/health-sector-emergency-

response-plan-covid-19-endorsed-may-2020.pdf?sfvrsn=ef831f44_2] Accessed 21 April 2021
[3] Government of Nepal. Ministry of Health and Population. Department of Health Services. [https://dohs.gov.np/about-us/department-of-health-services]. Accessed 23 December 2020
[4] Government of Nepal. Ministry of Home Affairs. Department of Immigration.[https://www.immigration.gov.np/page/notice?page=9] Accessed 23 December 2020
[5] Government of Nepal. Ministry of Health and Population. Health Emergency and Disaster Management Unit. Health Emergency Operation Center.[https://heoc.mohp.gov.np/] Accessed 23 December 2020
[6] Government of Nepal. Ministry of Health and Population. Department of Health Services. Epidemiology and Disease Control Division.[https://www.edcd.gov.np/] Accessed 23 December 2020
[7] Government of Nepal. Ministry of Health and Population. Department of Health Services. National Public Health Laboratory. [https://www.nphl.gov.np/]. Accessed 23 December 2020

2.6 EPIDEMIOLOGY WORKFORCE

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

2.6.1a

Does the country meet one of the following criteria?
- Applied epidemiology training program (such as FETP) is available in country
- Resources are provided by the government to send citizens to another country to participate in applied epidemiology training programs (such as FETP)
Needs to meet at least one of the criteria to be scored a 1 on this measure. , Yes for both = 1 , Yes for one = 1 , No for both = 0

Current Year Score: 0

Although there is evidence that Nepal has conducted field epidemiology training programmes (FETPs) and the country has also participated in FETPs conducted outside the country, there is insufficient evidence to suggest standardised training is available on a regular basis in the country or if resources are allocated for international trainings. The Nepal Health Research Council conducted three FETP training programmes between 1991 and 2020. [1] Furthermore, India's National Centre for Disease Control conducted an FETP featuring participants from Nepal in 2008. [2] Nepal is not a member of the South Asia Field Epidemiology and Technology Network (SAFETYNET), but is listed as a member of the Training Programs in Epidemiology and Public Health Interventions Network (TEPHINET) Regional Field Epidemiology Training Programme for Veterinarians (Southeast Asia), but there is no evidence of Nepal's regular participation in the programme. [3,4] There is no evidence of such training via the Ministry of Health or the Epidemiology and Disease Control Division of the Department of Health Services. [5,6]

[1] Government of Nepal.Nepal Health Research Council. [http://nhrc.gov.np/summary-of-training/]. Accessed 23 December 2020.
[2] Government of India. Ministry of Health and Family Welfare. Directorate General of Health Services.National Centre for Disease Control. [https://ncdc.gov.in/index1.php?lang=1&level=1&sublinkid=186&lid=100]. Accessed 23 December 2020.
[3] South Asia Field Epidemiology and Technology Network (SAFETYNET). [http://safetynet2008.com/aboutus/]. Accessed 23 December 2020.
[4] Training Programs in Epidemiology and Public Health Interventions Network(TEPHINET). "Regional Field Epidemiology Training Program for Veterinarians (Southeast Asia)". [https://www.tephinet.org/training-programs/regional-field-

epidemiology-training-program-for-veterinarians-southeast-asia]. Accessed 23 December 2020.
[5] Government of Nepal. Ministry of Health and Population. [https://www.mohp.gov.np.eng/]. Accessed 23 December 2020
[6] Government of Nepal. Ministry of Health and Population. Department of Health Services. Epidemiology and Disease Control Division. [http://www.edcd.gov.np/]. Accessed 23 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: 0

There is not enough evidence to show that available field epidemiology training programmes (FETPs) are explicitly inclusive of animal health professionals or that there is a specific animal health field epidemiology training program offered (such as FETPV). The FETPs conducted in Nepal have seen the inclusion of veterinary, medical and public health professionals in the past. The Food and Agriculture Organisation of the United Nations conducted a Field Epidemiology Training Course-level II from July 31-August 12 2016. Sixteen professionals representing various units of the government's veterinary, medical and public health services spread over various districts of Nepal participated in the course. However, there is no evidence of regular training programmes for animal health professionals in the country or the allocation of resources for international training programmes on a regular basis. [1] Nepal is not a member of the South Asia Field Epidemiology and Technology Network (SAFETYNET), but is listed as a member of the Training Programs in Epidemiology and Public Health Interventions Network (TEPHINET) Regional Field Epidemiology Training Programme for Veterinarians (Southeast Asia), but there is no evidence of Nepal's regular participation in the programme. [2,3] There is no evidence of such training via the Ministry of Health or the Epidemiology and Disease Control Division of the Department of Health Services.[4,5]

[1] Food and Agriculture Organisation of the United Nations. "Field Epidemiology Training Course Level - II for Veterinary, Medical and Public Health Professionals". [http://www.fao.org/nepal/news/detail/en/c/429347/]. Accessed 23 December 2020.
[2] South Asia Field Epidemiology and Technology Network (SAFETYNET). [http://safetynet2008.com/aboutus/]. Accessed 23 December 2020.
[3] Training Programs in Epidemiology and Public Health Interventions Network (TEPHINET). "Regional Field Epidemiology Training Program for Veterinarians (Southeast Asia)". [https://www.tephinet.org/training-programs/regional-field-epidemiology-training-program-for-veterinarians-southeast-asia]. Accessed 23 December 2020.
[4] Government of Nepal. Ministry of Health. [https://www.mohp.gov.np.eng/]. Accessed 23 December 2020.
[5] Government of Nepal. Ministry of Health and Population. Epidemiology and Disease Control Division. [http://www.edcd.gov.np/]. Accessed 23 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: 2

Nepal has an overarching national public health emergency response plan in place that addresses planning for multiple communicable diseases with pandemic potential that is publicly available. The Rapid Response Team of the Epidemiology and Disease Control Division (EDCD) is responsible for addressing national public health emergencies with respect to communicable diseases. [1] The EDCD's "Infectious Disease Control Guidelines 2016" contains plans for multiple communicable diseases. [2] The "National Health Sector Strategy 2015-2020" produced by the Ministry of Health and Population has also focused on strengthening management of public health emergencies and implementing integrated disease surveillance and response mechanisms. [3]

[1] Government of Nepal. Ministry of Health and Population. Department of Health Services. Epidemiology and Disease Control Division. "Rapid Response Team Guidelines". [http://www.edcd.gov.np/resources/download/rrt-interim-guideline]. Accessed 23 December 2020.
[2] Government of Nepal. Ministry of Health and Population. Department of Health Services. Epidemiology and Disease Control Division. "Infectious Disease Control Guidelines".2016. [http://www.edcd.gov.np/resources/download/infectious-disease-control-guideline]. Accessed 23 December 2020.
[3] Government of Nepal. Ministry of Health and Population. "National Health Sector Strategy 2015-2020". [https://nepal.unfpa.org/sites/default/files/pub-pdf/NHSS-English-Book-final-4-21-2016.pdf]. Accessed 23 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

Nepal has an overarching national public health emergency response plan in place that addresses planning for multiple communicable diseases with pandemic potential that is publicly available but it has not been updated since it was published

in 2016. The Rapid Response Team of the Epidemiology and Disease Control Division (EDCD) is responsible for addressing national public health emergencies with respect to communicable diseases. [1] The EDCD's "Infectious Disease Control Guidelines 2016" contains plans for multiple communicable diseases.[2] However these guidelines have not been updated in the past 3 years. [2]

[1] Government of Nepal. Ministry of Health and Population. Department of Health Services. Epidemiology and Disease Control Division. "Rapid Response Team Guidelines". [http://www.edcd.gov.np/resources/download/rrt-interim-guideline]. Accessed 23 December 2020.
[2] Government of Nepal. Ministry of Health and Population. Department of Health Services. Epidemiology and Disease Control Division. "Infectious Disease Control Guidelines".2016. [http://www.edcd.gov.np/resources/download/infectious-disease-control-guideline]. Accessed 23 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

Nepal has an overarching national public health emergency response plan in place that addresses planning for multiple communicable diseases with pandemic potential, but there is insufficient evidence that it includes considerations for paediatric and other vulnerable populations. The Rapid Response Team of the Epidemiology and Disease Control Division (EDCD)is responsible for addressing national public health emergencies with respect to communicable diseases. [1] The EDCD's "Infectious Disease Control Guidelines 2016" address plans for specific diseases. These guidelines include treatment modalities for the paediatric population, the elderly, pregnant women and the immunocompromised population listed in the treatment plan for specific diseases. However, there is no explicit mention of how paediatric and vulnerable populations are to be treated. [2] No evidence is available via the Health Emergency Operations Centre of the Ministry of Health. [3]

[1] Government of Nepal. Ministry of Health and Population. Department of Health Services. Epidemiology and Disease Control Division. "Rapid Response Team Guidelines". [http://www.edcd.gov.np/resources/download/rrt-interim-guideline]. Accessed 23 December 2020.
[2] Government of Nepal. Ministry of Health and Population. Department of Health Services. Epidemiology and Disease Control Division. "Infectious Disease Control Guidelines".2016. [http://www.edcd.gov.np/resources/download/infectious-disease-control-guideline]. Accessed 23 December 2020
[3] Government of Nepal. Ministry of Health and Population. Health Emergency and Disaster Management Unit. Health Emergency Operations Centre. [https://www.heoc.mohp.gov.np/service/]. Accessed 23 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

Nepal does not have a specific mechanism for engaging with the private sector to assist with outbreak emergency preparedness and response. The Epidemiology and Disease Control Division (EDCD) of the Department of Health Services is responsible for epidemic and outbreak management. The EDCD receives financial and technical assistance from international organisations including the World Health Organisation (WHO) and the Save the Children Fund. Although outbreaks are usually managed in co-ordination with the WHO, a mechanism to engage the private sector to assist with outbreak management seems to be lacking. [1,2] The "Disaster Response Strategy 2018-30" of the National Emergency Operations Centre mentions the need for a collaborative effort between the government, NGOs and the private sector to respond to disasters, but a specific mechanism is not mentioned. [3]

[1] Government of Nepal. Ministry of Health and Population. Department of Health Services. Epidemiology and Disease Control Division. "Disaster Management Section". [http://www.edcd.gov.np/section/disaster-management-section]. Accessed 23 December 2020
[2] Government of Nepal. Ministry of Health and Population. Department of Health Services. Epidemiology and Disease Control Division. "Infectious Disease Control Guidelines".2016. [http://www.edcd.gov.np/resources/download/infectious-disease-control-guideline]. Accessed 23 December 2020.
[3] Government of Nepal.National Emergency Operations Centre. "Disaster Response Strategy 2018-2030". [http://neoc.gov.np/uploads/document/file/DRR%20Strategy%20Action%20Plan%20-%20for%20web_20181028013703.pdf]. Accessed 23 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: 2

Nepal has guidelines in place to implement non-pharmaceutical interventions (NPIs) during an epidemic or pandemic, for multiple infectious diseases. These guidelines have been outlined in their "Infectious Disease Control Guidelines 2016". [1] Disease specific guidelines on prevention and control and message to the public on prevention have been listed. Examples given include, for SARS-Cov, "the prevention and control measures are: Health care workers involved in patient management should wear a face mask with eye protection, and gloves and should wash hands before and after contact with any patient; Disinfect with hypochloride solution (non-metallic objects) or 70% alcohol (metals); Patient care-minimization of aerosol generating procedures like nebulization, steam inhalation, bronchoscopy and ventilation". 'Message to the public focuses on methods to prevent the spread of infection, like washing hands, avoiding direct contacts and timely reporting and getting tested'. [1] In light of the present COVID-19 pandemic, Ministry of Health gives importance to NPIs in order to contain the spread of the disease. Some examples mentioned are isolation of cases, contact tracing, strict enforcement of social

distancing, handwashing etc. [2]

[1] Government of Nepal. Ministry of Health and Population. Department of Health Services. Epidemiology and Disease Control Division. "Infectious Disease Control Guidelines". 2016. [http://www.edcd.gov.np/resources/download/infectious-disease-control-guideline]. Accessed 23 December 2020.
[2] Government of Nepal. Ministry of Health and Population. Health Emergency and Disaster Management Unit. Health Emergency Operations Centre. Corona Virus Disease (COVID-19) Outbreak Updates and Resource Materials. [https://heoc.mohp.gov.np/update-on-novel-corona-virus-covid-19/] Accessed 23 December 2020

3.2 EXERCISING RESPONSE PLANS

3.2.1 Activating response plans

3.2.1a

Does the country meet one of the following criteria?
- Is there evidence that the country has activated their national emergency response plan for an infectious disease outbreak in the past year?
- Is there evidence that the country has completed a national-level biological threat-focused exercise (either with WHO or separately) in the past year?
Needs to meet at least one of the criteria to be scored a 1 on this measure. , Yes for both = 1 , Yes for one = 1 , No for both = 0

Current Year Score: 1

In light of the ongoing pandemic Covid-19, Nepal has activated its national emergency response plan. Nepal has "Infectious Disease Control Guidelines (2016)" in place which addresses planning for multiple communicable diseases with pandemic potential. [1] In addition, The Rapid Response Team Guidelines of the Epidemiology and Disease Control Division (EDCD) and the Disaster Response Strategy 2018-2030 under the National Emergency Operations Centre reinforce the Infectious Disease Control Guidelines in the management of infectious disease outbreaks in the country. [2,3] For COVD-19, a specific plan was developed and activated, under the Ministry of Health, to control the spread of the disease in the country; the "Health Sector Emergency Response Plan for COVID 19 Pandemic", published in May 2020. [4] There is no evidence that the country has completed a national-level biological threat-focused exercise (either with WHO or separately) in the past year. No evidence for such an exercise is found on the websites of the World Health Organization, Ministry of Health, Health Emergency Operations Center, or Ministry of Agriculture. [5,6,7,8,9]

[1] Government of Nepal. Ministry of Health and Population. Department of Health Services. Epidemiology and Disease Control Division. "Infectious Disease Control Guidelines".2016. [http://www.edcd.gov.np/resources/download/infectious-disease-control-guideline]. Accessed 23 December 2020.
[2] Government of Nepal. Ministry of Health and Population. Department of Health Services. Epidemiology and Disease Control Division. "Rapid Response Team Guidelines". [http://www.edcd.gov.np/resources/download/rrt-interim-guideline]. Accessed 23 December 2020
[3] Government of Nepal. National Emergency Operations Centre. "Disaster Response Strategy 2018-2030". [http://neoc.gov.np/uploads/document/file/DRR%20Strategy%20Action%20Plan%20-%20for%20web_20181028013703.pdf]. Accessed 23 December 2020
[4] Government of Nepal. Ministry of Health and Population.Health Sector Emergency Response Plan. COVID-19 Pandemic. May 2020.[https://www.who.int/docs/default-source/nepal-documents/novel-coronavirus/health-sector-emergency-response-plan-covid-19-endorsed-may-2020.pdf?sfvrsn=ef831f44_2] Accessed 21 April 2021

[5] World Health Organization (WHO). Strategic Partnership For International Health Regulations (2005) and Health Security (SPH).[https://extranet.who.int/sph/simulation-exercise-list?field_region_tid=All&tid=324&field_simulation_status_tid=1790&field_simulation_type_tid=All&title=] Accessed 23 December 2020
[6] World Health Organization. 'Nepal'.[https://www.who.int/nepal/] Accessed 23 December 2020
[7] Government of Nepal. Ministry of Health and Population. Department of Health Services. [https://dohs.gov.np/about-us/department-of-health-services]. Accessed 23 December 2020
[8] Government of Nepal. Ministry of Health and Population. Health Emergency and Disaster Management Unit. Health Emergency Operations Centre. [https://www.heoc.mohp.gov.np/service/]. Accessed 23 December 2020
[9] Government of Nepal. Ministry of Agriculture and Livestock Development.[https://www.moald.gov.np/] Accessed 23 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 evidence that in the past year, Nepal has undergone an exercise to identify a list of gaps and best practices either through an infectious disease response or a biological-threat focused exercise. There is no evidence that the country has completed a national-level biological threat-focused exercise nor any evidence of a planned exercise with the WHO in the past year and there is no evidence of an after-action-review listed under the WHO. [1,2,3].In addition there is no evidence on their Ministry of Health or Health Emergency Operations Center website that suggests any such exercises have been carried out in the past year. [4,5]

[1] World Health Organization (WHO). Strategic Partnership For International Health Regulations (2005) and Health Security (SPH).[https://extranet.who.int/sph/simulation-exercise-list?field_region_tid=All&tid=324&field_simulation_status_tid=1790&field_simulation_type_tid=All&title=] Accessed 24 December 2020
[2] World Health Organization. 'Nepal'.[https://www.who.int/nepal/] Accessed 24 December 2020
[3] World Health Organization (WHO) Strategic Partnership for International Health Regulations (2005) and Health Security (SPH). "After Action Review". 2020, [https://extranet.who.int/sph/after-action-review]. Accessed 24 December 2020
[4] Government of Nepal. Ministry of Health and Population. Department of Health Services. [https://dohs.gov.np/about-us/department-of-health-services]. Accessed 24 December 2020
[5] Government of Nepal. Ministry of Health and Population. Health Emergency and Disaster Management Unit. Health Emergency Operations Centre. [https://www.heoc.mohp.gov.np/service/]. Accessed 24 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 evidence that in the past year, Nepal has undergone a national-level biological threat-focused exercise that has included private sector representatives. There is no evidence that the country has completed a national-level biological threat-focused exercise nor any evidence of a planned exercise with the WHO in the past year and there is no evidence of an after-action-review listed under the WHO. [1,2,3].In addition there is no evidence on their Ministry of Health or Health Emergency Operations Center website that suggests any such exercises have been carried out in the past year. [4,5]

[1] World Health Organization (WHO). Strategic Partnership For International Health Regulations (2005) and Health Security (SPH).[https://extranet.who.int/sph/simulation-exercise-list?field_region_tid=All&tid=324&field_simulation_status_tid=1790&field_simulation_type_tid=All&title=] Accessed 24 December 2020
[2] World Health Organization. 'Nepal'.[https://www.who.int/nepal/] Accessed 24 December 2020
[3] World Health Organization (WHO) Strategic Partnership for International Health Regulations (2005) and Health Security (SPH). "After Action Review". 2020, [https://extranet.who.int/sph/after-action-review]. Accessed 24 December 2020
[4] Government of Nepal. Ministry of Health and Population. Department of Health Services. [https://dohs.gov.np/about-us/department-of-health-services]. Accessed 24 December 2020
[5] Government of Nepal. Ministry of Health and Population. Health Emergency and Disaster Management Unit. Health Emergency Operations Centre. [https://www.heoc.mohp.gov.np/service/]. Accessed 24 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

Nepal has an Emergency Operations Centre in place. The National Emergency Operations Centre (NEOC) was opened on 17 December 2010 by the Minister of Home Affairs and is operated under the Planning and Special Services Division. The NEOC is a co-ordination and communication point for disaster information, including during health emergencies, involving government agencies and other response and recovery stakeholders such as Nepal Red Cross Society, UN agencies and NGOs. [1] In addition, the Health Emergency Operation Centre of the Ministry of Health functions as the central control facility for the effective administration of emergency preparedness and disaster management during health emergencies. [2]

[1] Government of Nepal. Ministry of Home Affairs. National Emergency Operations Centre. [http://neoc.gov.np/en/introduction-2.html]. Accessed 24 December 2020
[2] Government of Nepal. Ministry of Health and Population. Health Emergency and Disaster Management Unit. Health Emergency Operation Centre. [https://heoc.mohp.gov.np/services/]. Accessed 24 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 insufficient evidence that the Emergency Operations Centre is required to conduct a drill at least once per year nor is there evidence of an annual health-focused drill. The National Emergency Operations Centre (NEOC) is operated under the Ministry of Home Affairs and is responsible for all emergencies in the country, while the Health Emergency Operations Centre (HEOC) functions under the Ministry of Health. There is no evidence of drills conducted by either NEOC or the HEOC. [1,2] No evidence of such drills is found in the NEOC's Disaster Response Strategic Plan 2018-30 or the Department of Health Services website. [3,4]

[1] Government of Nepal. Ministry of Home Affairs. National Emergency Operations Centre. [http://neoc.gov.np/]. Accessed 24 December 2020
[2] Government of Nepal. Ministry of Health and Population. Health Emergency and Disaster Management Unit. Health Emergency Operation Centre. [https://heoc.mohp.gov.np/service]. Accessed 24 December 2020.
[3] Government of Nepal. Ministry of Home Affairs. National Emergency Operations Centre. "Strategy Action Plan". [http://neoc.gov.np/uploads/document/file/DRR%20Strategy%20Action%20Plan%20-%20for%20web_20181028013703.pdf]. Accessed 24 December 2020.
[4] Government of Nepal. Ministry of Health and Population. Department of Health Services. [https://dohs.gov.np/about-us/department-of-health-services]. Accessed 24 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 evidence that the National Emergency Operations Centre or the Health Emergency Operation Centre can conduct or have conducted within the last year a co-ordinated emergency response within 120 minutes of the identification of a public health emergency. [1,2] The Epidemiology and Disease Control Division responds to disease outbreaks by means of an active surveillance system and Rapid Response Team. However, there is no evidence to support that the response is activated within 120 minutes of the identification of an outbreak or public health emergency. [3] No further evidence is found under the Ministry of Health,Health Emergency Operations Center or National Emergency Operations Center websites.[4,1,2]

[1] Government of Nepal. Ministry of Home Affairs. National Emergency Operations Centre. [http://neoc.gov.np/]. Accessed 24 December 2020.
[2] Government of Nepal. Ministry of Health and Population. Health Emergency and Disaster Management Unit. Health Emergency Operation Centre. [http://heoc.mohp.gov.np/services/]. Accessed 5 April 2019.
[3] Government of Nepal. Ministry of Health and Population. Department of Health Services. Epidemiology and Disease Control Division. "Rapid Response Team Guidelines". [http://www.edcd.gov.np/resources/download/rrt-interim-guideline]. Accessed 24 December 2020.
[4] Government of Nepal. Ministry of Health and Population. Department of Health Services.[https://dohs.gov.np/] Accessed 21 January 2021

3.4 LINKING PUBLIC HEALTH AND SECURITY AUTHORITIES

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

3.4.1a

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

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

Current Year Score: 0

There is no public evidence that public health and national security authorities have carried out an exercise to respond to a bioterrorism attack, nor are there publicly available standard operating procedures, guidelines or MOUs, or other agreements between public health and security authorities to respond to a potential deliberate bioterrorism attack. There is no literature publicly available on combating bioterrorism in Nepal via the Ministry of Health, the Ministry of Defence or the National Emergency Operations Centre. [1,2,3]

[1] Government of Nepal. Ministry of Health and Population. Department of Health Services.[https://www.mohp.gov.np/eng/#] Accessed 28 December 2020
[2] Government of Nepal. Ministry Of Defence. "Operational Work Plan". [http://www.mod.gov.np/en/publication]. Accessed 28 December 2020.
[3] Government of Nepal. Ministry of Home Affairs. National Emergency Operations Centre. 'Nepal Disaster Risk Reduction National Strategic Plan of Action 2018 to 2030'.[http://neoc.gov.np/uploads/document/file/DRR%20Strategy%20Action%20Plan%20-%20for%20web_20181028013703.pdf]. Accessed 28 December 2020

3.5 RISK COMMUNICATIONS

3.5.1 Public communication

3.5.1b

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

Yes = 1 , No = 0

Current Year Score: 0

There is no evidence of a strategy or other document detailing how messages will reach populations and sectors with different communications needs.Information on the website of the Epidemiology and Disease Control Division (EDCD) is in both English and Nepali, and the guidelines of the EDCD's Rapid Response Team only mention that the team should use public media to inform the public about the health emergencies, without specifying the language used or media reach to

locations within the country. [1,2]

[1] Government of Nepal. Ministry of Health and Population. Epidemiology and Disease Control Division. [http://edcd.gov.np/]. Accessed 28 December 2020.
[2] Government of Nepal. Ministry of Health and Population. Epidemiology and Disease Control Division. "Rapid Response Team Guidelines". [http://www.edcd.gov.np/resources/download/rrt-interim-guideline]. Accessed 28 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: 1

Nepal has a risk-communication plan intended for use in public health emergency outlined in the "Rapid Response Team Guidelines" produced by the Epidemiology and Disease Control Division (EDCD) of the Ministry of Health. These guidelines specify the responsibility of the Rapid Response Team (RRT) to prepare a working case definition, line list and mode of transmission, isolation of affected persons, quarantine of exposed persons, prophylaxis, and further to work on vector control, infection control, and public awareness through public media and mass communications. It also emphasises the need for the RRT to work and communicate with the local affected community, representatives from the community, government and non-government organisations, the public health emergency management sub-committee, and the wider EDCD to effectively deal with any public health emergencies. [1] The Department of Health Services' Early Warning and Response System also further strengthens the communication on public health emergencies to the public and supporting agencies. [2]

[1] Government of Nepal. Ministry of Health and Population. Epidemiology and Disease Control Division. "Rapid Response Team Guidelines". [http://www.edcd.gov.np/resources/download/rrt-interim-guideline]. Accessed 28 December 2020.
[2] Government of Nepal. Ministry of Health and Population. Epidemiology and Disease Control Division. "Early Warning and Response System (EWARS)". [http://edcd.gov.np/ewars]. Accessed 28 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 there is a specific position within the government to serve as the primary spokesperson to the public during a public health emergency under the Rapid Response Team Guidelines which serves as Nepal's risk-communication plan nor under the Nepal 'Disaster Risk Reduction National Strategic Plan of Action 2018 to 2030'.[1,2] No further evidence is found under the Ministry of Health nor the National Emergency Operations Center.[3,4]

[1] Government of Nepal. Ministry of Health and Population. Epidemiology and Disease Control Division. "Rapid Response Team Guidelines". [http://www.edcd.gov.np/resources/download/rrt-interim-guideline]. Accessed 28 December 2020.
[2] Government of Nepal. Ministry of Home Affairs. National Emergency Operations Centre. 'Nepal Disaster Risk Reduction National Strategic Plan of Action 2018 to 2030'.[http://neoc.gov.np/uploads/document/file/DRR%20Strategy%20Action%20Plan%20-%20for%20web_20181028013703.pdf]. Accessed 28 December 2020
[3] Government of Nepal. Ministry of Health and Population. Department of Health Services.[https://www.mohp.gov.np/eng/#] Accessed 28 December 2020
[4] Government of Nepal. Ministry of Home Affairs. National Emergency Operations Centre. [http://neoc.gov.np/en/] Accessed 28 December 2020

3.5.2 Public communication

3.5.2a

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

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

Current Year Score: 1

There is evidence that the public health system has actively shared messages via online media platforms (e.g. social media, website) to inform the public about ongoing public health concerns and/or dispel rumors, misinformation or disinformation in the past year for an ongoign active health emergency. The Epidemiology and Disease Control Division (EDCD) under the Department of Health Services has an Active Surveillance System and Early Warning and Reporting System (EWARS) on its website, which is updated weekly and is publicly available as an information source in case of public health emergencies and outbreaks. [1] Further in the EDCD's "Rapid Response Team Guidelines", it is stated that the Rapid Response Team is to update and inform the public about any public health emergencies through public media and communications. [2] There is also evidence that social media, specifically the Public Health Perspective Nepal Facebook page, and the Ministry of Health Twitter page are used to relay messages during public health emergencies. [3,4] At present regular media briefings and updates on COVID-19 are provided on Ministry of Health website as well as its Facebook and Twitter pages. [5,3,4]

[1] Government of Nepal. Ministry of Health and Population. Epidemiology and Disease Control Division. "Early Warning and Response System (EWARS)". [http://edcd.gov.np/ewars]. Accessed 28 December 2020
[2] Government of Nepal. Ministry of Health and Population. Epidemiology and Disease Control Division. "Rapid Response Team Guidelines". [http://www.edcd.gov.np/resources/download/rrt-interim-guideline]. Accessed 28 December 2020
[3] Facebook. "Public Health Perspective Nepal". [https://www.facebook.com/publichealthperspective/]. Accessed 28 December 2020
[4] Twitter. Ministry of Health and Population.Nepal.[https://twitter.com/mohpnep/status/1322122878121172992] Accessed 28 December 2020
[5] Government of Nepal. Ministry of Health and Population.COVID-19 Updates.[https://covid19.mohp.gov.np/] Accessed 28 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 evidence that senior leaders have shared misinformation on infectious diseases in the past two years. In light of the present pandemic, COVID-19, 'while addressing the National Assembly, Prime Minister KP Sharma Oli said that there was no need to panic, emphasising once again the importance of strong willpower and a positive mindset'. "Corona is like the flu," Oli said. "If contracted, one should sneeze, drink hot water and drive the virus away."Further, 'Oli has been unrelenting in downplaying the crisis and continuing to assert home remedies like garlic, ginger and turmeric to combat the disease'. [1]

[1] The Kathmandu Post. June 19, 2020. 'Oli continues to downplay Covid-19 and propagate home remedies, earning ridicule on social media'.[https://kathmandupost.com/national/2020/06/19/oli-continues-to-downplay-covid-19-and-propagate-home-remedies-earning-ridicule-on-social-media] Accessed 29 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: 34

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: 139.45

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: 4.0

2019

Gallup; Economist Impact calculation

3.6.4 Female access to the Internet

3.6.4a

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

Input number

Current Year Score: 13.0

2019

Gallup; Economist Impact calculation

3.7 TRADE AND TRAVEL RESTRICTIONS

3.7.1 Trade restrictions

3.7.1a

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

Yes = 0 , No = 1

Current Year Score: 0

There is sufficient evidence that in the past year Nepal has issued a restriction, without international/bilateral support, on the export of medical goods, specifically medicines, masks and sanitizers in light of the COVID-19 pandemic. The ban was imposed on March 22, 2020. Evidence for this is found in the International Trade Center Website. [1]

[1] International Trade Center. Market Access Map.'Covid-19 Temporary Trade Measures'. 'Nepal'. [https://www.macmap.org/covid19]. Accessed 29 December 2020

3.7.1b

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

Yes = 0 , No = 1

Current Year Score: 0

There is evidence that in the past year Nepal has issued a restriction, without international/bilateral support, on the import non medical goods. 'Being a landlocked country in South Asia, India and China are the major trade countries for Nepal. As the precautionary measures to avoid COVID-19 spread in Nepal, the Government of Nepal closed the Rasuwagadhi border on 28 January, completely halting Nepal-China trade. This closure limited the availability of raw materials which used to come from China for manufacturing goods. On 22 March, Nepal closed its open borders with India, resulting in serious effects in the

import and export of goods. This resulted in a situation of panic-buying and hoarding of goods among the Nepalese, creating a shortage of goods and supplies. [1]

[1] Kritika Poudel, Pramod Subedi. International Journal of Social Psychiatry. July 10, 2020. 'Impact of COVID-19 pandemic on socioeconomic and mental health aspects in Nepal'. [https://journals.sagepub.com/doi/full/10.1177/0020764020942247] Accessed 29 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, Nepal has implemented a ban, without international/bilateral support, on travelers arriving from a specific country or countries due to an infectious disease outbreak. This measure has been taken in light of the present Covid-19 pandemic by the Government of Nepal.[1] According to the Department of Immigration, 'All passengers coming through direct flights, having a transit at, and taking the first flight of their origin from Europe, West-Asia and all the Gulf countries, Turkey, Malaysia, South Korea and Japan are subjected to arrival restrictions in Nepal, effective from March 20, 2020 till April 12, 2020'. More recently the Department of Immigration issued a notice saying ' all the passengers from the United Kingdom as first port of call or transits as restricted to enter Nepal until further notice', as of December 22, 2020.[2]

[1] Government of Nepal. Ministry of Home Affairs. Department of Immigration. Notices. 'Very Urgent Notice Regarding Arrival Restriction in Nepal'.[https://www.immigration.gov.np/post/very-urgent-updated-notice-regarding-arrival-restriction-in-nepal-updated-on-18t]. Accessed 29 December 2020
[2] Government of Nepal. Ministry of Home Affairs. Department of Immigration. Notices. 'Notice Regarding the arrival restriction from United Kingdom'.[https://www.immigration.gov.np/post/notice-regarding-the-arrival-restriction-from-united-kingdom] Accessed 29 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: 74.86

2018

WHO; national sources

4.1.1b

Nurses and midwives per 100,000 people

Input number

Current Year Score: 310.84

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

Nepal has a public workforce strategy for the health sector, but there is no evidence of it being updated in the past five years. The World Health Organisation (WHO) "Country Co-operation Strategy 2018-2022" highlighted a need to focus on strengthening human resources by proper planning and development, but there is no evidence of an updated public health workforce strategy via the Ministry of Health, Ministry of Labour or Ministry of Education in the past three years. [1,2,3,4] In 2013 the Ministry of Health released the "Health Workforce Plan and Projections". [5] The last publicly available strategic plan for human resources for health, released by the Ministry of Health was for the period 2003-17. [6]

[1] World Health Organisation (WHO). "Country Co-operation Strategy 2018-2022". [https://apps.who.int/iris/bitstream/handle/10665/272476/9789290226413-eng.pdf?ua=1]. Accessed 29 December 2020.
[2] Government of Nepal. Ministry of Health and Population. "Acts, Rules and Regulations". [https://www.mohp.gov.np/eng/publications/acts-rules-regulations]. Accessed 29 December 2020
[3] Government of Nepal. Ministry of Labour and Occupational Safety.Publications. [https://www.dol.gov.np/en/publication]. Accessed 29 December 2020.
[4] Government of Nepal. Ministry of Education, Science and Technology [http://moe.gov.np/]. Accessed 29 December 2020
[5] Government of Nepal. Ministry of Health and Population. "Health Workforce Plan and Projections". August 2013. [http://www.nhssp.org.np/NHSSP_Archives/human_resources/Health_workforce_plan_august2013.pdf]. Accessed 29 December 2020.
[6] Government of Nepal. Ministry of Health and Population. "Nepal Strategic Plan for Human Resources for Health 2003 to 2017". [https://digicollections.net/medicinedocs/documents/s18827en/s18827en.pdf]. Accessed 29 December 2020.

4.1.2 Facilities capacity

4.1.2a

Hospital beds per 100,000 people

Input number

Current Year Score: 30

2012

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

Nepal does not have biocontainment patient care units to isolate patients with highly communicable diseases. No evidence of such a facility is available via the Ministry of Health or three major hospitals (Bir Hospital, Patan Hospital and Nepal Medicity). [1,2,3,4] In light of the present COVID-19 pandemic, hospitals in the capital city have designated space and isolation beds to contain suspected cases and also to treat positive patients. [5]

[1] Government of Nepal. Ministry of Health and Population.Department of Health Services. Epidemiology and Epidemic Management Section. [https://dohs.gov.np/epidemiology-epidemic-management-section/]. Accesse 30 December 2020
[2] Bir Hospital. [http://nams.org.np/index.php]. Accessed 30 December 2020.
[3] Patan Hospital. [http://www.pahs.edu.np/pahs-community/hospital/]. Accessed 30 December 2020.
[4] Nepal Medicity. [https://www.nepalmediciti.com/]. Accessed 30 December 2020
[4] Research Gate. Nipun Shrestha,Shivaraj Mishra,Saruna Ghimire,Bishal Gyawali,Sujan Babu Marahatta,Smriti Maskey,Sushila Baral,Nilima Shrestha,Rakesh Yadav,Bipin Adhikari. 'Health System Preparedness in Tackling the COVID19 in Nepal: a Qualitative Study Among Frontline Healthcare Workers and Policymakers'.[https://assets.researchsquare.com/files/rs-49448/v1/2d7b98c2-39e6-410b-b4e4-8f46fd51c592.pdf] Accessed 30 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

There is evidence that in the past two years Nepal has demonstrated the capacity to expand isolation facility in the country. In light of the COVID-19 pandemic, Nepal has demonstrated the capacity to expand isolation facility in the country. Although there is no evidence that Nepal had the capacity to isolate patients with highly communicable diseases in a biocontainment

patient care unit located within the country prior to the COVID-19 pandemic, the present pandemic has seen an expansion of isolation centers for patients being set up throughout the country as evidenced in the Health Sector Emergency Response Plan for COVID-19, May 2020. [1] Hospitals in the capital city have also designated space and isolation beds to contain suspected cases and also to treat positive patients. [2] It is not clear if these are permanent facilities that could be used to isolate patients with highly communicable diseases in the future.

[1] Government of Nepal. Ministry of Health and Population.Health Sector Emergency Response Plan. COVID-19 Pandemic. May 2020. [https://www.who.int/docs/default-source/nepal-documents/novel-coronavirus/health-sector-emergency-response-plan-covid-19-endorsed-may-2020.pdf?sfvrsn=ef831f44_2] Accessed 21 April 2021
[2] Research Gate. Nipun Shrestha, Shivaraj Mishra, Saruna Ghimire, Bishal Gyawali, Sujan Babu Marahatta, Smriti Maskey, Sushila Baral, Nilima Shrestha, Rakesh Yadav, Bipin Adhikari. "Health System Preparedness in Tackling the COVID19 in Nepal: a Qualitative Study Among Frontline Healthcare Workers and Policymakers". [https://assets.researchsquare.com/files/rs-49448/v1/2d7b98c2-39e6-410b-b4e4-8f46fd51c592.pdf] Accessed 22 April 2021.

4.2 SUPPLY CHAIN FOR HEALTH SYSTEM AND HEALTHCARE WORKERS

4.2.1 Routine health care and laboratory system supply

4.2.1a

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

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

Current Year Score: 2

There is a national procurement protocol in place which can be utilized by the Ministries of Health and Agriculture for the acquisition of laboratory supplies (e.g. equipment, reagents and media) and medical supplies (e.g. equipment) for routine needs. Nepal has a national procurement policy in place that is utilized by the Ministry of Health and Population and the Central Veterinary Laboratory for the procurement of goods, reagents and equipment. The Public Procurement Act of 2007 was published by the Public Procurement Monitoring Office. [1] In accordance with this Act, the Ministry of Health published "Public Procurement Guidelines", which are being used for the procurement of medical equipment, pharmaceuticals, lab supplies in the healthcare sector. [2] There is also evidence that the Central Veterinary Laboratory under the Ministry of Agriculture also follows the Public Procurement Act for the procurement of laboratory needs. [3]

[1] Government of Nepal. Public Procurement Monitoring Office. "The Public Procurement Act, 2007 (2063 BS)". [https://ppmo.gov.np/image/data/files/acts_and_regulations/public_procurement_act_2063.pdf]. Accessed 30 December 2020
[2] Government of Nepal. Ministry of Health and Population. "Public Procurement Guidelines". [https://mohp.gov.np/downloads/Public%20Procurement%20Guidelines.pdf]. Accessed 30 December 2020
[3] Government of Nepal. Ministry of Agriculture and Livestock Development. Department of Livestock Services. Directorate of Animal Health. Central Veterinary Laboratory. "BIDDING DOCUMENT for the Supply and Delivery of Laboratory Reagents and Chemicals at Central Veterinary Laboratory Tripureshwor, Kathmandu". [https://bolpatra.gov.np/egp/download?alfId=cm:Bidding_Documentsnull/cm:Y2019/cm:M1@@@@@0d20579e-70b0-4b4e-b530-d1709e38dec7&docId=61045823]. Accessed 30 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: 0

There is no evidence that Nepal maintains a stockpile of medical supplies (e.g. MCMs, medicines, vaccines, medical equipment, PPE) for national use during a public health emergency. Although there are articles that mention the importance of preparedness for public health emergencies and the need to strengthen stocking of medical supplies at the district level for emergency purposes, there is no evidence demonstrating whether there is an adequate stock in place. [1,2,3] There is also no evidence of an agreement in place with manufacturers or distributers to procure medical supplies for national use during a public health emergency via the National Emergency Operations Centre, the Epidemiology and Disease Control Division under the Ministry of Health or the Ministry of Defence or the Department of Drug Administration. [1,2,3,4,5]

[1] Government of Nepal. Ministry of Home Affairs. National Emergency Operations Center."Disaster Rapid Response Strategy". [http://neoc.gov.np/uploads/document/file/DRR%20Strategy%20Action%20Plan%20-%20for%20web_20181028013703.pdf]. Accessed 30 December 2020
[2] Government of Nepal. Ministry of Health and Population. Epidemiology and Disease Control Division. "Rapid Response Team Guidelines". [http://www.edcd.gov.np/resources/download/rrt-interim-guideline]. Accessed 30 December 2020.
[3] Government of Nepal. Ministry of Health and Population. Epidemiology and Disease Control Division. "Infectious Disease Control Guidelines". [http://www.edcd.gov.np/resources/download/infectious-disease-control-guideline]. Accessed 30 December 2020.
[4] Government of Nepal. Ministry of Defence. [https://www.mod.gov.np]. Accessed 30 December 2020.
[5] Government of Nepal. Department of Drug Administration. [http://www.dda.gov.np/]. Accessed 30 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

Nepal does not have a stockpile of laboratory supplies (e.g. reagents, media) for national use during a public health emergency. There is no mention of a stockpile of laboratory supplies in the Disaster Rapid Response Strategy under the National Emergency Operations Center, Rapid Response Team Guidelines or the Infectious Disease Control Guidelines under the Epidemiology and Disease Control Division. [1,2,3] No further evidence is found under the Ministry of Health or the Ministry of Defence. [4,5]

[1] Government of Nepal. Ministry of Home Affairs. National Emergency Operations Center. "Disaster Rapid Response Strategy". [http://neoc.gov.np/uploads/document/file/DRR%20Strategy%20Action%20Plan%20-%20for%20web_20181028013703.pdf]. Accessed 30 December 2020
[2] Government of Nepal. Ministry of Health and Population. Epidemiology and Disease Control Division. "Rapid Response Team Guidelines". [http://www.edcd.gov.np/resources/download/rrt-interim-guideline]. Accessed 30 December 2020.
[3] Government of Nepal. Ministry of Health and Population. Epidemiology and Disease Control Division. "Infectious Disease Control Guidelines". [http://www.edcd.gov.np/resources/download/infectious-disease-control-guideline]. Accessed 30

December 2020
[4] Government of Nepal. Ministry of Health and Population. Department of Health Services.[https://www.mohp.gov.np/eng/#] Accessed 30 December 2020
[5] Government of Nepal. Ministry of Defence. [https://www.mod.gov.np]. Accessed 30 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 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. No evidence is found on the websites of the Ministry of Health, Ministry of Defence, Health Emergency Operations Center or Department of Drug Administration. [1,2,3,4]

[1] Government of Nepal. Ministry of Health and Population.Department of Health Services. Epidemiology and Epidemic Management Section. [https://dohs.gov.np/epidemiology-epidemic-management-section/]. Accessed 22 April 2021.
[2] Government of Nepal. Ministry of Defence. [https://www.mod.gov.np]. Accessed 22 April 2021.
[3] Government of Nepal. Ministry of Health and Population. Health Emergency and Disaster Management Unit. Health Emergency Operation Centre. [https://heoc.mohp.gov.np/service]. Accessed 22 April 2021.
[4] Government of Nepal. Department of Drug Administration. [http://www.dda.gov.np/]. Accessed 22 April 2021.

4.2.3 Manufacturing and procurement for emergencies

4.2.3a

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

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

Current Year Score: 0

There is no evidence of a plan/agreement to leverage domestic manufacturing capacity to produce medical supplies (e.g. MCMs, medicines, vaccines, equipment, PPE) for national use during a public health emergency nor is there any evidence of a plan/mechanism to procure medical supplies for national use during a public health emergency. There is evidence of a national procurement protocol in place which can be utilized by the Ministry of Health for the acquisition medical supplies (e.g. equipment, pharmaceuticals and laboratory supplies) for routine needs, however there is no evidence that the protocol can also be used for acquisition of medical supplies during a public health emergency.[1,2] The Public Procurement Act of 2007 was published by the Public Procurement Monitoring Office. [1] In accordance with this Act, the Ministry of Health published "Public Procurement Guidelines", which are being used for the procurement of medical supplies in the healthcare sector. [2] However there is no evidence that the protocol can also be used to leverage domestic manufacturing capacity to produce medical supplies or for the acquisition of medical supplies during a public health emergency. [1,2] No further evidence is found under the Ministry of Health or the National Emergency Operations Center or the Department of Drug

Administration websites. [3,4,5]

[1] Government of Nepal. Public Procurement Monitoring Office. "The Public Procurement Act, 2007 (2063 BS)". [https://ppmo.gov.np/image/data/files/acts_and_regulations/public_procurement_act_2063.pdf]. Accessed 30 December 2020
[2] Government of Nepal. Ministry of Health and Population. "Public Procurement Guidelines". [https://mohp.gov.np/downloads/Public%20Procurement%20Guidelines.pdf]. Accessed 30 December 2020
[3] Government of Nepal. Ministry of Health and Population. Department of Health Services.[https://www.mohp.gov.np/eng/#] Accessed 30 December 2020
[4] Government of Nepal. Ministry of Home Affairs. National Emergency Operations Center."Disaster Rapid Response Strategy". [http://neoc.gov.np/uploads/document/file/DRR%20Strategy%20Action%20Plan%20-%20for%20web_20181028013703.pdf]. Accessed 30 December 2020
[5] Government of Nepal. Department of Drug Administration. [http://www.dda.gov.np/]. Accessed 30 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 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 nor is there evidence of a plan/mechanism to procure laboratory supplies (e.g. reagents, media) for national use during a public health emergency. There is evidence that Nepal has a national procurement protocol in place which can be utilized by the Ministries of Health and Agriculture for the acquisition of laboratory needs (such as equipment, reagents and media) however there is no evidence that the protocol can also be used for acquisition of laboratory supplies during a public health emergency.[1]The Public Procurement Act of 2007 was published by the Public Procurement Monitoring Office. [1] In accordance with this Act, the Ministry of Health published "Public Procurement Guidelines", which are being used for the procurement of goods in the healthcare sector.[2] However there is no evidence that the protocol can also be used to leverage domestic manufacturing capacity to produce laboratory supplies or for the acquisition of laboratory supplies during a public health emergency.[1,2] No further evidence is found under the Ministry of Health or the National Emergency Operations Center. [3,4]

[1] Government of Nepal. Public Procurement Monitoring Office. "The Public Procurement Act, 2007 (2063 BS)". [https://ppmo.gov.np/image/data/files/acts_and_regulations/public_procurement_act_2063.pdf]. Accessed 30 December 2020
[2] Government of Nepal. Ministry of Health and Population. "Public Procurement Guidelines". [https://mohp.gov.np/downloads/Public%20Procurement%20Guidelines.pdf]. Accessed 30 December 2020
[3] Government of Nepal. Ministry of Health and Population. Department of Health Services.[https://www.mohp.gov.np/eng/#] Accessed 30 December 2020
[4] Government of Nepal. Ministry of Home Affairs. National Emergency Operations Center."Disaster Rapid Response Strategy". [http://neoc.gov.np/uploads/document/file/DRR%20Strategy%20Action%20Plan%20-%20for%20web_20181028013703.pdf]. Accessed 30 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

Nepal does not have a plan in place for dispensing medical countermeasures for national use during public health emergency. There is no evidence supporting the existence of such a plan via the National Emergency Operations Centre, the Ministry of Health, the Ministry of Defence or the Department of Drug Administration [1,2,3,4,5]

[1] Government of Nepal. Ministry of Home Affairs. National Emergency Operations Centre. "Disaster Rapid Response Strategy". [http://neoc.gov.np/uploads/document/file/DRR%20Strategy%20Action%20Plan%20-%20for%20web_20181028013703.pdf]. Accessed 31 December 2020
[2] Government of Nepal. Ministry of Health and Population. Epidemiology and Disease Control Division. "Rapid Response Team Guidelines". [http://www.edcd.gov.np/resources/download/rrt-interim-guideline]. Accessed 31 December 2020
[3] Government of Nepal. Ministry of Health and Population. Epidemiology and Disease Control Division. "Infectious Disease Control Guidelines". [http://www.edcd.gov.np/resources/download/infectious-disease-control-guideline]. Accessed 31 December 2020
[4] Government of Nepal. Ministry of Defence. [http://www.mod.gov.np/en]. Accessed 31 December 2020
[5] Government of Nepal. Department of Drug Administration. [http://www.dda.gov.np/]. Accessed 31 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 public plan in place to receive health personnel from other countries to respond to a public health emergency. The "Disaster Rapid Response Strategy" of 2018, released by the Emergency Operations Centre, states that the government does seek and accept international assistance in case of national disasters. The government has sought and received help from other countries in the form of health personnel, as well as seeking technical and financial aid from both other countries and international aid organisations in past national emergencies. [1] The World Health Organisation (WHO) supports the Epidemiology and Disease Control Division of the Department of Health Services in managing epidemics and outbreaks. [2,3] However, as a study by the International Red Cross states, "receiving and managing international assistance is both complex and challenging in Nepal. There are a number of relevant provisions contained in national laws, yet none of them are specifically directed at receiving international assistance in the case of large scale disasters. Instead, ad hoc decisions made at the time of a disaster have broken down legal barriers to provide relief to the people affected by disasters".[4] No further evidecne is found under the Ministry of Health, Health Emergency Operations Center and National Emergencency Operations

Center websites.[5,6,1]

[1] Government of Nepal. Ministry of Home Affairs. National Emergency Operations Centre. "Disaster Rapid Response Strategy". [http://neoc.gov.np/uploads/document/file/NEOC%20-%20SOP%2018_20151015022356.pdf]. Accessed 31 December 2020.
[2] World Health Organisation (WHO) Emergency Medical Teams Initiative. "Nepal Reaching New Heights in Co-ordination". [https://www.who.int/hac/techguidance/preparedness/emt-info-nov2016.pdf]. Accessed 31 December 2020
[3] Government of Nepal. Ministry of Health and Population. Epidemiology and Disease Control Division. "Supporting Agencies". [http://www.edcd.gov.np/about-us/supporting-agencies]. Accessed 31 December 2020.
[4] Nepal Red Cross Society in co-ordination with International Federation of Red Cross and Red Crescent Societies. "International Disaster Response Law (IDRL) in Nepal". [https://www.ifrc.org/PageFiles/93552/1213100-Nepal%20Red%20Cross-IDRL%20Report-EN-LR04.pdf]. Accessed 31 December 2020
[5] Government of Nepal. Ministry of Health and Population. Department of Health Services.[https://dohs.gov.np/] Accessed 21 January 2021
[6] Government of Nepal. Ministry of Health and Population. Health Emergency and Disaster Management Unit. Health Emergency Operations Centre. [https://www.heoc.mohp.gov.np/service/]. Accessed 21 January 2021

4.4 HEALTHCARE ACCESS

4.4.1 Access to healthcare

4.4.1a

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

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

Current Year Score: 4

2020

World Policy Analysis Center

4.4.1b

Access to skilled birth attendants (% of population)

Input number

Current Year Score: 58

2017

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: 86.74

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 of legislation or policy committing to provide prioritised health care services to healthcare workers who become sick as a result of responding to a public health emergency. Although there is an act on the Security of Health Workers and Health Organisations, it could not be accessed at the time of research.[1] No further evidence is found under the Ministry of Health, National Emergency Operations Centre, or the Health Emergency Operations Centre. [2,3,4]

[1] National Law Commission. "Security of Health Workers and Health Organisations Act of 2010". [http://www.lawcommission.gov.np/en/archives/18655]. Accessed 31 December 2020
[2] Government of Nepal. Ministry of Health. Department of Health Services. [https://dohs.gov.np/act-regulations/]. Accessed 31 December 2020
[3] Government of Nepal. Ministry of Home Affairs. National Emergency Operations Centre. [http://neoc.gov.np/en/download/Disaster-Related-Document/9/]. Accessed 31 December 2020
[4] Government of Nepal. Ministry of Health and Population. Health Emergency Operations Centre. [https://heoc.mohp.gov.np/services/]. Accessed 31 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: 1

There is a strategy in place for public health officials and healthcare workers to communicate during a public health emergency. Public health emergencies are managed by the Epidemiology and Disease Control Division (EDCD) in co-ordination with the Health Emergency Operations Centre under the Ministry of Health. [1,2] The EDCD's "Rapid Response Team Guidelines" document provides a strategy for public health emergency situations. According to the guidelines, at the time of a public health emergency a public health emergency sub-committee is to be formed comprising the heads of local health institutions and public health officials (the exact number and designation of the members of the committee is outlined in the guidelines) to work together to manage the situation. A sub-committee can be formed under the disaster response working committee of the EDCD, district disaster response committee or a local-level disaster response committee, as per the need. Under the sub-committee, a rapid response team (RRT) comprised of local health workers and public health workers is formed to respond effectively to any public health emergency. The RRT serves as the means of communication between local health institutions, local representatives, other disaster response institutions and the public health authorities, ensuring that resource needs are met and an effective response is carried out. The RRT also serves to update the EDCD, Ministry of Health and other authorities regarding the public health emergency situation on a regular basis. [1]

[1] Government of Nepal. Ministry of Health and Population. Epidemiology and Disease Control Division. "Rapid Response Team Guidelines". [http://www.edcd.gov.np/resources/download/rrt-interim-guideline]. Accessed 31 December 2020
[2] Government of Nepal. Ministry of Health and Population. Health Emergency Operations Centre. [https://heoc.mohp.gov.np/service/]. Accessed 31 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: 1

The system for public health officials and healthcare workers to communicate during an emergency encompasses healthcare workers in both the public and private sector. Public Health Emergencies are managed by the Epidemiology and Disease Control Division (EDCD) along with the Health Emergency and Operations Centre under the Ministry of Health. Guidance on communication between public health officials and healthcare workers during an emergency is found in the EDCD "Rapid Response Team Guidelines". The guidelines mention that a public health sub-committee is to be set up locally at the time of an emergency. This sub-committee would comprise of heads of local health institutions (private or public) and public health officials to work together to manage the situation. A sub-committee can be formed under the disaster response working committee under the EDCD, district disaster response committee or the local level disaster response committee, as needed. Under the sub-committee, a rapid response team (RRT) comprising local health workers and public health workers is formed

to respond effectively to any public health emergency The RRT serves as the means of communication between local health institutions (both public and private), local representatives, other disaster response institutions (both public and private) involved in a public health emergency and the public health authorities, ensuring resource needs are met and an effective response is carried out. The RRT also serves to update the EDCD, Ministry of Health and other authorities regarding the public health emergency situation on a regular basis. [1]

[1] Government of Nepal. Ministry of Health and Population. Epidemiology and Disease Control Division. "Rapid Response Team Guidelines". [http://www.edcd.gov.np/resources/download/rrt-interim-guideline]. Accessed 31 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

Although hospitals in Nepal have been found to have independent infection control programmes, there is no evidence of a public system in place to monitor healthcare-associated infections via the Department of Health Services, the National Public Health Laboratory or the National Public Health Institute. [1,2,3,4] Government websites do not provide evidence of a public system to monitor or track the number of health care workers who have been affected by COVID-19 through their work. [1,2,3,4,5]

[1] Ohara H, et al. "Fact-finding Survey of Nosocomial Infection Control in Hospitals in Kathmandu, Nepal—A Basis for Improvement". Journal of Tropical Medicine and Health. 2013 Sep; 41
[3] :113-119. [https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3798410/]. Accessed 31 December 2020
[2] Government of Nepal. Ministry of Health and Population. Department of Health Services. [https://dohs.gov.np/divisions/]. Accessed 31 December 2020
[3] Government of Nepal. Ministry of Health and Population. Department of Health Services. National Public Health Laboratory. [https://www.nphl.gov.np/publication]. Accessed 31 December 2020
[4] International Association of National Public Health Institutes. "Member information: Nepal". [http://www.ianphi.org/membercountries/memberinformation/nepal.html]. Accessed 31 December 2020
[5] Dr.Rabindra Man Shrestha, Dr.Arun Raj Kunwar. 'COVID-19 impact on doctors and health workers'. Orthodontic Journal of Nepal.Vol. 10 No. 2. September 2020. [https://www.nepjol.info/index.php/OJN/article/view/31060/24664] Accessed 23 April 2021

4.7 CAPACITY TO TEST AND APPROVE NEW MEDICAL COUNTERMEASURES

4.7.1 Regulatory process for conducting clinical trials of unregistered interventions

4.7.1a

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

Yes = 1 , No = 0

Current Year Score: 1

There is a national requirement for ethical review from the Ethics Committee, the Ethical Review Board of National Health Research Council (NHRC), before beginning a clinical trial in Nepal. [1] "The role of the ethics committee (or Ethical Review Board of NHRC) is to ensure the protection of the rights and welfare of human subjects participating in clinical trials, as defined by the current revision of the Declaration of Helsinki and other relevant regulations, and to provide public reassurance, inter alia, by previewing trial protocols, etc. The investigator, or the investigator and the sponsor, must consult the relevant ethics committee regarding the suitability of a proposed clinical trial protocol (including appendices and amendments) and of the methods and materials to be used in obtaining and documenting the informed consent of the subjects." [2] The national requirement for ethical review to conduct clinical trials and health research is outlined in the "National Guideline on Clinical Trials with the use of Pharmaceutical Products" and the "National Ethical Guidelines For Health Research in Nepal And Standard Operating Procedures" under the National Health Research Council Nepal. [3]

[1] Government of Nepal. Nepal Health Research Council. Ethical Review Board. [http://nhrc.gov.np/ethics/ethical-review-board/]. Accessed 31 December 2020
[2] Government of Nepal. Nepal Health Research Council. "National Guideline on Clinical Trials with the use of Pharmaceutical Products". [http://nhrc.gov.np/wp-content/uploads/2017/02/National-guidelines-on-clinical-trials-with-the-use-of-pharmaceutical-products.pdf]. Accessed 31 December 2020
[3] Government of Nepal. Nepal Health Research Council. "National Ethical Guidelines For Health Research in Nepal And Standard Operating Procedures". [http://nhrc.gov.np/publication-category/guidelines/]. Accessed 31 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: 0

There is no evidence of an expedited process in Nepal for approving clinical trials for unregistered medical countermeasures to treat ongoing pandemics. There is a general process for approving clinical trials for unregistered medical countermeasures listed under the Nepal Health Research Council Guidelines. [1] The process of approving clinical trials involves the approval of both the Department of Drug Administration and the Ethical Review Board of the Nepal Health Research Council. There are standard criteria for approving clinical trials for unregistered medical countermeasures, as outlined in the "National Guideline on Clinical Trials with the use of Pharmaceutical Products" produced by the Nepal Health Research Council. There is no mention of an expedited process for approval of clinical trials under these guidelines. There is no evidence of an expedited

process for approving clinical trials for unregistered medical countermeasures via the Department of Health Services. [2]

[1] Government of Nepal. Nepal Health Research Council. "National Guideline on Clinical Trials with the use of Pharmaceutical Products". [http://nhrc.gov.np/wp-content/uploads/2017/02/National-guidelines-on-clinical-trials-with-the-use-of-pharmaceutical-products.pdf]. Accessed 02 January 2021
[2] Government of Nepal. Ministry of Health and Population. Department of Health Services. [https://dohs.gov.np/]. Accessed 02 January 2021

4.7.2 Regulatory process for approving medical countermeasures

4.7.2a

Is there a government agency responsible for approving new medical countermeasures (MCM) for humans?

Yes = 1 , No = 0

Current Year Score: 1

There are government agencies responsible for approving new medical countermeasures for humans. As per the Drug Act of 1978, approval for clinical trial of new drug entities and unregistered drugs has to be obtained from the Department of Drug Administration (DDA). Further, the trial must be approved by the Ethics Review Board of the Nepal Health Research Council (NHRC). The Data Safety and Monitoring Board (DSMB) is a special committee commissioned by joint consultation between the NHRC and the DDA for the purpose of ensuring the proper conduct of clinical trials, recording and assessment of any adverse events, monitoring, and maintaining the safety of the trial data. The DSMB may recommend appropriate modification, breaking the code and/or termination of the trial. [1] The Drugs Regulatory Authority (DRA), operating under the DDA, is the authorised legal body of the government for the regulation and control of drugs. After a successful clinical trial, medicines registration is the process by which DRA approves the use of a medicine, having considered evidence of the medicine's safety, quality and efficacy. It is thus primarily concerned with protecting public health. There are different divisions under DDA namely those overseeing registration, management and inspection division. Under each division there are different sections. These sections are responsible for carrying out the regular regulatory and administrative function under the DDA. [2]

[1] Government of Nepal. Nepal Health Research Council. "National Guideline on Clinical Trials with the use of Pharmaceutical Products". [http://nhrc.gov.np/wp-content/uploads/2017/02/National-guidelines-on-clinical-trials-with-the-use-of-pharmaceutical-products.pdf]. Accessed 02 January 2021.
[2] Government of Nepal. Department of Drug Administration. "Medicine Registration Guidance". [https://www.dda.gov.np/content/drug-registration-guidance-2073]. Accessed 02 January 2021.

4.7.2b

Is there an expedited process for approving medical countermeasures (MCM) for human use during public health emergencies?

Yes = 1 , No = 0

Current Year Score: 0

There is no evidence of an expedited process for approving medical countermeasures aimed for use during public health emergencies in Nepal. There is a general process for approving medical countermeasures for use in humans. This process involves the approval of both the Ethics Review Board of the Nepal Health Research Council and the Department of Drug Administration (DDA). [1,2] There are standard criteria for approvals of medical countermeasures, as outlined in the

"National Guideline on Clinical Trials with the use of Pharmaceutical Products" of the Nepal Health Research Council. [1] Further, Medicines registration is the process by which the Drug Regulatory Authority (DRA) of the Department of Drug Administration (DDA) approves the use of a medicine, having considered evidence of the medicine's safety, quality and efficacy. It is thus primarily concerned with protecting public health. Product assessment and registration are carried out by the DRA to ensure that the pharmaceutical products meet appropriate standards of safety, efficacy and quality. There are different divisions under the DDA, namely those concerned with registration, management and inspection. Under each division there are different sections. There is no evidence of an expedited process for approving medical countermeasures for use during public health emergencies under these guidelines. [3] No further evidence is found under the Ministry of Health, Nepal Health Research Council and the Department of Drug Administration websites. [4,1,2,3]

[1] Government of Nepal. Nepal Health Research Council. "National Guideline on Clinical Trials with the use of Pharmaceutical Products". [http://nhrc.gov.np/wp-content/uploads/2017/02/National-guidelines-on-clinical-trials-with-the-use-of-pharmaceutical-products.pdf]. Accessed 02 January 2021
[2] Government of Nepal. Department of Drug Administration. "Drug Registration Rules 1981 AD". [http://www.dda.gov.np/content/drug-registration-regulation-2038]. Accessed 02 January 2021
[3] Government of Nepal. Department of Drug Administration. "Medicine Registration Guidance." [https://www.dda.gov.np/content/drug-registration-guidance-2073]. Accessed 02 January 2021.
[4] Government of Nepal. Ministry of Health and Population. Department of Health Services.[https://dohs.gov.np/] Accessed 21 January 2021

Category 5: Commitments to improving national capacity, financing plans to address gaps, and adhering to global norms

5.1 INTERNATIONAL HEALTH REGULATIONS (IHR) REPORTING COMPLIANCE AND DISASTER RISK REDUCTION

5.1.1 Official IHR reporting

5.1.1a

Has the country submitted IHR reports to the WHO for the previous calendar year?

Yes = 1 , No = 0

Current Year Score: 1

2020

World Health Organization

5.1.2 Integration of health into disaster risk reduction

5.1.2a

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

Yes = 1 , No = 0

Current Year Score: 0

There is no evidence of a national disaster risk reduction strategy for epidemics and pandemics in Nepal. The 2009 National Strategy for Disaster Risk Management in Nepal, produced by the Ministry of Home Affairs, includes strategies and interventions for dealing with natural hazards including epidemics to build a disaster-resilient Nepal. However, there is no significant focus on epidemics or pandemics in the strategy. The strategy focuses more on geophysical and climatic hazards such as floods and landslides. [1] There is no evidence of a standalone disaster risk-reduction strategy for pandemics via the Department of Health Services or the Epidemiology and Disease Control Division. [2,3]

[1] Government of Nepal. Ministry of Home Affairs. "National Strategy for Disaster Risk Management In Nepal, 2009". [http://extwprlegs1.fao.org/docs/pdf/nep143046.pdf]. Accessed 02 January 2021.
[2] Government of Nepal. Ministry of Health and Population. Department of Health Services. [https://dohs.gov.np/]. Accessed 02 January 2021
[3] Government of Nepal. Ministry of Health and Population. Epidemiology and Disease Control Division [http://www.edcd.gov.np/section/disaster-management-section]. Accessed 02 January 2021.

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

5.2.1 Cross-border agreements

5.2.1a

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

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

Current Year Score: 0

There is insufficient evidence that Nepal has cross-border agreements as part of a regional group, with regards to public health emergencies but with evidence of gaps in implementation.

Nepal is a part of the South Asian Association for Regional Cooperation(SAARC), which among other issues, holds multilateral meetings about health and population issues. [2] The first meeting was, in the "wake of widespread threats brought about by the emergence of the Severe Acute Respiratory Syndrome (SARS), an Emergency Meeting of SAARC Health Ministers was convened in Male' in April 2003 to develop a regional strategy to deal with the deadly epidemic." [1] At the meeting, member states adopted the "Male' Declaration on a Collective SAARC Response to SARS."However, it is not clear this has been implemented in cases of other public health emergencies. [2] In a 2006 meeting, it was decided that there should be a SAARC Disease Surveillance Centre set up in order "to develop a comprehensive and multi-sectoral strategy covering both animal and human health in the context of pandemic preparedness but there is no evidence that this plan has been implemented. [1] Lastly, there is no evidence of such cross-border agreements on their National Emergency Operations Center or Ministry

of Health websites.[2,3,4]

[1] South Asian Association for Regional Cooperation (SAARC). Areas of Cooperation."Social Affairs". [https://saarc-sec.org/index.php/areas-of-cooperation/social-affairs].Accessed 02 January 2021
[2] Government of Nepal. Ministry of Home Affairs. National Emergency Operations Centre. [http://neoc.gov.np/en/download/Disaster-Related-Document/9/]. Accessed 02 January 2021
[3] Government of Nepal. Ministry of Health and Population. Department of Health Services. [https://dohs.gov.np/]. Accessed 02 January 2021
[4] Government of Nepal. Ministry of Health and Population. Epidemiology and Disease Control Division [http://www.edcd.gov.np/section/disaster-management-section]. Accessed 02 January 2021.

5.2.1b

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

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

Current Year Score: 0

There is insufficient evidence that Nepal has cross-border agreements in place, as part of a regional group, which supports response to animal health emergencies.

The country is part of the South Asian Association for Regional Cooperation which among other topics, deals with issues related to health and population. [1] In a 2006 meeting, it was decided that there should be a SAARC Disease Surveillance Centre set up in order "to develop a comprehensive and multi-sectoral strategy covering both animal and human health in the context of pandemic preparedness'. [1] In addition, the "SAARC Chief Veterinary Officers' (CVOs) Forum is one of the regular Forums of SAARC dealing with controlling trans-boundary animal diseases, capacity building on epidemiology activities, networking among the veterinarians, regional laboratories and other veterinary institutions." The Seventh Meeting of the CVOs Forum was held on 23-24 July 2019 in Islamabad. The Seventh Meeting of the SAARC Chief Veterinary Officers' (CVOs) Forum reviewed the status of implementation of its earlier decisions, ongoing collaborations and activities as well as discussed various priority issues related to livestock, including disease information sharing and management, epidemiology, laboratory matters, controlling priority diseases like Foot and Mouth Disease (FMD), Peste des Petits Ruminants (PPR), Avian Influenza (AI) and Anti-microbial Use (AMU) stewardship. The Meeting recommended to add Rabies, Brucellosis, and Newcastle diseases as the new diseases affecting the region. The Meeting also recommended that ASF (African Swine Fever), Nipah and IBR may be considered as emerging threats. [2] The Regional Support Unit of SAARC provides "support to the Member States for Laboratory Information and Management System (LIMS) and SAC [SAARC Agricultural Centre] is organizing one Field Epidemiology Training Programme for the Veterinarians (FETPV)." [2] However,it is not clear if these agreements have been implemented by Nepal. No further evidence is found under National Emergency Operations Center or Ministry of Health, Ministry of Agriculture websites.[3,4,5,6]

[1] South Asian Association for Regional Cooperation (SAARC). Areas of Cooperation."Social Affairs". [https://saarc-sec.org/index.php/areas-of-cooperation/social-affairs].Accessed 02 January 2020
[2] South Asian Association for Regional Cooperation. Areas of Cooperation. 'Agriculture and Rural Development'.[http://saarc-sec.org/areas_of_cooperation/area_detail/agriculture-and-rural-development/click-for-details_4]. Accessed 02 January 2021
[3] Government of Nepal. Ministry of Home Affairs. National Emergency Operations Centre. [http://neoc.gov.np/en/download/Disaster-Related-Document/9/]. Accessed 02 January 2021
[4] Government of Nepal. Ministry of Health and Population. Department of Health Services. [https://dohs.gov.np/]. Accessed

02 January 2021
[5] Government of Nepal. Ministry of Health and Population. Epidemiology and Disease Control Division [http://www.edcd.gov.np/section/disaster-management-section]. Accessed 02 January 2021
[6] Government of Nepal. Ministry of Agriculture and Livestock Development.[https://www.moald.gov.np/] Accessed 02 January 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: 0

2021

Biological Weapons Convention

5.3.1c

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

Yes = 1 , No = 0

Current Year Score: 1

2021

Biological Weapons Convention

5.3.1d

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

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

Current Year Score: 1

2021

Biological Weapons Convention

5.3.2 Voluntary memberships

5.3.2a

Does the country meet at least 2 of the following criteria?
- Membership in Global Health Security Agenda (GHSA)
- Membership in the Alliance for Country Assessments for Global Health Security and IHR Implementation (JEE Alliance)
- Membership in the Global Partnership Against the Spread of Weapons and Materials of Mass Destruction (GP)
- Membership in the Australia Group (AG)
- Membership in the Proliferation Security Initiative (PSI)

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

Current Year Score: 0

2021

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

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

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

5.4.1a

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

Yes = 1 , No = 0

Current Year Score: 0

2021

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

5.4.1b

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

Yes = 1 , No = 0

Current Year Score: 0

2021

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

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

5.4.2a

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

Yes = 1 , No = 0

Current Year Score: 0

2021

OIE PVS assessments

5.4.2b

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

Yes = 1 , No = 0

Current Year Score: 0

2021

OIE PVS assessments

5.5 FINANCING

5.5.1 National financing for epidemic preparedness

5.5.1a

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

Yes = 1 , No = 0

Current Year Score: 0

There is no evidence that the country has allocated national funds to improve capacity to address epidemic threats within the past three years. There is no evidence on the Ministry of Health, Ministry of Agriculture, Ministry of Finance-Budget Publication, National Emergency Operations websites.[1,2,3,4,5]

1] Government of Nepal. Ministry of Health and Population. Department of Health Services. [https://dohs.gov.np/]. Accessed 02 January 2021
[2] Government of Nepal. Ministry of Health and Population. Epidemiology and Disease Control Division [http://www.edcd.gov.np/section/disaster-management-section]. Accessed 02 January 2021

[3] Government of Nepal. Ministry of Agriculture and Livestock Development. [https://www.moald.gov.np/] Accessed 02 January 2020
[4] Government of Nepal. Ministry of Finance. Budget Publication.[https://mof.gov.np/en/budget/]. Accessed 02 January 2021
[5] Government of Nepal. Ministry of Home Affairs. National Emergency Operations Centre. [http://neoc.gov.np/en/download/Disaster-Related-Document/9/]. Accessed 02 January 2021

5.5.2 Financing under Joint External Evaluation (JEE) and Performance of Veterinary Services (PVS) reports and gap analyses

5.5.2a

Does the Joint External Evaluation (JEE) report, National Action Plan for Health Security (NAPHS), and/or national GHSA roadmap allocate or describe specific funding from the national budget (covering a time-period either in the future or within the past five years) to address the identified gaps?

Yes = 1 , No/country has not conducted a JEE = 0

Current Year Score: 0

2021

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

5.5.2b

Does the Performance of Veterinary Services (PVS) gap analysis and/or PVS assessment allocate or describe specific funding from the national budget (covering a time-period either in the future or within the past five years) to address the identified gaps?

Yes = 1 , No/country has not conducted a PVS = 0

Current Year Score: 0

2021

OIE PVS assessments

5.5.3 Financing for emergency response

5.5.3a

Is there a publicly identified special emergency public financing mechanism and funds which the country can access in the face of a public health emergency (such as through a dedicated national reserve fund, an established agreement with the World Bank pandemic financing facility/other multilateral emergency funding mechanism, or other pathway identified through a public health or state of emergency act)?

Yes = 1 , No = 0

Current Year Score: 1

Nepal is listed under International Development Association as an eligible borrowing country. [1] Accordingly, Nepal is also a beneficiary of the Pandemic Emergency Financing Facility (PEF), which the country can access in the face of a public health emergency. [2] The country can also access the Prime Minister's Disaster Relief funds and Central Disaster Relief funds during

a public health emergency. [3]

[1] International Development Association (IDA). "Borrowing Countries". [http://ida.worldbank.org/about/borrowing-countries]. Accessed 02 January 2021
[2] Pandemic Emergency Financing Facility. "Operational Brief For Eligible Countries". [http://pubdocs.worldbank.org/en/119961516647620597/PEF-Operational-Brief-Dec-2017.pdf]. Accessed 02 January 2021
[3] Government of Nepal. Ministry of Home Affairs. Disaster Management Division."Disaster Management; DRR related Policy Provision, Act & Rule Regulation of Government of Nepal". [https://dpnet.org.np/uploads/files/4%202019-04-01%2009-31-20.%20DRR%20Related%20Policy_CP%20Pandey%20[1]]. Accessed 02 January 2021

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

5.5.4a

Is there evidence that senior leaders (president or ministers), in the past three years, have made a public commitment either to:
- Support other countries to improve capacity to address epidemic threats by providing financing or support?
- Improve the country's domestic capacity to address epidemic threats by expanding financing or requesting support to improve capacity?
Needs to meet at least one of the criteria to be scored a 1 on this measure., Yes for both = 1, Yes for one = 1, No for both = 0

Current Year Score: 0

There is no evidence that senior leaders in Nepal have made a public commitment to support other countries to improve capacity to address epidemic threats by providing financing or support in the past three years nor is there any evidence that senior leaders have made public commitments 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, however, evidence of funding for COVID-19 response and relief efforts. In light of the present COVID-19 pandemic, according to The Times Of India, dated 21 March 2020, Foreign Minister Pradeep Gyawali pledged to contribute USD 1 million to the SAARC COVID-19 Emergency Fund set up under the leadership of India for the South Asian Association for Regional Cooperation (SAARC) countries to battle the COVID-19 pandemic. [1] However, no press releases or policy documents outlining any evidence that senior leaders have made public commitments to support other countries to improve capacity to address epidemic threats by providing financing or support improve its own domestic capacity to address epidemic threats by expanding financing or requesting support to improve capacity in the past three years this can be found on their Ministry of Health or Ministry of Foreign Affairs websites. [2,3,4] There is no evidence on the World Health Organization, Nepal country page.[5]

[1] The Times of India.21 March 2020. Nepal, Bhutan pledge contribution to SAARC emergency fund for coronavirus.[https://timesofindia.indiatimes.com/india/nepal-bhutan-pledge-contribution-to-saarc-emergency-fund-for-coronavirus/articleshow/74741455.cms] Accessed 02 January 2021
[2] Government of Nepal. Ministry of Health and Population. Department of Health Services. [https://dohs.gov.np/]. Accessed 02 January 2021
[3] Government of Nepal. Ministry of Health and Population. Epidemiology and Disease Control Division [http://www.edcd.gov.np/section/disaster-management-section]. Accessed 02 January 2021
[4] Government of Nepal. Ministry of Foreign Affairs.[https://mofa.gov.np/] Accessed 02 January 2021
[5] World Health Organization (WHO). Nepal.[https://www.who.int/nepal] Accessed 02 January 2021

5.5.4b

Is there evidence that the country has, in the past three years, either:
- Provided other countries with financing or technical support to improve capacity to address epidemic threats?
- Requested financing or technical support from donors to improve the country's domestic capacity to address epidemic threats?

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

Current Year Score: 1

While there is no evidence that the country has, in the past three years provided other countries with financing or technical support to improve capacity to address epidemic threats, there is evidence Nepal has requested financing or technical support from donors to improve the country's domestic capacity to address epidemic threats. There is evidence via the Global Health Security Funding Tracker that Nepal has invested donor funds by several international organizations to improve domestic capacity to address epidemic threats. The tracker notes that Nepal has received funding from multiple donors to enhance their capacity on preparedness, emergency response operations, real time surveillance, zoonotic diseases among others. Some specific example s of funds received are; from US Agency For International Development Nepal has received funds for PREDICT II, Maternal and Child Survival Program, Suaahaara II (Integrated Nutrition Program II) between 2014 and 2020, International Development Association has funded the Nepal Health Sector Management Reform program between 2014 and 2020, funds from Bill and Melinda Gates Foundation between 2014 to 2020 for Medicines for Malaria Venture: Drug, Discovery, Translation and Development etc.[1] There is no evidence that Nepal has provided other countries with financing or technical support to improve capacity to address epidemic threats .The World Health Organization does not mention any such public commitments made by Nepal. [2] In addition, no press releases or policy documents outlining this can be found on their Ministry of Health or Ministry of Foreign Affairs websites. [3,4,5]

[1] Global Health Security Funding Tracker.2021. [https://tracking.ghscosting.org/#/data]. Accessed 23 April 2021
[2] World Health Organization (WHO). Nepal.[https://www.who.int/nepal] Accessed 02 January 2021
[3] Government of Nepal. Ministry of Health and Population. Department of Health Services. [https://dohs.gov.np/]. Accessed 02 January 2021
[4] Government of Nepal. Ministry of Health and Population. Epidemiology and Disease Control Division [http://www.edcd.gov.np/section/disaster-management-section]. Accessed 02 January 2021
[5] Government of Nepal. Ministry of Foreign Affairs.[https://mofa.gov.np/] Accessed 02 January 2021

5.5.4c

Is there evidence that the country has fulfilled its full contribution to the WHO within the past two years?

Yes = 1 , No = 0

Current Year Score: 1

2021

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

5.6 COMMITMENT TO SHARING OF GENETIC AND BIOLOGICAL DATA AND SPECIMENS

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

5.6.1a

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

Yes = 1 , No = 0

Current Year Score: 0

There is no publicly available plan or policy in Nepal for sharing genetic data, epidemiological data, clinical specimens and/or isolated specimens with international organisations and/or other countries. No evidence is available via the Epidemiology and Disease Control Division or National Public Health Laboratory under the Ministry of Health, or the Central Veterinary Laboratory under the Ministry of Agriculture. [1,2,3]

[1] Government of Nepal. Ministry of Health and Population. Epidemiology and Disease Control Division. "Epidemiology and Outbreak Management Section". [http://www.edcd.gov.np/section/disaster-management-section]. Accessed 02 January 2021.
[2] Government of Nepal. Ministry of Health and Population. Department of Health Services. National Public Health Laboratory. "Publications". [https://www.nphl.gov.np/publication]. Accessed 02 January 2021
[3] Government of Nepal. Ministry of Agriculture and Livestock Development. Department of Livestock Services. Directorate of Animal Health. Central Veterinary Laboratory. [http://www.cvl.gov.np/en/]. Accessed 02 January 2021.

5.6.1b

Is there public evidence that the country has not shared samples in accordance with the Pandemic Influenza Preparedness (PIP) framework in the past two years?

Yes = 0 , No = 1

Current Year Score: 1

There is no public evidence that Nepal has not shared samples in accordance with the PIP framework in the past two years. The National Influenza Centre (NIC) is a member of the World Health Organisation (WHO) Global Influenza Surveillance Network. In fact, the NIC collects appropriate clinical specimens from patients throughout each year, especially during the influenza season and outbreaks; undertakes initial identification of virus type and subtype; and forwards representative virus isolates and any low-reacting viruses identified using the WHO reagents kit to a WHO Collaborating Centre for Reference and Research on Influenza within a defined period. It also alerts the WHO Global Influenza Programme on any influenza isolate that cannot be readily identified using reagents provided through the WHO network and immediately forwards the isolate to a WHO Collaborating Centre for Reference and Research on Influenza. [1]The World Health Organisation has not reported any non-compliance in the past two years by Nepal either on their website or as a press release.[2] In addition, there were no reports by the media on this matter.

[1] Government of Nepal. Ministry of Health and Population. Department of Health Services. National Public Health Laboratory. National Influenza Centre. "Influenza". [https://www.nphl.gov.np/department/influenza]. Accessed 02 January 2021.
[2] World Health Organization (WHO). Influenza. "Virus Sharing". 2020. [http://www.who.int/influenza/pip/virus_sharing/en/]. Accessed 02 January 2021

5.6.1c

Is there public evidence that the country has not shared pandemic pathogen samples during an outbreak in the past two years?

Yes = 0 , No = 1

Current Year Score: 1

There is no public evidence that Nepal has not shared pandemic pathogen samples during an outbreak in the past two years. No evidence is found via World Health Organization (WHO) resources as well as media reports. [1,2,3]. There is no evidence that in light of the ongoing pandemic Covid-19, Nepal has not shared pathogen samples.[4,5]

[1] World Health Organisation (WHO). "Disease Outbreak News". [https://www.who.int/csr/don/archive/country/npl/en/]. Accessed 02 January 2021
[2] World Health Organization. "Pandemic Influenza Preparedness Framework Annual Progress Report. 1 January -31 December, 2018. 2019. [https://apps.who.int/iris/bitstream/handle/10665/311901/WHO-WHE-IHM-PIP-2019.1-eng.pdf?sequence=1&isAllowed=y]. Accessed 02 January 2021
[3] World Health Organization. Infuenza.[https://www.who.int/influenza/en/] Accessed 02 January 2021.
[4] World Health Organization. Nepal. WHO Nepal Situation Updates on COVID-19.[https://www.who.int/nepal/news/detail/22-12-2020-who-nepal-situation-update] Accessed 02 January 2021.
[5] Government of Nepal. Ministry of Health and Population. Covid-19 Updates. [https://covid19.mohp.gov.np/] Accessed 02 January 2021

Category 6: Overall risk environment and vulnerability to biological threats

6.1 POLITICAL AND SECURITY RISK

6.1.1 Government effectiveness

6.1.1a

Policy formation (Economist Intelligence score; 0-4, where 4=best)

Input number

Current Year Score: 1

2020

Economist Intelligence

6.1.1b

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

Input number

Current Year Score: 0

2020

Economist Intelligence

6.1.1c

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

Input number

Current Year Score: 1

2020

Economist Intelligence

6.1.1d

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

Input number

Current Year Score: 0

2020

Economist Intelligence

6.1.1e

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

Input number

Current Year Score: 33

2020

Transparency International

6.1.1f

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

Input number

Current Year Score: 1

2020

Economist Intelligence

6.1.1g

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

Input number

Current Year Score: 1

2020

Economist Intelligence

6.1.2 Orderly transfers of power

6.1.2a

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

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

Current Year Score: 3

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: 2

2021

Economist Intelligence

6.1.4b

What is the level of illicit arms flows within the country?

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

Current Year Score: 4

2020

UN Office of Drugs and Crime (UNODC)

6.1.4c

How high is the risk of organized criminal activity to the government or businesses in the country?

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

Current Year Score: 1

2021

Economist Intelligence

6.1.5 Armed conflict

6.1.5a

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

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

Current Year Score: 3

2021

Economist Intelligence

6.1.6 Government territorial control

6.1.6a

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

Yes = 1, No = 0

Current Year Score: 1

2021

Economist Intelligence

6.1.7 International tensions

6.1.7a

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

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

Current Year Score: 2

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: 67.91

2018

United Nations Development Programme (UNDP); United Nations Educational, Scientific and Cultural Organization (UNESCO); The Economist Intelligence Unit

6.2.2 Gender equality

6.2.2a

United Nations Development Programme (UNDP) Gender Inequality Index score

Input number

Current Year Score: 0.52

2018

United Nations Development Programme (UNDP); The Economist Intelligence Unit

6.2.3 Social inclusion

6.2.3a

Poverty headcount ratio at $1.90 a day (2011 PPP) (% of population)

Input number

Current Year Score: 3

2010

World Bank; Economist Impact

6.2.3b

Share of employment in the informal sector

Greater than 50% = 2, Between 25-50% = 1, Less than 25% = 0

Current Year Score: 2

According to the World Bank, the most recent data for share of informal employment in Nepal stands at 78%.The data is from 2017.

[1] The World Bank. Data. Informal Employment. 2020.[https://data.worldbank.org/indicator/SL.ISV.IFRM.ZS].Accessed 02 January 2021

6.2.3c

Coverage of social insurance programs (% of population)

Scored in quartiles (0-3, where 3=best)

Current Year Score: 1

2016, or latest available

World Bank; Economist Impact calculations

6.2.4 Public confidence in government

6.2.4a

Level of confidence in public institutions

Input number

Current Year Score: 0

2021

Economist Intelligence Democracy Index

6.2.5 Local media and reporting

6.2.5a

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

Input number

Current Year Score: 1

2021

Economist Intelligence Democracy Index

6.2.6 Inequality

6.2.6a

Gini coefficient

Scored 0-1, where 0=best

Current Year Score: 0.33

Latest available.

World Bank; Economist Impact calculations

6.3 INFRASTRUCTURE ADEQUACY

6.3.1 Adequacy of road network

6.3.1a

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

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

Current Year Score: 0

2021

Economist Intelligence

6.3.2 Adequacy of airports

6.3.2a

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

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

Current Year Score: 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: 20.15

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: 0.25

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: 1

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: 70.48

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: 602.7

2019

WHO

6.5.1c

Population ages 65 and above (% of total population)

Input number

Current Year Score: 5.78

2019

World Bank

6.5.1d

Prevalence of current tobacco use (% of adults)

Input number

Current Year Score: 31.9

2018

World Bank

6.5.1e

Prevalence of obesity among adults

Input number

Current Year Score: 4.1

2016

WHO

6.5.2 Access to potable water and sanitation

6.5.2a

Percentage of homes with access to at least basic water infrastructure

Input number

Current Year Score: 88.81

2017

UNICEF; Economist Impact

6.5.2b

Percentage of homes with access to at least basic sanitation facilities

Input number

Current Year Score: 62.05

2017

UNICEF; Economist Impact

6.5.3 Public healthcare spending levels per capita

6.5.3a

Domestic general government health expenditure per capita, PPP (current international $)

Input number

Current Year Score: 45.19

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