

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

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

1.1 ANTIMICROBIAL RESISTANCE (AMR)

1.1.1 AMR surveillance, detection, and reporting

1.1.1a

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

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

Current Year Score: 2

Chile established a National Plan against Antimicrobial Resistance in 2017 that outlines surveillance, detection and reporting strategies. [1,2] The plan has five strategic objectives including raising awareness, increasing scientific understanding through surveillance in humans and animals, reducing the incidence of infectious diseases, using antibiotics more efficiently in human and animal medicine, and developing an operational investigation and strategies related to AMR. [3] Specifically, the plan includes surveillance on 7 of the 7+1 AMR priority pathogens. The Ministry of Health's regulation regarding the Obligatory Declaration of Infectious Diseases (Supreme Decree No. 158) establishes the following priority pathogens for surveillance: *Streptococcus pneumoniae*, *Salmonella* spp., *Shigella* spp., *Neisseria gonorrhoea* and *Mycobacterium tuberculosis*. In 2015 Exempt Resolution No. 329 established that *Klebsiella pneumoniae* and *S. aureus* must be included in the list of 7+1 AMR priority pathogens for surveillance. Furthermore, *E. coli* is monitored in specific cases.[2]

[1] Government of Chile. Resolution No. 892 of 2017. "Approving National Plan against Antimicrobial Resistance (Aprueba Plan Nacional Contra la Resistencia a los Antimicrobianos)". [https://diprece.minsal.cl/wrdprss_minsal/wp-content/uploads/2017/08/Resoluci%C3%B3n-Exenta-N%C2%BA892-Aprueba-Plan-Nac.-contra-la-Resistencia-a-los-Antimicrobianos.pdf]. Accessed September 2020.

[2] Ministry of Health. 2017. "National Plan against Antimicrobial Resistance (Plan Nacional Contra la Resistencia a los Antimicrobianos)". [https://diprece.minsal.cl/wrdprss_minsal/wp-content/uploads/2017/08/Plan-Nacional-contra-la-resistencia-a-los-antimicrobianos.pdf]. Accessed September 2020.

[3] Ministry of Health. 2018. "Antimicrobial Resistance (Resistencia Antimicrobiana)". [<https://diprece.minsal.cl/programas-de-salud/programas-enfermedades-transmisibles/resistencia-antimicrobiana/>]. Accessed September 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: 2

There is evidence that Chile can test for all of the 7+1 priority AMR Pathogens. The 2017 National Plan Against Antimicrobial Resistance provides evidence that Chile's National laboratory system tests for *E. coli*, *S. aureus*, *S. pneumoniae*, *K. pneumoniae*, *Salmonella* spp., *Shigella* spp, *Mycobacterium tuberculosis* and *N. gonorrhoeae*. [1] The laboratory system at the Institute of Public Health (ISP) has continuously updated "Laboratory Vigilance Bulletins (Boletines de Vigilancia de Laboratorio)" and other reports where surveillance information on the eight pathogens can be found. [2, 3] The ISP describes

a number of diseases for which sentinel surveillance is available, but this does not include the priority pathogens above. [4]

[1] Ministry of Health. 2017. "National Plan Against Antimicrobial Resistance (Plan Nacional Contra la Resistencia a los Antimicrobianos)". [https://diprece.minsal.cl/wrdprss_minsal/wp-content/uploads/2017/08/Plan-Nacional-contra-la-resistencia-a-los-antimicrobianos.pdf]. Accessed September 2020.

[2] Institute of Public Health. "Laboratory Vigilance Bulletin (Boletines de Vigilancia de Laboratorio)". [<http://www.ispch.cl/boletines>]. Accessed September 2020.

[3] Institute of Public Health. "Epidemiologic Surveillance (Vigilancia Epidemiológica)". [<http://www.ispch.cl/vigilancia>]. Accessed September 2020.

[4] Institute of Public Health. "Bacteriologic Surveillance (Vigilancia Bacteriológica)". [<http://www.ispch.cl/vigilancia-bacteriologia-0>]. Accessed September 2020.

1.1.1c

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

Yes = 1 , No = 0

Current Year Score: 0

There is no evidence that Chile conducts detection or surveillance activities (e.g. in soil, waterways, etc.) for antimicrobial residues or AMR organisms. According to the 2017 "National Action Plan on Antimicrobial Resistance", AMR surveillance has only been conducted in the remit of humans. [1] Further, the surveillance section of the Institute of Public Health (ISP) does not feature reports on antimicrobial residues or AMR under the "environment and food" section [2] Lastly, the Agricultural and Livestock Service (participant in the AMR national plan) conducts surveillance of antimicrobial residues from waste of different livestock, but it does not address other environmental sources. [3] No further evidence is available from the Ministry of Health. [4]

[1] Ministry of Health. 2017. "National Action Plan on Antimicrobial Resistance (Plan Nacional Contra la Resistencia a los Antimicrobianos)". [https://diprece.minsal.cl/wrdprss_minsal/wp-content/uploads/2017/08/Plan-Nacional-contra-la-resistencia-a-los-antimicrobianos.pdf]. Accessed September 2020.

[2] Institute of Public Health. "Environment and Food Surveillance (Vigilancia Ambiental y Alimentos)". [<http://www.ispch.cl/node/29984>]. Accessed September 2020.

[3] Agricultural and Livestock Service. "Residue Control Program (Programa de Control de Residuos)" [<https://www.sag.gob.cl/ambitos-de-accion/programa-de-control-de-residuos-pcr>]. Accessed September 2020.

[4] Ministry of Health. [minsal.cl]. Accessed October 2020.

1.1.2 Antimicrobial control

1.1.2a

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

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

Current Year Score: 1

There is evidence that antimicrobials for humans can only be obtained with a valid prescription but there is some lack of compliance. The 2017 National Plan Against Antimicrobial Resistance states that the sale of antibiotics (including topicals and drops) to the public requires a medical prescription. This is required by Article 100 of Law No. 20.724 of 2014, better known

as the Pharmacy Law, establishing that pharmaceutical products may only be purchased with a valid prescription from a registered health professional. [1,2] In addition, the plan explains that training is available for appropriate medical use of antibiotics. Resolution 2170 outlines the required symptoms to authorise a prescription for the purchase of specific antibiotics. [3] In 2019 news outlets reported that according to the Institute of Public Health about 50% of 254 pharmacies audited in the year were not fully compliant with the law. One of the legal requirements is the sale of restricted medicines with prescription only but the report does not state the level of compliance for this aspect specifically. [4]

[1] Ministry of Health. 2017. "National Plan Against Antimicrobial Resistance (Plan Nacional Contra la Resistencia a los Antimicrobianos)". [https://diprece.minsal.cl/wrdprss_minsal/wp-content/uploads/2017/08/Plan-Nacional-contra-la-resistencia-a-los-antimicrobianos.pdf]. Accessed September 2020.

[2] Ministry of Health. Law No. 20724 of 2014. "Modifying the Sanitary Code Regarding Regulatory Material of Pharmacies and Medicines (Modifica elCodigo Sanitario en Materia de Regulacion de Farmacias y Medicamentos)". [<https://www.leychile.cl/Navegar?idNorma=1058373#receta0>]. Accessed September 2020.

[3] Ministry of Health. "Resolution 2170". [<https://www.bcn.cl/leychile/navegar?idNorma=153434>]. Accessed September 2020.

[4] La Tercera. 2019. "El 50% de farmacias fiscalizadas este 2019 ha cometido alguna falta respecto a la normativa vigente". [<https://www.latercera.com/nacional/noticia/50-farmacias-fiscalizadas-este-2019-ha-cometido-alguna-falta-respecto-la-normativa-vigente/837705/>]. Accessed September 2020.

1.1.2b

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

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

Current Year Score: 1

There is national legislation in place requiring prescriptions for antibiotic use for animals but there is some evidence of lack of enforcement. According to the Ministry of Health (Decree 162, Article 36), veterinarians may write prescriptions for pharmaceutical products, including antibiotics, for veterinary use. [1] Further, the 2017 National Plan Against Antimicrobial Resistance states that the Agricultural and Livestock Service is responsible for the authorisation and monitoring of such prescriptions. [2] However, there is no evidence of current rates of enforcement from the Agricultural and Livestock Service. [3] There is however evidence of inadequate enforcement in the fishery industry. In 2020 import of Chilean salmon has been blocked by Russia due to identification of higher than normal traces of antibiotics. This issue has been debated domestically and the government is proposing legislation that will mandate producers to report on the use of antibiotics. [4]

[1] Ministry of Public Health. Decree No. 162 of 1982. "Approving Regulation of Pharmacies, Drugstores, Pharmaceutical Stores and Authorised Medicine Cabinets (Aprueba Reglamento de Farmacias, Droguerías, Almacenes Farmaceuticos y Botiquines Autorizados)". [<https://www.leychile.cl/Navegar?idNorma=174804&buscar=antibioticos+receta+animal>]. Accessed September 2020.

[2] Ministry of Health. 2017. "National Plan Against Antimicrobial Resistance (Plan Nacional Contra la Resistencia a los Antimicrobianos)". [https://diprece.minsal.cl/wrdprss_minsal/wp-content/uploads/2017/08/Plan-Nacional-contra-la-resistencia-a-los-antimicrobianos.pdf]. Accessed September 2020.

[3] Agricultural and Livestock Service. 2020. [<https://www.sag.gob.cl/>]. Accessed September 2020.

[4] MONGABAY. "Bloqueo de Rusia a salmónes chilenos reactiva crítica por uso de antibióticos". [<https://es.mongabay.com/2020/03/chile-bloqueo-de-rusia-a-salmones-uso-de-antibioticos-oceanos/>]. Accessed October 2020.

1.2 ZOOBOTIC 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

According to the Office of Zoonosis and Vector Control, three laws cover zoonotic disease management as a component (the Sanitary Code, Regulation DS No. 158/04 of 2004 on Diseases of Obligatory Notification, and a rabies-specific plan entitled Regulation DS No. 1/13 of 2013 for the Control and Prevention of Rabies in Humans and Animals) in Chile. [1] According to the US Department of Agriculture, numerous laws address specific zoonotic diseases including Foot and Mouth Disease, Classical Swine Fever, Swine Vesicular Disease and Newcastle Disease. [2] The Sanitary Code briefly describes measures to prevent zoonotic disease including vector control and vaccination of animals, Regulation DS No. 158/04 outlines the requirement for disease reporting and Regulation DS No. 1/13 details rabies control. [3,4,5] The Office also lists programmes for Chagas, Hantavirus and mosquito vector diseases. [1] The USDA-cited legislations cover zoonotic disease notification, movement, surveillance, control and emergency response activities. These include Statutory Decree No. 16 of 1963 on animal health rules, Decree No. 389 of 2014 on obligatory notification; Decree No. 46 of 1978 on prevention and control; and Decree No. 318 of 1925 on regulation of animal health police, among others. [6,7,8,9]

[1] Ministry of Health. "Surveillance of zoonoses and emerging and re-emerging vector diseases (Vigilancia de zoonosis y enfermedades vectoriales emergentes y reemergentes)". [<https://dipol.minsal.cl/oficinas-2/zoonosis-y-control-de-vectores/vigilancia-de-zoonosis-y-enfermedades-vectoriales-emergentes-y-reemergentes/>]. Accessed September 2020.

[2] USDA. 2018. "Report on the Review of Chile's Animal Health Statuses".

[https://www.aphis.usda.gov/import_export/downloads/chile-status-review.pdf]. Accessed September 2020.

[3] Ministry of Health. Decree 725 of 2017. "Sanitary Code (Codigo Sanitario)".

[<https://www.leychile.cl/Navegar?idNorma=5595>]. Accessed September 2020.

[4] Government of Chile. Regulation DS. No. 158/04 of 2004. "Regulations on the notification of mandatory reporting of transmissible diseases (Reglamento sobre notificación de enfermedades transmisibles de declaración obligatoria)".

[http://www.ispch.cl/ley20285/t_activa/marco_normativo/7c/dec_158_04.pdf]. Accessed September 2020.

[5] Ministry of Health. DS No. 1/13 of 2014. "Regulation on the prevention and control of rabies in humans and animals (Reglamento de prevención y control de la rabia en el hombre y en los animales)".

[<https://www.leychile.cl/Navegar?idNorma=1058839>]. Accessed September 2020.

[6] Ministry of Agriculture. Statutory Decree No. 16 of 1963. "Health and Animal Protection".

[<https://www.leychile.cl/Navegar?idNorma=3954>]. Accessed September 2020.

[7] Ministry of Agriculture. Decree No. 389 of 2014. "Establishes Diseases Of Mandatory Declaration For The Application of Sanitary Measures and Repeat Decrees Indicated". [<https://www.leychile.cl/Navegar?idNorma=1070774>]. Accessed September 2020.

[8] Ministry of Agriculture. Decree No. 46 of 1978. "Approves Regulations for the Prevention and Control OF Foot-and-Mouth Disease". [<https://www.leychile.cl/Navegar?idNorma=183295>]. Accessed September 2020.

[9] Ministry of Agriculture. Decree No. 318 of 1925. "Regulation of the Law on Animal Sanitary Police (Reglamento de la Ley Sobre Policia Sanitaria Animal)". [<https://www.leychile.cl/Navegar?idNorma=282956>]. Accessed September 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 insufficient evidence that there are mechanisms for risk identification and reduction for zoonotic disease spillover events from animals to humans in Chile.

According to the 2019 Animal Health Report, surveillance of animal health is coordinated by the Agricultural and Livestock Service (SAG) and it includes statistical sampling based on risk, directed to all susceptible species, targeting exotic diseases or specific areas of the territory, in order to detect new cases or to demonstrate the absence of a pathology. [1] SAG has a specific program on surveillance dedicated to risk areas, defined as: locations at risk of introduction of exotic diseases; areas of concentration of animals or livestock of various species and different origins and destinations; places that, given their type of production, could facilitate the potential spread of an infectious disease. [2] There is no further evidence on the website of the Ministry of Health or Ministry of Agriculture. [3,4]

[1] Agriculture and Livestock Service. 2019. "Animal Health Report Chile 2019 (Informe Sanidad Animal Chile 2019)".

[https://www.sag.gob.cl/sites/default/files/informe_situacion_sanitaria_animal-2019.pdf]. Accessed September 2020.

[2] Agriculture and Livestock Service. "Surveillance in risk areas (Vigilancia en lugares de riesgo)". [<http://www.sag.cl/ambitos-de-accion/vigilancia-en-lugares-de-riesgo>]. Accessed September 2020.

[3] Ministry of Health. [minsal.cl]. Accessed 11 June 2021.

[4] Ministry of Agriculture. [<https://www.minagri.gob.cl/>]. Accessed 11 June 2021.

1.2.1c

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

Yes = 1 , No = 0

Current Year Score: 0

There is no evidence of plans and programmes that cover surveillance and control for at least three zoonotic diseases. According to the Office of Zoonosis and Vector Control, there is a plan on rabies entitled Regulation DS No. 1/13 of 2013 for the Control and Prevention of Rabies in Humans and Animals). The Office also lists programs for Chagas, Hantavirus and mosquito vector diseases. [1] In addition to the plans for vector control, Decree 289 of 2014 on Regulations on Obligatory Declaration on the Application of Sanitary Measures from the Ministry of Agriculture outlines a list of diseases that are mandatory to report, including multiple zoonotic diseases such as avian influenza and salmonella. [2] No further evidence is available from the Ministries of Health or Agriculture. [3, 4]

[1] Ministry of Health. "Office of Zoonosis and Vector control (Oficina de Zoonosis y Control de Vectores)".

[<https://dipol.minsal.cl/oficinas-2/zoonosis-y-control-de-vectores/>]. Accessed September 2018.

[2] Ministry of Agriculture. Decree No. 389 of 2014. "Regulations on Obligatory Declaration on the Application of Sanitary Measures (Establece Enfermedades de Declaracion Obligatoria para la Aplicacion de Medidas Sanitarias y Deroga Decretos que Indica)". [<https://www.leychile.cl/Navegar?idNorma=1070774&buscar=enfermedades+obligatorias>]. Accessed September 2018.

[3] Ministry of Health. [minsal.cl]. Accessed October 2020.

[4] Ministry of Agriculture. [minagri.gob.cl]. Accessed October 2020.

1.2.1d

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

Yes = 1 , No = 0

Current Year Score: 0

There is no evidence of a permanent department dedicated to zoonotic disease that functions across ministries. Within the Ministry of Health, the Office of Zoonoses and Vector Control is responsible for control of zoonotic diseases. [1] In May 2019 the Agricultural and Livestock Service (SAG) announced the creation of the Integrated Vector Surveillance Table with participation of the Office of Zoonoses and Vector Control (Ministry of Health) and representatives of multiple divisions of SAG (Agricultural and Forest Protection, Livestock Protection, entomological and virological areas of the Department of Laboratories, and Quarantine Stations). Currently, this body meets periodically to establish work guidelines and lines of communication between the parties. Its objective is to foster increased collaboration regarding disease surveillance, prevention and control between the sectors. [2] No further evidence is available from the Ministries of Health or Agriculture. [3, 4]

[1] Ministry of Health. "Office of Zoonosis and Control of Vectors (Oficina de Zoonosis y Control de Vectores)".

[<https://dipol.minsal.cl/oficinas-2/zoonosis-y-control-de-vectores/>]. Accessed September 2020.

[2] Agricultural and Livestock Service. 2019. "Se constituyó Mesa de Vigilancia Vectorial Integrada (MVVI)".

[<https://www.sag.gob.cl/noticias/se-constituyo-mesa-de-vigilancia-vectorial-integrada-mvvi>]. Accessed September 2020.

[3] Ministry of Health. [minsal.cl]. Accessed October 2020.

[4] Ministry of Agriculture. [minagri.gob.cl]. Accessed October 2020.

1.2.2 Surveillance systems for zoonotic diseases/pathogens

1.2.2a

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

Yes = 1 , No = 0

Current Year Score: 1

There is evidence of a national mechanism (either voluntary or mandatory) for owners of livestock to conduct and report on disease surveillance to a central government agency. Surveillance of animal health is coordinated by the Agricultural and Livestock Service (SAG) based on notifications on death or disease of farm and wild animals, including sample collection and laboratory analysis, reports of diagnoses from private or university laboratories and through veterinary inspection in slaughterhouses. To promote notification, SAG has developed definitions of suspected cases for diseases subject to mandatory notification, as well as decision-making algorithms. On the other hand, statistical sampling based on risk is carried out directed to all susceptible species, for exotic diseases or for specific areas of the territory, in order to detect new cases or to demonstrate the absence of the pathology. [1] SAG operates a hotline and also has an online contact form which can be used by owners to report diseases. [2] The SAG manages the System on Animal Health (Sistema Sanidad Animal), an online system for regional official veterinarians, to formally input information of all events. [3,4]

[1] Agriculture and Livestock Service. 2019. "Animal Health Report Chile 2019 (Informe Sanidad Animal Chile 2019)".

[https://www.sag.gob.cl/sites/default/files/informe_situacion_sanitaria_animal-2019.pdf]. Accessed September 2020.

[2] Agriculture and Livestock Service. "Complaints reporting (Atención de denuncias)." [<http://www.sag.cl/ambitos-de-accion/atencion-de-denuncias>]. Accessed September 2020.

[3] Agriculture and Livestock Service. "System on Animal Health (Sistema Sanidad Animal)". [<http://www.sag.cl/ambitos-de-accion/sistema-sanidad-animal-ssa>]. Accessed September 2020.

1.2.2b

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

Yes = 1 , No = 0

Current Year Score: 0

There is insufficient evidence that animal surveillance activities include confidentiality protections for owners. All public institutions in Chile that conduct surveillance activities - including the Agriculture and Livestock Service (SAG) - must comply with certain data privacy standards outlined by Law 19628 of 1999 on the Protection of Personal Information. Article 7 explicitly states that "both public and private organisations" are required to keep personal data confidential, including data collected from non-publicly available sources, as well as data and background related to the information in the data bank. [1] The section in the SAG website dedicated to reporting by livestock owners, does not provide further evidence on confidentiality of information. [2]

[1] Ministry of the General Presidential Secretariat. Law 19628 of 1999. "On Protection of Private Life (Sobre Proteccion de la Vida Privada)". [<https://www.leychile.cl/Navegar?idNorma=141599&idVersion=2012-02-17>] Accessed September 2020.

[2] Agriculture and Livestock Service. "Complaints reporting (Atención de denuncias)." [<http://www.sag.cl/ambitos-de-accion/atencion-de-denuncias>]. Accessed September 2020.

1.2.2c

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

Yes = 1 , No = 0

Current Year Score: 1

There is evidence that the country conducts surveillance in wildlife.

According to the Office of Zoonosis and Vector Control, the country has programs to conduct surveillance for Chagas, Hantavirus and mosquito vector diseases. [1] Furthermore, the 2019 Report on Animal Health by the Agricultural and Livestock Service, evidences that surveillance has included wildlife, based on reporting by: hunters and trappers, road killings, game markets, health service inspection of hunted animals, cases of morbidity and mortality observed by the public, centers of wildlife rehabilitation, wildlife biologists and field staff from specialized wildlife agencies, ranchers and landowners, naturalists and conservationists. The report mentions activities of active surveillance, such as sanitary inspections of wild animals, sample collection and laboratory testing. [2]

[1] Ministry of Health. "Office of Zoonosis and Vector Control (Oficina de Zoonosis y Control de Vectores)". [<https://dipol.minsal.cl/oficinas-2/zoonosis-y-control-de-vectores/>]. Accessed September 2020.

[2] Agriculture and Livestock Service. 2019. "Animal Health Report Chile 2019 (Informe Sanidad Animal Chile 2019)". [https://www.sag.gob.cl/sites/default/files/informe_situacion_sanitaria_animal-2019.pdf]. Accessed September 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: 5.94

2018

OIE WAHIS database

1.2.4b

Number of veterinary para-professionals per 100,000 people

Input number

Current Year Score: 2.78

2018

OIE WAHIS database

1.2.5 Private sector and zoonotic

1.2.5a

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

Yes = 1 , No = 0

Current Year Score: 0

There are mechanisms for authorities to collaborate with the private sector in the control of zoonoses, however, these are not framed within a specific plan. The Agricultural and Livestock Service (SAG) has developed a program against bovine tuberculosis, a zoonotic disease, which relies on collaboration with the private sector. It proposes the creation of an Advisory Committee, with representatives from: milk suppliers, dairy plants, export organizations, the milk consortium, research centres, slaughterhouses and veterinary doctors, as well as public entities. The program has allocated public funds for private

sector actors to collaborate in surveillance of the disease. However, it does not show clear signs of activity since 2012. [1, 2] The SAG has also established information sharing mechanisms with private laboratories to support surveillance of animal health. [3] No further evidence is available from the Ministries of Agriculture or Health, or the Institute of Public Health. [4, 5, 6]

[1] Agricultural and Livestock Service. "PROYECTO NACIONAL DE CONTROL Y ERRADICACION DE TUBERCULOSIS BOVINA A PARTIR DE COMPARTIMENTOS DE PROVEEDORES DE LA INDUSTRIA LáCTEA".

[https://www.sag.gob.cl/sites/default/files/proyecto_TB_compartimentos_ind_lactea_20-6-2011.pdf]. Accessed September 2020.

[2] Agricultural and Livestock Service. "Tuberculosis Bovina (TB)". [<http://www.sag.cl/ambitos-de-accion/tuberculosis-bovina-tb>]. Accessed September 2020.

[3] Agricultural and Livestock Service. "Laboratorios privados de diagnóstico veterinario". [<https://www.sag.gob.cl/ambitos-de-accion/laboratorios-privados-de-diagnostico-veterinario>]. Accessed September 2020.

[4] Ministry of Agriculture. [minagri.gob.cl]. Accessed October 2020.

[5] Ministry of Health. [minsal.cl]. Accessed October 2020.

[6] Institute of Public Health. [ispch.cl]. Accessed October 2020.

1.3 BIOSECURITY

1.3.1 Whole-of- government biosecurity systems

1.3.1a

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

Yes = 1 , No = 0

Current Year Score: 1

There is evidence that the country maintains a record of facilities handling dangerous pathogens. According to the "Manual of Biosecurity Standards and Associated Risks" biological agents with potential for bioterrorism must be duly registered in the General Directorate of General Mobilization (DGMN), according to the indications of Law No.17,798 on Control of Arms, Explosives and Similar Items. [1] In August 2020, Law No. 21,250 was approved, implementing the Convention on Chemical and Bacteriological Weapons. The law confirms the requirement of reporting the handling of potentially dangerous materials in a national registry. [2] The DGMN is in charge of collecting information on toxic and biological substances and the facilities of national public and private organizations that have a direct and indirect dealing of these matters. It has an operating portal with information on the Biological and Toxin Weapons Convention, and includes forms to be completed by different actors involved in research, to notify on the handling of potentially dangerous substances. The DGMN is responsible for collecting information needed for reporting on the Biological Weapons Convention "Confidence Building Measures" to the UN. [3]

[1] National Commission of Scientific and Technological Research. 2018. "Manual of Norms on Biosecurity and Associated Risks". [<http://www.conicyt.cl/fondecyt/files/2018/08/MANUAL-DE-NORMAS-DE-BIOSEGURIDAD.pdf>]. Accessed September 2020.

[2] Ministry of Defense. "Law 21250". [<https://www.bcn.cl/leychile/navegar?idNorma=1148285&tipoVersion=0>]. Accessed September 2020.

[3] DGMN. 2017. "Convención de Armas Biológicas y Tóxicas (CABT)"

[<https://www.dgmn.cl/convenciones/index.php/convencion-de-armas-biologicas-cab/>]. Accessed September 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: 1

There are biosecurity regulations in place in Chile. The 2018 "Manual of Norms on Biosecurity and Associated Risks" is established by the National Commission of Scientific and Technological Research (CONICYT). It outlines biosecurity regulations addressing requirements such as physical containment, operation practices, and failure reporting systems of facilities in which especially dangerous pathogens and toxins are stored or processed. The manual defines biosecurity as the principles, techniques and practices of safe biocontainment carried out to avoid inadvertent exposure to risk material or its accidental release (according to the standards established by the European Committee for Standardisation Workshop Agreement, CWA No. 15793 of 2011). However, its use of "inadvertent exposure" refers to the unplanned situation where an individual with malicious intentions could access such substances. [1] The document explicitly covers the risk of intentional release related to terrorist motives in chapter 9.1 on "Intentional Release" and outlines the required physical security measures of laboratories by their respective levels in chapter 5 on "Biological Substances and Laboratories". For example, a BSL3 lab must have double access doors to the laboratory with automatic closing and have an interlock mechanism, so that only one is open at a time, and all windows must be hermetically sealed, with glass resistant to breakage. [1]

[1] National Commission of Scientific and Technological Research. 2018. "Manual of Norms on Biosecurity and Associated Risks". [<http://www.conicyt.cl/fondecyt/files/2018/08/MANUAL-DE-NORMAS-DE-BIOSEGURIDAD.pdf>]. Accessed September 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: 1

There are agencies responsible for the enforcement of biosecurity legislation and regulations. Point 11 of Article 4 of Enforcement Decree 1 (Ministry of Health) from 2005 states that the Ministry of Health must set standards regarding sanitary conditions, facility and equipment security, application of techniques and technologies, compliance with protocols of service, and competencies of the human resources, across all health institutions, public or private. Further, Point 3 states that enforcement and control of the regulations will be carried out by Regional Sub-divisions of the Ministry of Health. Article 59 states that the Institute of Public Health (ISP) will serve as national reference laboratory and will act as the supervisor of all public health laboratories determined by the Ministry of Health. [1] The National and Reference Biomedical Laboratory is the institution within the ISP in charge of supervision of clinical laboratories and blood banks. [2]

[1] Ministry of Health. "Enforcement Decree 1 of 2005". [<https://www.bcn.cl/leychile/navegar?idNorma=249177>]. Accessed September 2020.

[2] Institute of Public Health. 2020. "Biomedical Laboratory Department: Who We Are (Departamento Laboratorio Biomédico: Quiénes Somos)". [http://www.ispch.cl/biomedicos/quienes_somos]. Accessed September 2020.

1.3.1d

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

Yes = 1 , No = 0

Current Year Score: 0

There is no evidence that the country has taken action to consolidate its inventories of especially dangerous pathogens and toxins into a minimum number of facilities in the past two years. Decree 158 of 2004 on the Notification of Communicable Diseases of Obligatory Declaration requires strains and samples of especially dangerous pathogens to be sent to the reference laboratory for special diagnoses once identified. This is required of both Chile's public and private clinical laboratories. [1] The General Directorate of National Mobilization (DGMN) is in charge of collecting information on toxic and biological substances and the facilities of national public and private organizations that have a direct and indirect dealing of these matters. It has an operating portal with information on the Biological and Toxin Weapons Convention, and includes forms to be completed by different actors involved in research, to notify on the handling of potentially dangerous substances. The DGMN is responsible for collecting information needed for reporting on the Biological Weapons Convention "Confidence Building Measures" to the UN. [2] There is no evidence of consolidation efforts by either the Ministry of Health or the Ministry of Defense. [3, 4] Although Chile has submitted BWC Confidence Building Measures every year since 2005, access to the reports is restricted to the public, and it is unknown if they contain information on this matter. [5] There is no further evidence from the Ministry of Agriculture or the VERTIC database. [6, 7]

[1] Ministry of Health. "Decree 158/04". [https://diprece.minsal.cl/wrdprss_minsal/wp-content/uploads/2015/01/DECRETO-158-Enfermedades-de-Notificaci%C3%B3n-Obligatoria.pdf]. Accessed November 2018.

[2] DGMN. 2017. "Convención de Armas Biológicas y Tóxicas (CABT)" [<https://www.dgmn.cl/convenciones/index.php/convencion-de-armas-biologicas-cab/>]. Accessed September 2020.

[3] Ministry of Health. [minsal.cl]. Accessed September 2020.

[4] Ministry of Defense. [defensa.cl]. Accessed September 2020.

[5] United Nations Biological Weapons Convention Confidence Building Measures. "Chile" [<https://bwc-ecbm.unog.ch/state/chile>]. Accessed October 2020.

[6] Ministry of Agriculture. [minagri.gob.cl]. Accessed October 2020.

[7] VERTIC. "Chile". [<https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/c/>]. Accessed October 2020.

1.3.1e

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

Yes = 1 , No = 0

Current Year Score: 1

There is evidence that the country has the capacity to conduct Polymerase Chain Reaction (PCR)-based diagnostic testing for Ebola. A 2014 guidance by the Ministry of Health titled "Sampling and sending protocol for confirmation of suspect case of virus disease Ebola" establishes that the Institute of Public Health (ISP) performs RT-PCR and sequencing for the Ebola Virus. For definitive confirmation, a sample will be sent to a WHO Collaborating Center appointed for the region (National Microbiology Laboratory Public Health Agency of Canada). [1] According to the Epidemiology Department at the Ministry of Health, Anthrax is tested via molecular typification such as pulsed field electrophoresis (PFGE) or multi locus typification by sequencing (MLST), which allow to establish genetic links in an outbreak study. [2] Although Chile has submitted BWC

Confidence Building Measures every year since 2005, access to the reports is restricted to the public, and it is unknown if they contain information on this matter. [3] There is no further evidence from the Ministry of Agriculture or the VERTIC database. [4, 5]

[1] Ministry of Health. 2014. "Sampling and sending protocol for confirmation of suspect case of virus disease Ebola". [<https://ebola.minsal.cl/wp-content/uploads/2014/11/Protocolo-Manejo-Muestra-para-Confirmaci%C3%B3n.pdf>]. Accessed October 2020.

[2] Department of Epidemiology. "Carbunco (Anthrax)". [<http://epi.minsal.cl/carbunco-diagnostico/>]. Accessed October 2020.

[3] United Nations Biological Weapons Convention Confidence Building Measures. "Chile" [<https://bwc-ecbm.unog.ch/state/chile>]. Accessed October 2020.

[4] Ministry of Agriculture. [minagri.gob.cl]. Accessed October 2020.

[5] VERTIC. "Chile". [<https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/c/>]. Accessed October 2020.

1.3.2 Biosecurity training and practices

1.3.2a

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

Yes = 1, No = 0

Current Year Score: 0

There is no evidence that Chile requires biosecurity training through a standardised approach. The "Guide of Preventive Recommendations for Workers in Bioclean Facilities with Biosecurity Levels Type 2 and 3" (2012) details that the assigned biosecurity director at each facility will be responsible for the "continued education" of staff regarding biosecurity practices. However, it is unclear how such training takes place or if practices are standardised across facilities. [1] The "Manual of Biosecurity Standards and Associated Risks" (2018) recommends that all public or private institutions that develop basic or applied research, and who work in fields posing risks for personal, community or environmental safety, implement a "Institutional Biosecurity Committee" (CIB). One of its responsibilities shall be: "Maintaining a permanent training program for the members of the institution and an initial induction program for new laboratory members regarding activities that take place in laboratories". [2] The Chile Institute of Public Health (ISP) reported in 2019 that it has been conducting Biosecurity/Biosafety courses systematically for five years aimed at professionals, technicians and assistants in person and online through the Moodle platform, but there is no evidence of this being standardised or mandatory. [3] Although Chile has submitted BWC Confidence Building Measures every year since 2005, access to the reports is restricted to the public, and it is unknown if they contain information on this matter. [4] There is no further evidence from the Ministries of Agriculture, Health, Defense or the VERTIC database. [5, 6, 7, 8]

[1] Institute of Public Health. "Guide of Preventive Recommendations for Workers in Bioclean Facilities with Biosecurity Levels Type 2 and 3 (Guía de Recomendaciones Preventivas Para Trabajadoras y Trabajadores que se Desempeñan en Áreas Biolimpías con Niveles de Bioseguridad Tipo 2 y 3)".

[http://www.ispch.cl/sites/default/files/u5/Gu%C3%ADa_Preventiva_%C3%81reas_Biolimpias.pdf]. Accessed September 2020.

[2] National Commission of Scientific and Technological Research. 2018. "Manual of Norms on Biosecurity and Associated Risks". [<http://www.conicyt.cl/fondecyt/files/2018/08/MANUAL-DE-NORMAS-DE-BIOSEGURIDAD.pdf>]. Accessed September 2020.

- [3] Institute of Public Health. "ISP conducted a course on Biosafety in the Clinical Laboratory for Technicians and Laboratory Assistants (ISP realizó curso sobre Bioseguridad en el Laboratorio Clínico para Técnicos y Auxiliares de Laboratorio)". [<http://www.ispch.cl/noticia/28169?page=23>]. Accessed September 2020.
- [4] United Nations Biological Weapons Convention Confidence Building Measures. "Chile" [<https://bwc-ecbm.unog.ch/state/chile>]. Accessed October 2020.
- [5] Ministry of Agriculture. [minagri.gob.cl]. Accessed October 2020.
- [6] Ministry of Health. [minsal.cl]. Accessed October 2020.
- [7] Ministry of Defense. [defensa.cl]. Accessed October 2020.
- [8] VERTIC. "Chile". [<https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/c/>]. Accessed October 2020.

1.3.3 Personnel vetting: regulating access to sensitive locations

1.3.3a

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

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

Current Year Score: 0

There is no evidence of regulations that specify that personnel with access to especially dangerous pathogens should undergo specific checks. However, all personnel of the public sector, whether in the health sector or in defense, must comply with a number of conditions for their appointment, including: being in adequate health with regards to the nature of the job, and not having any unresolved problems with the law. Additionally, management roles are restricted for anyone with with a drug dependence, unless their consumption is justified for medical treatment (applies to anyone aspiring to the rank of undersecretary, superior head of service or senior manager of an organ or organism of the State Administration, up to the degree of head of division or its equivalent). [1, 2] Although Chile has submitted BWC Confidence Building Measures every year since 2005, access to the reports is restricted to the public, and it is unknown if they contain information on this matter. [3] There is no further evidence from the Ministries of Agriculture, Health, Defense or the VERTIC database. [4, 5, 6, 7]

- [1] Ministry General Secretariat of the Presidency. "DFL 1-19653 on State Administration". [<https://www.bcn.cl/leychile/navegar?idNorma=191865>]. Accessed September 2020.
- [2] Civil Service. "Background Accreditation Procedure - Public Jobs Portal" [https://empleospublicos.cl/documentos/DocumentosLegales/docs/doc_201104148825.doc]. Accessed September 2020.
- [3] United Nations Biological Weapons Convention Confidence Building Measures. "Chile" [<https://bwc-ecbm.unog.ch/state/chile>]. Accessed October 2020.
- [4] Ministry of Agriculture. [minagri.gob.cl]. Accessed October 2020.
- [5] Ministry of Health. [minsal.cl]. Accessed October 2020.
- [6] Ministry of Defense. [defensa.cl]. Accessed October 2020.
- [7] VERTIC. "Chile". [<https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/c/>]. Accessed October 2020.

1.3.4 Transportation security

1.3.4a

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

Yes = 1 , No = 0

Current Year Score: 1

There is evidence of publicly available information on national regulations on the safe and secure transport of infectious substances (specifically including Categories A and B). The Public Health Institute has published guidelines called the "Technical Normative for the Transportation of Infectious Substances at the National Level towards the Institute of Public Health 2008", which outline the national regulations for secure transport of infectious substances (including specific instructions for both Categories A and B substances). A central condition regarding motor vehicle transfers of samples between clinical units and the central laboratory is the use of triple packaging where samples must be transported inside of a primary container consisting of a waterproof container with hermetic seal. The primary container must be wrapped with paper or other absorbent material inside secondary packaging which must be waterproof and airtight, with screw cap. Thereafter, external or tertiary packaging must be rigid, resistant, hermetically sealed and thermally insulated, dependent on conditions required by the sample. The person responsible for the transfer of the samples must be trained in responses against accidents with biological risk, as well as control of contingencies during the transfer. [1]

[1] Institute of Public Health. 2008. "Technical Normative for the Transportation of Infectious Substances at the National Level towards the Institute of Public Health 2008 (Normativa técnica para el transporte de sustancias infecciosas a nivel nacional hacia el Instituto de Salud Pública)". [<http://www.ispch.cl/sites/default/files/documento/2013/03/normativa02.pdf>]. Accessed September 2020.

1.3.5 Cross-border transfer and end-user screening

1.3.5a

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

Yes = 1 , No = 0

Current Year Score: 1

There are regulations on the cross-border transfer of biological material considering end-user screening. The entry of biological material into the national territory of Chile is regulated by the Exempt Resolution 2229 (2001) from the Ministry of Agriculture; Agricultural and Livestock Service that establishes rules for the entry of biological material. [1] The resolution establishes the requirements for an application to import biological materials: personal and work details of the importer, description of the biological material, country and place of origin, purpose of entry, description of biology and ecology of the material, description of the substances that will be used in transportation, quantities, details of the procedures for identification and elimination of the material, analysis of the risks that it may pose to people and animals, infrastructure for quarantine, details of the producer and countries of origin of the material, background on the risks posed by entry in other countries, among others requirements. [2]

[1] National Commission of Scientific and Technological Research. 2018. "Manual of Norms on Biosecurity and Associated Risks". [<http://www.conicyt.cl/fondecyt/files/2018/08/MANUAL-DE-NORMAS-DE-BIOSEGURIDAD.pdf>]. Accessed September 2020.

[2] Ministry of Agriculture. "Exempt Resolution 2229 establishing rules of entry of biological material (Resolucion 2229 exenta establece normas de ingreso de material biologico y deroga resoluciones que indica)". [<https://www.bcn.cl/leychile/navegar?idNorma=190087>]. Accessed September 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: 1

Chile has in place national biosafety legislation and/or regulation. Biosafety is guided by the 2013 "Biosafety Guide for Clinical Laboratories" which was developed by the Department for the National and Reference Biomedical Laboratory. The guide addresses requirements such as physical containment, operation practices and personal safety, among other aspects. The document includes specific regulation on risk management, safe transportation, residue handling, and minimisation of both chemical and physical risks. Finally, the text also includes a chapter on specific instructions to address biosafety accidents in clinical laboratories. [1]. The "Manual of Norms on Biosecurity and Associated Risks" created in 2018 by the National Commission of Scientific and Technological Research (CONICYT) also addresses biosafety ("bioseguridad" in Spanish referring to both biosafety and biosecurity). It addresses biosecurity best practices, personal protection equipment, management of residues and management of emergencies in dealing with biologic and chemical substances. [2]

[1] Institute of Public Health. 2013. "Biosafety Guide for Clinical Laboratories (Guia de Bioseguridad para Laboratorios Clinicos)". [<http://www.ispch.cl/sites/default/files/documento/2013/08/Manual%20Bio-30082013B.pdf>]. Accessed September 2020.

[2] National Commission of Scientific and Technological Research. 2018. "Manual of Norms on Biosecurity and Associated Risks". [<http://www.conicyt.cl/fondecyt/files/2018/08/MANUAL-DE-NORMAS-DE-BIOSEGURIDAD.pdf>]. Accessed September 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: 1

According to Enforcement Decree 1 of 2005 of the Ministry of Health, the designated agency responsible for the enforcement of standards across the laboratory system is the Institute of Public Health (ISP). [1] Specifically, Article 59 outlines the institute's role as the supervisor of all public health laboratories determined by the Ministry of Health. [1] The quality of personal protection elements is likewise controlled by the ISP, according to Supreme Decree No. 18 on certification of quality of personal protection elements against occupational risks. [2]

[1] Ministry of Health. 2006. Enforcement Decree Law 1 of 2005. "Of the Ministry of Health (del Ministerio de Salud Pública)". [<https://www.bcn.cl/leychile/navegar?idNorma=249177>]. Accessed September 2020.

[2] National Commission of Scientific and Technological Research. "Manual of Norms on Biosecurity and Associated Risks".

[<http://www.conicyt.cl/fondecyt/files/2018/08/MANUAL-DE-NORMAS-DE-BIOSEGURIDAD.pdf>]. Accessed September 2020.

1.4.2 Biosafety training and practices

1.4.2a

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

Yes = 1 , No = 0

Current Year Score: 0

There is no evidence that Chile requires biosafety training through a standardised approach although there are multiple uncoordinated regulations and resources referring to biosafety training.

The "Guide of Preventive Recommendations for Workers in Bioclean Facilities with Biosecurity Levels Type 2 and 3" (2012) details that the assigned biosecurity director at each facility will be responsible for the "continued education" of staff regarding biosecurity/biosafety (the term being equivalent in Spanish) practices. [1] The "Manual of Biosecurity/Biosafety Standards and Associated Risks" recommends that all public or private institutions that develop basic or applied research, and who work in fields posing risks for personal, community or environmental safety, implement a "Institutional Biosecurity/Biosafety Committee" (CIB). One of its responsibilities shall be: "Maintaining a permanent training program for the members of the institution and an initial induction program for new laboratory members regarding activities that take place in laboratories". [2] The Chile Institute of Public Health (ISP) has been conducting Biosecurity/Biosafety courses systematically for five years aimed at professionals, technicians and assistants in person and online through the Moodle platform, but there is no evidence of this being standardised or mandatory. [3] Although Chile has submitted BWC Confidence Building Measures every year since 2005, access to the reports is restricted to the public, and it is unknown if they contain information on this matter. [4] There is no further evidence from the Ministries of Agriculture, Health, Defense or the VERTIC database. [5, 6, 7, 8]

[1] Institute of Public Health. "Guide of Preventive Recommendations for Workers in Bioclean Facilities with Biosecurity Levels Type 2 and 3 (Guía de Recomendaciones Preventivas Para Trabajadoras y Trabajadores que se Desempeñan en Áreas Biolimpías con Niveles de Bioseguridad Tipo 2 y 3)".

[http://www.ispch.cl/sites/default/files/u5/Gu%C3%ADa_Preventiva_%C3%81reas_Biolimpias.pdf]. Accessed September 2020.

[2] National Commission of Scientific and Technological Research. 2018. "Manual of Norms on Biosecurity and Associated Risks". [<http://www.conicyt.cl/fondecyt/files/2018/08/MANUAL-DE-NORMAS-DE-BIOSEGURIDAD.pdf>]. Accessed September 2020.

[3] Institute of Public Health. "ISP conducted a course on Biosafety in the Clinical Laboratory for Technicians and Laboratory Assistants (ISP realizó curso sobre Bioseguridad en el Laboratorio Clínico para Técnicos y Auxiliares de Laboratorio)".

[<http://www.ispch.cl/noticia/28169?page=23>]. Accessed September 2020.

[4] United Nations Biological Weapons Convention Confidence Building Measures. "Chile" [<https://bwc-ecbm.unog.ch/state/chile>]. Accessed October 2020.

[5] Ministry of Agriculture. [minagri.gob.cl]. Accessed October 2020.

[6] Ministry of Health. [minsal.cl]. Accessed October 2020.

[7] Ministry of Defense. [defensa.cl]. Accessed October 2020.

[8] VERTIC. "Chile". [<https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/c/>].

Accessed October 2020.

1.5 DUAL-USE RESEARCH AND CULTURE OF RESPONSIBLE SCIENCE

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

1.5.1a

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

Yes = 1 , No = 0

Current Year Score: 0

There is evidence that the country conducts monitoring of dangerous materials, but there is no evidence of specific assessments on dual-use research. The Ministry of Defense's Law No. 17,798 on Control of Weapons, Explosives and Similar Elements requires that all research utilising biological agents with the potential to be used in bioterrorism be registered with the General Directorate of General Mobilization (DGMN) [1] The DGMN is in charge of collecting information on toxic and biological substances and the facilities of national public and private organizations that have a direct and indirect dealing of these matters. It has an operating portal with information on the Biological and Toxin Weapons Convention, and includes forms to be completed by different actors involved in research, to notify on the handling of potentially dangerous substances. The DGMN is responsible for ongoing data collection needed for reporting on the Biological Weapons Convention "Confidence Building Measures" to the UN. [2] Chile is also member of the convention on the prohibition of the development, production and storage of bacteriological (biological) and toxic weapons and on their destruction, approved through Law Decree 3716 of 1980. [3] Further, the country has recently approved Law 21250 of 2020 implementing the convention on the prohibition of the development, production, storage and use of chemical weapons and on their destruction and the convention on the prohibition of the development, production and storage of bacteriological (biological) and toxic weapons and on their destruction. [4] Chile has submitted Biological Weapons Convention Confidence Building Measures every year since 2005 (but access to the reports is restricted). [5]. No further evidence is available from the VERTIC database, or the Ministries of Agriculture, Health or Defense. [6, 7, 8, 9]

[1] National Commission of Scientific and Technological Research. 2018. "Manual of Norms on Biosecurity and Associated Risks". [<http://www.conicyt.cl/fondecyt/files/2018/08/MANUAL-DE-NORMAS-DE-BIOSEGURIDAD.pdf>]. Accessed September 2020.

[2] DGMN. 2017. "Convención de Armas Biológicas y Tóxicas (CABT)" [<https://www.dgmn.cl/convenciones/index.php/convencion-de-armas-biologicas-cab/>]. Accessed September 2020.

[3] Ministry of Foreign Relations. "Law Decree 3176". [<https://www.bcn.cl/leychile/navegar?org=&idNorma=136770>]. Accessed September 2020.

[4] Ministry of Defense. "Law 21250". [<https://www.bcn.cl/leychile/navegar?idNorma=1148285&tipoVersion=0>]. Accessed September 2020.

[5] United Nations. 2020. "Confidence Building Measures". [<https://bwc-ecbm.unog.ch/state/chile>]. Accessed September 2020.

[6] VERTIC. "Chile". [<https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/c/>]. Accessed October 2020.

[7] Ministry of Agriculture. [minagri.gob.cl]. Accessed October 2020.

[8] Ministry of Health. [minsal.cl]. Accessed October 2020.

[9] Ministry of Defense. [defensa.cl]. Accessed October 2020.

1.5.1b

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

Yes = 1 , No = 0

Current Year Score: 0

There is no evidence of regulation that specifically addresses oversight of dual-use research. However, the Ministry of Defense's Law No. 17,798 on Control of Weapons, Explosives and Similar Elements requires that all research utilising biological agents with the potential to be used in bioterrorism be registered with the General Directorate of General Mobilization (DGMN) [1] The DGMN is in charge of collecting information on toxic and biological substances and the facilities of national public and private organizations that have a direct and indirect dealing of these matters. It has an operating portal with information on the Biological and Toxin Weapons Convention, and includes forms to be completed by different actors involved in research, to notify on the handling of potentially dangerous substances. The DGMN is responsible for ongoing data collection needed for reporting on the Biological Weapons Convention "Confidence Building Measures" to the UN. [2] Chile is also member of the convention on the prohibition of the development, production and storage of bacteriological (biological) and toxic weapons and on their destruction, approved through Law Decree 3716 of 1980. [3] Further, the country has recently approved Law 21250 of 2020 implementing the convention on the prohibition of the development, production, storage and use of chemical weapons and on their destruction and the convention on the prohibition of the development, production and storage of bacteriological (biological) and toxic weapons and on their destruction. [4] Chile has submitted Biological Weapons Convention Confidence Building Measures every year since 2005 (but access to the reports is restricted). [5]. No further evidence is available from the VERTIC database, or the Ministries of Agriculture, Health or Defense. [6, 7, 8, 9]

[1] National Commission of Scientific and Technological Research. 2018. "Manual of Norms on Biosecurity and Associated Risks". [<http://www.conicyt.cl/fondecyt/files/2018/08/MANUAL-DE-NORMAS-DE-BIOSEGURIDAD.pdf>]. Accessed September 2020.

[2] DGMN. 2017. "Convención de Armas Biológicas y Tóxicas (CABT)" [<https://www.dgmn.cl/convenciones/index.php/convencion-de-armas-biologicas-cab/>]. Accessed September 2020.

[3] Ministry of Foreign Relations. "Law Decree 3176". [<https://www.bcn.cl/leychile/navegar?org=&idNorma=136770>]. Accessed September 2020.

[4] Ministry of Defense. "Law 21250". [<https://www.bcn.cl/leychile/navegar?idNorma=1148285&tipoVersion=0>]. Accessed September 2020.

[5] United Nations. 2020. "Confidence Building Measures". [<https://bwc-ecbm.unog.ch/state/chile>]. Accessed September 2020.

[6] VERTIC. "Chile". [<https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/c/>]. Accessed October 2020.

[7] Ministry of Agriculture. [minagri.gob.cl]. Accessed October 2020.

[8] Ministry of Health. [minsal.cl]. Accessed October 2020.

[9] Ministry of Defense. [defensa.cl]. Accessed October 2020.

1.5.1c

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

Yes = 1 , No = 0

Current Year Score: 0

There is no evidence of an agency in charge of overseeing dual-use research specifically. The Ministry of Defense's Law No. 17,798 on Control of Weapons, Explosives and Similar Elements requires that all research utilising biological agents with the potential to be used in bioterrorism be registered with the General Directorate of General Mobilization (DGMN) [1] The DGMN is in charge of collecting information on toxic and biological substances and the facilities of national public and private organizations that have a direct and indirect dealing of these matters. It has an operating portal with information on the Biological and Toxin Weapons Convention, and includes forms to be completed by different actors involved in research, to notify on the handling of potentially dangerous substances. The DGMN is responsible for ongoing data collection needed for reporting on the Biological Weapons Convention "Confidence Building Measures" to the UN. [2] Chile has submitted Biological Weapons Convention Confidence Building Measures every year since 2005, (but access to the reports is restricted). [3]. No further evidence is available from the VERTIC database, or the Ministries of Agriculture, Health or Defense. [4, 5, 6, 7]

[1] National Commission of Scientific and Technological Research. 2018. "Manual of Norms on Biosecurity and Associated Risks". [<http://www.conicyt.cl/fondecyt/files/2018/08/MANUAL-DE-NORMAS-DE-BIOSEGURIDAD.pdf>]. Accessed September 2020.

[2] DGMN. 2017. "Convención de Armas Biológicas y Tóxicas (CABT)" [<https://www.dgmn.cl/convenciones/index.php/convencion-de-armas-biologicas-cab/>]. Accessed September 2020.

[3] United Nations. 2020. "Confidence Building Measures". [<https://bwc-ecbm.unog.ch/state/chile>]. Accessed September 2020.

[4] VERTIC. "Chile". [<https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/c/>]. Accessed October 2020.

[5] Ministry of Agriculture. [minagri.gob.cl]. Accessed October 2020.

[6] Ministry of Health. [minsal.cl]. Accessed October 2020.

[7] Ministry of Defense. [defensa.cl]. Accessed October 2020.

1.5.2 Screening guidance for providers of genetic material

1.5.2a

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

Yes = 1 , No = 0

Current Year Score: 0

There is regulation requiring screening of modified DNA before sale, specifically regarding GMOs in agriculture, however the specific screening processes are not indicated. Exempt Resolution 1523 establishes rules for the introduction (into the country) and release to the environment of living propagation modified vegetable organisms. For either introduction to the country or release (for the purpose of exportation for instance) the approval of the Agricultural and Livestock Service (SAG) is required, which in turns requires the completion of a risk analysis. [1] The SAG offers details on the information needed to request a risk analysis and this includes specifics on the genetic composition of the GMOs. [2] For other types of organisms, the "Manual of Biosafety Standards and Associated Risks" defines different requirements for experimentation with recombinant DNA. For instance, experiments involving genetic modification of a microorganism, plant or animal that can eventually be released into the environment need a authorization granted by a competent national agency (Institute of Public Health, or SAG), as well as by the Institutional Biosecurity Committee (CIB). For other experiments usually authorisation by the CIB will suffice. [3] Although Chile has submitted BWC Confidence Building Measures every year since

2005, access to the reports is restricted to the public, and it is unknown if they contain information on this matter. [4] There is no further evidence from the Ministries of Agriculture, Health, Defense or the VERTIC database. [5, 6, 7, 8]

[1] Ministry of Agriculture. "Exempt Resolution 1523 establishing rules for the intermation and introduction to the environment of living vegetable organisms modified of propagation (Resolucion 1523 exenta establece normas para la internacion e introduccion al medio ambiente de organismos vegetales vivos modificados de propagacion)".

[<https://www.bcn.cl/leychile/navegar?idNorma=187630>]. Accessed September 2020.

[2] Agricultural and Livestock Service. "Procedures for the release into the environment of GMOs developed in the country (Procedimientos para la liberación al medio ambiente de OGM desarrollados en el país)". [<http://www.sag.cl/ambitos-de-accion/procedimientos-para-la-liberacion-al-medio-ambiente-de-ogm-desarrollados-en-el-pais>]. Accessed September 2020.

[3] National Commission of Scientific and Technological Research. "Manual of Norms on Biosecurity and Associated Risks (Manual de Normas Bioseguridad y Riesgos Asociados)". [<http://www.conicyt.cl/fondecyt/files/2018/08/MANUAL-DE-NORMAS-DE-BIOSEGURIDAD.pdf>]. Accessed September 2020.

[4] United Nations Biological Weapons Convention Confidence Building Measures. "Chile" [<https://bwc-ecbm.unog.ch/state/chile>]. Accessed October 2020.

[5] Ministry of Agriculture. [minagri.gob.cl]. Accessed October 2020.

[6] Ministry of Health. [minsal.cl]. Accessed October 2020.

[7] Ministry of Defense. [defensa.cl]. Accessed October 2020.

[8] VERTIC. "Chile". [<https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/c/>]. Accessed October 2020.

1.6 IMMUNIZATION

1.6.1 Vaccination rates

1.6.1a

Immunization rate (measles/MCV2)

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

Current Year Score: 1

2019

World Health Organization

1.6.1b

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

Yes = 1 , No = 0

Current Year Score: 1

2020

OIE WAHIS database

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

2.1 LABORATORY SYSTEMS STRENGTH AND QUALITY

2.1.1 Laboratory testing for detection of priority diseases

2.1.1a

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

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

Current Year Score: 2

There is evidence that the national laboratory system has the capacity to conduct diagnostic tests for at least five of the six common WHO-defined core tests. In particular, the Ministry of Health's Department of Epidemiology is responsible for the co-ordination of epidemiological surveillance across the country. The core diagnostics tests that the laboratory system conducts include polymerase chain reaction (PCR) testing for influenza virus, virus culture for poliovirus, serology for HIV, microscopy for mycobacterium tuberculosis and rapid diagnostic testing for plasmodium spp [1,2,3,4,5].

[1] Department of Epidemiology. "Influenza e Infecciones respiratorias agudas graves (IRAG) Diagnostico". [<http://epi.minsal.cl/influenza-diagnostico/>]. Accessed September 2020.

[2] Department of Epidemiology. "Poliomyelitis (acute flaccid paralysis) Diagnosis (Poliomielitis (Parálisis flácidas agudas) Diagnostico)". [<http://epi.minsal.cl/poliomielitis-diagnostico/>]. Accessed September 2020.

[3] Department of Epidemiology. "Acquired Immunodeficiency Syndrome (HIV/AIDS) Diagnosis (Síndrome de inmunodeficiencia adquirida (VIH/SIDA) Diagnostico)". [<http://epi.minsal.cl/vih-diagnostico/>]. Accessed September 2020.

[4] Department of Epidemiology. "Tuberculosis Diagnosis (Tuberculosis Diagnostico)". [<http://epi.minsal.cl/tuberculosis-diagnostico/>]. Accessed September 2020.

[5] Ministry of Health. 2015. "Technical orientation for diagnosis and treatment of Malaria in Chile (Orientaciones técnicas para el diagnóstico y tratamiento de la Malaria en Chile)". [<https://www.minsal.cl/wp-content/uploads/2016/09/Orientaciones-t%c3%a9cnicas-para-el-diagn%c3%b3stico-y-tratamiento-de-la-Malaria-en-Chile-2015.pdf>]. Accessed September 2020.

2.1.1b

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

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

Current Year Score: 1

There is a national plan, strategy or similar document for conducting testing during a public health emergency, but it is disease-specific.

The "Coordination protocol for epidemiological surveillance actions during the covid-19 pandemic in Chile: National strategy for testing, traceability and isolation" was published in 2020. The strategy addresses goals for testing, one of its objectives is to reduce the time that elapses between the detection of the positive case (by clinic or laboratory) and epidemiological investigation (determination of all close contacts) and it defines the population targets that should be tested. It also addresses scaling up, as another objective is expanding the coverage of PCR testing, bringing it closer to the community level. In order to achieve that it proposes actions in active search of cases in facilities of social services, installing mobile testing centers and arranging home visits for those with mobility limitations. There is no mention however of testing for novel pathogens. [1, 2]

[1] Ministry of Health. 2020. "Coordination protocol for epidemiological surveillance actions during the covid-19 pandemic in Chile: National strategy for testing, traceability and isolation". [<https://www.minsal.cl/wp-content/uploads/2020/07/Estrategia-Testeo-Trazabilidad-y-Aislamiento.pdf>]. Accessed October 2020.

[2] Ministry of Health. 2020. "Presentation: Coordination protocol for epidemiological surveillance actions during the covid-19 pandemic in Chile: National strategy for testing, traceability and isolation". [https://www.minsal.cl/wp-content/uploads/2020/07/Protocolo-TTA_JA.pdf]. Accessed October 2020.

2.1.2 Laboratory quality systems

2.1.2a

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

Yes = 1 , No = 0

Current Year Score: 1

The National Biomedical Reference Laboratory, which serves as a reference facility, has undergone an accreditation process before the National Accreditation Institute to validate and receive accreditation certificates for the standard ISO 15.189 (competence of testing and calibration laboratories). [1,2]

[1] Institute of Public Health. 2013. "Laboratories of the Biomedical Department received accreditation certificate under ISO 15.189 (Laboratorios del Departamento Biomédico recibieron certificado de acreditación bajo norma ISO 15.189)". [<http://www.ispch.cl/node/20348>]. Accessed October 2020.

[2] International Organisation for Standardization. "ISO/IEC 17025:2005." [<https://www.iso.org/standard/39883.html>]. Accessed October 2020.

2.1.2b

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

Yes = 1 , No = 0

Current Year Score: 1

There is evidence that the national laboratory that serves as a reference facility in Chile is subject to external quality assurance review. The National Biomedical Reference Laboratory, which serves as a reference facility, has undergone an accreditation process before the National Accreditation Institute (INN) to validate and receive accreditation certificates for the standard of ISO 15189 (competence of testing and calibration laboratories) [1,2]. ISO 15189 certification requires external quality assurance reviews. [3]

[1] Institute of Public Health. 2013. "Laboratorios del Departamento Biomédico recibieron certificado de acreditación bajo norma ISO 15.189". [<http://www.ispch.cl/node/20348>]. Accessed October 2020.

[2] International Organization for Standardization. "ISO/IEC 17025:2005." [<https://www.iso.org/standard/39883.html>]. Accessed October 2020.

[3] World Health Organization. "Content Sheet 10-1: Overview of External Quality Assessment (EQA)". [http://www.who.int/ihr/training/laboratory_quality/10_b_eqa_contents.pdf]. Accessed October 2020.

2.2 LABORATORY SUPPLY CHAINS

2.2.1 Specimen referral and transport system

2.2.1a

Is there a nationwide specimen transport system?

Yes = 1 , No = 0

Current Year Score: 0

There is no evidence that a nationwide specimen transport is in place in Chile. Neither the "Technical Normative for the Transportation of Infectious Substances at the National Level towards the Institute of Public Health 2008" or the 2018 "Manual of Norms on Biosecurity and Associated Risks" indicate the existence of a specimen transport system. They refer generally to standards in labelling and packaging of potentially dangerous substances. [1, 2] Additionally, guidance by the Ministry of Health on the collection of Ebola samples, refers only to the need of registering the details of transportation entities. [3] No further information is available from the Ministries of Health, Agriculture, or the Institute of Public Health. [4, 5, 6].

[1] Institute of Public Health. "Technical Normative for the Transportation of Infectious Substances at the National Level towards the Institute of Public Health 2008". [<http://www.ispch.cl/sites/default/files/documento/2013/03/normativa02.pdf>]. Accessed October 2020.

[2] National Commission of Scientific and Technological Research. "Manual of Norms on Biosecurity and Associated Risks". [<http://www.conicyt.cl/fondecyt/files/2018/08/MANUAL-DE-NORMAS-DE-BIOSEGURIDAD.pdf>]. Accessed October 2020.

[3] Ministry of Health. 2014. "Sampling and sending protocol for confirmation of suspect case of virus disease Ebola". [<https://ebola.minsal.cl/wp-content/uploads/2014/11/Protocolo-Manejo-Muestra-para-Confirmaci%3bn.pdf>]. Accessed October 2020.

[4] Ministry of Health. [<https://www.minsal.cl>]. Accessed October 2020.

[5] Institute of Public Health. [<http://www.ispch.cl>]. Accessed October 2020.

[6] Ministry of Agriculture. [<https://www.minagri.gob.cl>]. Accessed October 2020.

2.2.2 Laboratory cooperation and coordination

2.2.2a

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

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

Current Year Score: 0

There is no evidence of a plan in place to rapidly authorize or license laboratories to supplement the capacity of the national public health laboratory system to scale-up testing during an outbreak. During the Covid-19 emergency the government was

able to authorise new diagnostic facilities through the declaration of a "sanitary alert", awarding extraordinary powers to health authorities. [1] In particular, through Resolution 147 of March 2020, the Ministry of Health authorised the first six laboratories. However, there is no evidence that this process followed a pre-existing plan. [2, 3]

[1] Ministry of Health. Decree 6. "Modifica decreto nº 4, de 2020, del ministerio de salud, que decreta alerta sanitaria por el período que se señala y otorga facultades extraordinarias que indica por emergencia de salud pública de importancia internacional (espil) por brote del nuevo coronavirus (2019-ncov)".

[<https://www.bcn.cl/leychile/navegar?idNorma=1143149>]. Accessed October 2020.

[2] Ministry of Health. Resolution 147 of 2020. [<https://www.minsal.cl/wp-content/uploads/2020/04/Resoluci%C3%B3n-Exenta-N%C2%BA147-Laboratorios-Universidades.pdf>]. Accessed October 2020.

[3] Ministry of Health. [minsal.cl]. Accessed October 2020.

2.3 REAL-TIME SURVEILLANCE AND REPORTING

2.3.1 Indicator and event-based surveillance and reporting systems

2.3.1a

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

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

Current Year Score: 1

There is evidence of ongoing event-based surveillance and analysis for infectious disease. The Department of Epidemiology, in accordance with the provisions of Article 9 of the International Health Regulations, conducts event based surveillance, making weekly reports available through the National Liaison Centre. It is unspecified how often the data is analysed. [1].

[1] Department of Epidemiology. 2018. "Public Health Vigilance Events (Vigilancia Eventos Salud Publica)".

[<http://epi.minsal.cl/vigilancia-eventos-salud-publica-2018/>]. Accessed December 2018.

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 the country has reported a potential public health emergency of international concern (PHEIC) to the WHO within the last two years. On 7 February 2020, the Chile IHR National Focal Point informed the Pan American Health Organization / World Health Organization (PAHO/WHO) of the detection of three confirmed cases of autochthonous dengue fever reported on Easter Island. The country did not report the outbreak of novel coronavirus. [1, 2]

[1] World Health Organization. 2020. "Emergencies preparedness, response".

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

[2] World Health Organization. 2020. "Dengue fever - Chile". [<https://www.who.int/csr/don/22-february-2020-dengue->

chile/en/]. Accessed October 2020.

2.3.2 Interoperable, interconnected, electronic real-time reporting systems

2.3.2a

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

Yes = 1 , No = 0

Current Year Score: 1

The government operates an electronic reporting surveillance system at both the national and the sub-national level, named EPIVIGILA. According to the Ministry of Health, reporting of Diseases of Mandatory Notification must be made by healthcare facilities to the Regional Health Authority (SEREMI) corresponding to their location. This notification can be immediate, daily or weekly, as defined in the regulations for the disease in particular. The SEREMI then notifies the Ministry of Health. [1] EPIVIGILA is the name of the electronic platform enabled (since 2019) for notification of diseases from the regional authority to the Ministry of Health. [2]

[1] Ministry of Health. 2018. "Epidemiological Surveillance (VIGILANCIA EPIDEMIOLÓGICA)". [minsal.cl/wp-content/uploads/2017/09/ANEXO-1-VIGILANCIA-EPIDEMIOLÓGICA-.pdf]. Accessed October 2020.

[2] Ministry of Health. 2019. "Surveillance of Communicable Diseases of Mandatory notification (Vigilancia de Enfermedades Transmisibles de Notificación Obligatoria)". [https://www.minsal.cl/wp-content/uploads/2019/09/ANEXO-04.pdf]. Accessed October 2020.

2.3.2b

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

Yes = 1 , No = 0

Current Year Score: 1

The electronic reporting surveillance system, EPIVIGILA, collects ongoing or real-time laboratory data. The epidemiological surveillance system requires immediate notification of a number of diseases, such as: Measles, Rubella, Severe Acute Respiratory Infections, Dengue, Rabies, Leptospira or Yellow fever. Notification is to be made upon suspicion, without need of confirmation. [1] During the Covid-19 emergency, the Institute of Public Health, housing the reference laboratory, requires reporting of all samples through the EPIVIGILA platform. [2] EPIVIGILA is the name of the electronic platform enabled (since 2019) for notification of diseases from the regional authorities to the Ministry of Health. [3]

[1] Ministry of Health. 2019. "Surveillance of Communicable Diseases of Mandatory notification (Vigilancia de Enfermedades Transmisibles de Notificación Obligatoria)". [https://www.minsal.cl/wp-content/uploads/2019/09/ANEXO-04.pdf]. Accessed October 2020.

[2] Institute of Public Health. 2020. "ISP continues to receive and process samples for COVID-19 diagnosis (ISP continúa recibiendo y procesando las muestras para el diagnóstico de COVID-19)" [http://www.ispch.cl/noticia/30032]. Accessed October 2020.

[3] Ministry of Health. 2019. "Surveillance of Communicable Diseases of Mandatory notification (Vigilancia de Enfermedades Transmisibles de Notificación Obligatoria)". [https://www.minsal.cl/wp-content/uploads/2019/09/ANEXO-04.pdf]. Accessed October 2020.

2.4 SURVEILLANCE DATA ACCESSIBILITY AND TRANSPARENCY

2.4.1 Coverage and use of electronic health records

2.4.1a

Are electronic health records commonly in use?

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

Current Year Score: 1

There is evidence of an electronic health record system in place but insufficient evidence that electronic health records are commonly in use. The profile for Chile in a 2015 World Health Organisation (WHO) report, "Atlas of eHealth Country Profiles", notes that whereas 50-75% of primary care facilities use EHRs, less than 25% of secondary and tertiary care facilities do so. [1] By 2016 the Ministry of Health reported that 70% of primary care centers and 55% of hospital establishments had electronic clinical records. [2]

[1] World Health Organisation (WHO). 2015. "Atlas of eHealth Country Profiles - Chile".

[<https://www.who.int/goe/publications/atlas/2015/chl.pdf>]. Accessed October 2020.

[2] Ministry of Health. 2016. "Ministry of Health ratifies commitment to give continuity to computerization of the Public Assistance Network through SIDRA project (Ministerio de Salud ratifica compromiso para dar continuidad a informatización de la Red Pública Asistencial a través de proyecto SIDRA)". [<https://www.minsal.cl/ministerio-de-salud-ratifica-compromiso-para-dar-continuidad-a-la-informatizacion-de-la-red-publica-asistencial-a-traves-de-proyecto-sidra/>]. Accessed October 2020.

2.4.1b

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

Yes = 1, No = 0

Current Year Score: 0

There is not sufficient evidence that the national public health system has access to electronic health records of individuals in the country. The country has been working on the interoperability of electronic health records for years to allow for access to the information of individuals across the country. [1] Although there are no specific estimates, news reports suggest that there is interoperability between a large portion of available electronic records. [2, 3] With regards to confidentiality of the data, access to health records is accessible only to health workers directly involved in the care of the patient. [4] No further evidence is available from the Ministry of Health or the Institute of Public Health. [5, 6]

[1] Ministry of Health. "Ficha clínica digital significará ahorro de tiempo y exámenes para pacientes del Hospital Higuera y Regional". [<https://www.minsal.cl/ficha-clinica-digital-significara-ahorro-de-tiempo-y-examenes-para-pacientes-del-hospital-higuera-y-regional/>]. Accessed October 2020.

[2] TrendTIC. 2020. "Servicios de salud del país avanzan en iniciativas de interoperabilidad entre sus sistemas de información sanitaria". [<https://www.trendtic.cl/2020/03/servicios-de-salud-del-pais-avanzan-en-iniciativas-de-interoperabilidad-entre-sus-sistemas-de-informacion-sanitaria/#:~:text=Es%20decir%2C%20la%20Interoperabilidad%20Sanitaria,con%20los%20profesionales%20sanitarios%20y>]. Accessed October 2020.

[3] Superintendency of Health. "¿Cuáles son los derechos de las personas respecto de la Ficha Clínica?".

[<http://www.supersalud.gob.cl/consultas/667/w3-article-7973.html>]. Accessed October 2020.

[5] Ministry of Health. [minsal.cl]. Accessed October 2020.

[6] Institute of Public Health. [ispch.cl]. Accessed October 2020.

2.4.1c

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

Yes = 1 , No = 0

Current Year Score: 0

There is no evidence of data standards in electronic health records to ensure data is comparable. No information in this regard is available from the Ministry of Health or the Institute of Public Health. [1, 2] In addition, while Page 81 of a 2015 World Health Organization (WHO) report, "Atlas of eHealth Country Profiles", confirms that the country has legislation addressing quality of care based on data quality, data transmission standards or clinical competency criteria, it is unclear if the legislation explicitly addresses data comparability. [3]

[1] Ministry of Health. [minsal.cl]. Accessed October 2020.

[2] Institute of Public Health. [ispch.cl]. Accessed October 2020.

[3] World Health Organisation (WHO). 2015. "Atlas of eHealth Country Profiles".

[http://apps.who.int/iris/bitstream/handle/10665/204523/9789241565219_eng.pdf;jsessionid=9E2A061841A8BFB538021F29A0A9E009?sequence=1]. Accessed October 2020.

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

2.4.2a

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

Yes = 1 , No = 0

Current Year Score: 1

There is evidence of established mechanisms at the relevant ministries responsible for animal, human, and wildlife surveillance to share data. The National Focal Point for International Health Regulations (IHR), "Centro Nacional de Enlace", is responsible for disseminating information between the relevant authorities in Chile responsible for monitoring and reporting on health services. The Department of Epidemiology within the Ministry of Health manages the Center as well as the Epidemiological Surveillance System. [1] The Department of Epidemiology publishes weekly bulletins of public health events which rely on the input of multiple ministries and cover human, animal, and environmental health. [2]

[1] Department of Epidemiology. "Centro Nacional de Enlace". [<http://epi.minsal.cl/centro-nacional-de-enlace-cne/>]. Accessed October 2020.

[2] Department of Epidemiology. "Vigilancia Eventos Salud Publica". [<http://epi.minsal.cl/vigilancia-eventos-salud-publica-2019/>]. Accessed October 2020.

2.4.3 Transparency of surveillance data

2.4.3a

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

Yes = 1 , No = 0

Current Year Score: 1

The Institute of Public Health (ISP) publishes de-identified health surveillance data on disease outbreaks which is constantly updated and, for certain diseases, available on a weekly basis.

"Surveillance and Laboratory up-to-date Bulletins" are available for botulism, brucellosis, chikungunya, cholera, dengue, influenza, tuberculosis and others. [1] The ISP also publishes surveillance bulletins on issues such as respiratory viruses and different bacterial infections. [2] Up-to-date reports are available at the ISP website (no significant time lags) with different frequencies for different diseases. [3, 4] "Respiratory Viruses Circulation Reports" are published on a weekly basis since 2011. [5]

[1] Institute of Public Health. "Surveillance and Laboratory up-to-date Bulletins (Boletines de Vigilancia y Laboratorio al día)". [http://www.ispch.cl/asuntoscientificos/boletines_vigilancia_laboratorio_al_dia]. Accessed October 2020.

[2] Institute of Public Health. "Surveillance". [<http://www.ispch.cl/vigilancia>]. Accessed October 2020.

[3] Institute of Public Health. "Laboratory Surveillance Bulletins". [<https://www.ispch.cl/boletin/>]. Accessed March 2021.

[4] Institute of Public Health. "Bacteriology - Results Reports". [<https://www.ispch.cl/andid/gestion-de-la-informacion/vigilancia-laboratorios-de-agentes-infecciosos/bacterologia-informes-de-resultados/>]. Accessed March 2021.

[5] Institute of Public Health. "Surveillance of respiratory viruses". [<https://www.ispch.cl/virusrespiratorios/>]. Accessed March 2021.

2.4.3b

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

Yes = 1 , No = 0

Current Year Score: 1

The country makes de-identified COVID-19 surveillance data (including details such as daily case count, mortality rate, etc) available online. The national government has enabled a dedicated website for monitoring the Covid-19 situation, including epidemiology, with daily cases and mortality nationally and for sub-national entities. [1] The website of the Ministry of Health also features similar information, through tables and daily bulletins [2] Both portals are updated daily.

[1] Gob.cl. "Official figures Covid-19 (Cifras oficiales Covid-19)". [<https://www.gob.cl/coronavirus/cifrasoficiales/>]. Accessed October 2020.

[2] Ministry of Health. "Confirmed cases in Chile Covid-19 (Casos confirmados en Chile Covid-19)"

[<https://www.minsal.cl/nuevo-coronavirus-2019-ncov/casos-confirmados-en-chile-covid-19/>]. Accessed October 2020.

2.4.4 Ethical considerations during surveillance

2.4.4a

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

Yes = 1 , No = 0

Current Year Score: 1

There is legislation safeguarding the confidentiality of health data. According to Law No. 19.628 of 1999, on the protection of privacy and the treatment of personal data, sensitive data include: information on racial origin, political ideologies and opinions, religious beliefs or convictions, physical or mental health conditions and sexual life. Sensitive data cannot be processed, except when authorized by law, there is consent of the owner or data are necessary for the determination or granting of health benefits. Also, the processing of personal data can only be carried out when this law or other legal provisions authorize it or the owner expressly consents to it. [1]

[1] Ministry of the General Presidential Secretariat. Law 19628 of 1999. "On Protection of Private Life (Sobre Proteccion de la Vida Privada)". [<https://www.leychile.cl/Navegar?idNorma=141599>]. Accessed October 2020.

2.4.4b

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

Yes = 1 , No = 0

Current Year Score: 0

There is insufficient evidence that Chile has laws, regulations, or guidelines that specifically safeguard the confidentiality of identifiable health information for individuals which include mention of protection from cyber attacks. There are some legislation safeguarding all types of data which addresses cyberattacks. Law No. 19.628 of 1999, on the protection of privacy and the treatment of personal data is supported by Law 19.223 on cybercrime (1993). The latter establishes punishments for those maliciously accessing, altering, damaging or revealing any types of data resources. However, there is no evidence of these being applicable to personal health data. [1]

[1] Ministry of Justice. "Law 19223". [<https://www.bcn.cl/leychile/navegar?idNorma=30590>]. Accessed October 2020.

2.4.5 International data sharing

2.4.5a

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

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

Current Year Score: 2

The government has made commitments to share surveillance data during public health emergencies with other countries generally but has not named any specific diseases.

According to article 56 of the Sanitary Code of 2017, during a public health emergency the National Health Service should collect statistical data on morbidity from other countries and stimulate the international exchange of information that is important in the improvement of public health and in the control of human diseases. [1] In 2005, Chile's Ministry of External Affairs and Paraguay passed Decree No. 183 establishing a co-operation agreement on health themes. Specifically, Article 2 establishes that for the rehabilitation of health, the two parties will collaborate in epidemiological surveillance of any disease declared of common concern to both countries or that represents a risk for the other country. Joint surveillance under cases of emergency is complemented by joint or co-ordinated response actions. [2]

[1] Ministry of Health. Decree 725 of 2017. "Sanitary Code (Codigo Sanitario)".

[<https://www.leychile.cl/Navegar?idNorma=5595>]. Accessed October 2020.

[2] Ministry of External Affairs. Decree No. 183 of 2005. "Establishing a Co-operation Agreement on Health (PROMULGA EL ACUERDO DE COOPERACIÓN EN MATERIA DE SALUD CON PARAGUAY)". [<https://www.leychile.cl/Navegar?idNorma=267970>]. Accessed October 2018.

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 that the government provides support to conduct contact tracing at the subnational level but only during an active public health emergency (Covid-19).

Chile's national contact tracing strategy for Covid-19 requires Ministry of Health Regional Secretariats (SEREMIs) to develop their own contact-tracing forces in their territories. SEREMIs should work with Health Services Directors and the directors of Primary Care Centers (APSS) to strengthen their specialized teams in traceability. Epidemiology coordinators should constitute work teams of "Traceability and Isolation", ensuring training in epidemiological investigation and monitoring functions, and the necessary inputs to carry out the field work (technological and personal protective equipment), as well as the management of standardized record systems. [1] The national government has made available online training for anyone involved in contact tracing at the sub-national level. [2] No further evidence is available from the Ministry of Health or the Institute of Public Health. [3, 4]

[1] Ministry of Health. 2020. "Coordination protocol for epidemiological surveillance actions during the covid-19 pandemic in Chile: National strategy for testing, traceability and isolation". [<https://www.minsal.cl/wp-content/uploads/2020/07/Estrategia-Testeo-Trazabilidad-y-Aislamiento.pdf>]. Accessed October 2020.

[2] Ministry of Health. 2020. "Undersecretary of Public Health inaugurates traceability course for health professionals (Subsecretaria de Salud Pública inaugura curso de trazabilidad para profesionales de la salud)". [<https://www.minsal.cl/subsecretaria-de-salud-publica-inaugura-curso-de-trazabilidad-para-profesionales-de-la-salud/>]. Accessed October 2020.

[3] Ministry of Health. [minal.cl]. Accessed October 2020.

[4] Institute of Public Health. [ispch.cl]. Accessed October 2020.

2.5.1b

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

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

Current Year Score: 1

During the Covid-19 emergency, the country has provided 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 but there is no evidence that this would apply to future public health emergencies.

Amid the Covid-19 the government has issued multiple clarifications with regards to the social protection system, indicating that: workers who have been infected with Covid-19, as well as those who have been in contact with them will be entitled to the corresponding medical benefits, either from the Occupational Accident Insurance Administrator (if contagion is occupational) or from the health pension agency, be it Fonasa (public) or Isapre (private scheme) (when caused by non-labor causes). Additionally, they will be entitled to medical leave and to sick pay. [1] However, these clarifications don't specify they are for people who are quaranting / isolating.

In other circumstances, the Constitution affords a right to health protection to all citizens. [2] An unemployment insurance is available to workers with an indefinite, fixed-term contract, or work/services contracts as long as they are governed by the Labor Code (this excludes for example independent workers). [3, 4] No further evidence is available from the Ministry of Health or the Public Health Institute. [5, 6]

[1] Garrigues. 2020. "COVID-19: Las autoridades laborales fijan criterios en Chile".

[https://www.garrigues.com/es_ES/noticia/covid-19-las-autoridades-laborales-fijan-criterios-en-chile]. Accessed October 2020.

[2] Presidency General Ministry Secretariat. "Constitución 1980". [<https://www.bcn.cl/leychile/navegar?idNorma=242302>]. Accessed October 2020.

[3] Chileatiende. 2020. "Seguro de Cesantía". [<https://www.chileatiende.gob.cl/fichas/36642-seguro-de-cesantia>]. Accessed October 2020.

[4] Work Directorate. "Seguro de Desempleo". [<https://www.dt.gob.cl/portal/1628/w3-propertyvalue-27201.html>]. Accessed October 2020.

[5] Ministry of Health. [minal.cl]. Accessed October 2020.

[6] Institute of Public Health. [ispch.cl]. Accessed October 2020.

2.5.1c

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

Yes = 1, No = 0

Current Year Score: 0

There is insufficient evidence of daily reporting on contact tracing in Chile. The Ministry of Health in Chile has published weekly reports on their testing, tracing and isolation strategy. The latest available online covers the week between September 26 to October 2. It addresses 8 indicators: number of tests performed by active case search, RT-PCR Test Positivity Index, testing coverage, timeliness of notification, timeliness of epidemiological investigation and registration of the first follow-up of cases, identification of contacts, timeliness of epidemiological investigation and registration of the first follow-up in contacts, list of contacts by case. They present data for all sub-national entities. [1]

[1] Ministry of Health. "Epidemiological report Covid-19 (Informe epidemiológico Covid-19)". [<https://www.minsal.cl/nuevo-coronavirus-2019-ncov/informe-epidemiologico-covid-19/>]. Accessed October 2020.

2.5.2 Point of entry management

2.5.2a

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

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

Current Year Score: 1

There is a legal framework for the public health system and border control authorities to collaborate in response to an active public health emergency (Covid-19).

The Sanitary Code (1967), in Articles 56 and 57, defines responsibilities of the National Health Service in matters of international health protection: adopting measures against the introduction of diseases that can be transmitted to man into the national territory or spread abroad, in ports, borders and transit or traffic sites; establishing adequate measures to prevent the international transmission of these diseases, whether they can be spread by passengers and crew. [1] Further, the national emergency plan assigns to the Ministry of Interior and Public Safety the role of attending to the functioning of country borders. [2] No further evidence is available from the Ministry of Health, the Institute of Public Health or the border authorities. [3, 4, 5]

Furthermore, there is a plan for border management during an active public health emergency (Covid-19). In November 2020 the national government published a plan for the opening of borders which requires incoming international travellers to provide contact information, travel history and a negative PCR test. All incoming travellers are subject to surveillance during 14 days, with daily self-reporting to the health authorities. Those coming from high-risk countries are obliged to quarantine (as well as residents without a negative test). [6]

[1] Ministry of Interior and Public Safety. 2017. "Decree 1434 approving the National Emergency Plan". [<https://siac.onemi.gov.cl/documentos/1434.pdf>]. Accessed October 2020.

[2] Ministry of Health. "Decree 725 - Sanitary Code". [<https://www.bcn.cl/leychile/navegar?idNorma=5595>]. Accessed October 2020.

[3] Ministry of Health. [minsal.cl]. Accessed October 2020.

[4] Institute of Public Health. [ispch.cl]. Accessed October 2020.

[5] Ministry of Interior and Public Safety. [interior.gob.cl]. Accessed October 2020.

[6] Gob.cl. 2020. "Opening of borders". [https://s3.amazonaws.com/gobcl-prod/public_files/Campa%C3%B1as/Corona-

Virus/documentos/paso-a-paso/Plan-Apertura-de-fronteras-v2.pdf]. Accessed March 2021.

2.6 EPIDEMIOLOGY WORKFORCE

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

2.6.1a

Does the country meet one of the following criteria?

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

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

Current Year Score: 1

Applied epidemiology training programs are available in Chile and offered by local universities such as the Universidad del Desarrollo. This institution offers a Blended Diploma, taught by the Center for Epidemiology and Health Policies (CEPS) of the Faculty of Medicine of the German Hospital. [1] In addition, the National Commission for Scientific and Technological Research sponsors scholarships for students to undertake study programs abroad through various bilateral agreements. [2] However, there is no evidence that options to study abroad explicitly include FETPs from the Ministry of Health or the Institute of Public Health . [3, 4]

[1] Universidad del Desarrollo. "Field Epidemiology Diploma - Seventh version (Diplomado Epidemiología de Campo – VII versión)". [<https://medicina.udd.cl/ver-diplomado/diplomado-de-epidemiologia-de-campo-vii/>]. Accessed October 2020.

[2] National Commission for Scientific and Technological Research. "International Accords (Acuerdos Internacionales)". [<http://www.conicyt.cl/becasconicyt/postulantes/acuerdos-internacionales/#tab-01>]. Accessed October 2020.

[4] Ministry of Health. [<https://www.minsal.cl>]. Accessed October 2020.

[5] Institute of Public Health. [ispch.cl]. Accessed October 2020.

2.6.1b

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

Yes = 1 , No = 0

Current Year Score: 1

The Field Epidemiology Training Programmes (FETPs) offered in Chile are inclusive of animal health. Universidad del Desarrollo offers a Blended Diploma, taught by the Center for Epidemiology and Health Policies (CEPS) of the Faculty of Medicine of the German Hospital inspired by the EIS (Epidemic Intelligence Service) program of the CDC (Centers for Diseases Control and Prevention, US). The program is targeted at professionals or students in careers related to human, animal and environmental health, and professionals in the social sciences with a health orientation. [1]

[1] Universidad del Desarrollo. "Field Epidemiology Diploma - Seventh version (Diplomado Epidemiología de Campo – VII versión)". [<https://medicina.udd.cl/ver-diplomado/diplomado-de-epidemiologia-de-campo-vii/>]. Accessed October 2020.

2.6.2 Epidemiology workforce capacity

2.6.2a

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

Yes = 1, No = 0

Current Year Score: 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

There is evidence that Chile has overarching national public health emergency response plans in place which address planning for multiple communicable diseases with pandemic potential. Chile's National Emergency Office of the Ministry of Interior and Public Safety (ONEMI) published the "Specific emergency plan for risk variable - dangerous materials" in 2018. It addresses alert, response and recovery for various emergency situations, including infectious disease outbreaks. It defines dangerous materials as: explosives, gases, flammable substances and specifically categorizes pathogens with pandemic potential under its emergency response for Class 6 risks. [1] Additionally, the Agriculture and Livestock Service (SAG) oversees the "Master Plan for the Management of Sanitary Emergencies", updated in 2019. The purpose of this document is to establish the sequence of activities of the Health Emergencies Management System (SIGES) with its stakeholders, of both the public sector and the private sector, necessary for the timely and efficient management in a health emergency. It defines political-strategic and technical-operational components needed to address the emergency, as well as working groups, infrastructure and roles. [2]. Both documents constitute overarching plans as they are envision preparation for various kinds of health emergencies (one for human emergencies and the other for the agricultural sector). In 2010 the country issued a

disease-specific plan, the "National Preparedness and Response Plan for an Influenza Pandemic". [3]

[1] National Emergency Office. 2018. "Specific emergency plan for risk variable - dangerous materials (Plan específico de emergencia por variable de riesgo - materiales peligrosos)" [https://www.onemi.gov.cl/wp-content/uploads/2018/09/PEEVR_MATERIALES_PELIGROSOS_01-02-2018.pdf]. Accessed October 2020.

[2] Ministry of Agriculture. 2019. "Master Plan for the Management of Sanitary Emergencies (Plan Maestro para la Gestión de Emergencias Sanitarias)". [https://www.sag.gob.cl/sites/default/files/plan_maestro_para_la_gestion_de_emergencias_sanitarias.pdf]. Accessed October 2020.

[3] Ministry of Health. 2010. "National Preparedness and Response Plan for an Influenza Pandemic (Plan Nacional de Preparación y Respuesta para una Pandemia de Influenza)". [<http://epi.minsal.cl/wp-content/uploads/2016/03/PlanPandemiaMINSAL2010.pdf>]. Accessed October 2020.

3.1.1b

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

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

Current Year Score: 1

Overarching plans for the response to a health emergency have been updated in the past three years. "Specific emergency plan for risk variable - dangerous materials" was published in 2018 by the National Emergency Office of the Ministry of Interior and Public Safety (ONEMI). The Agriculture and Livestock Service (SAG) oversees the "Master Plan for the Management of Sanitary Emergencies", which was updated in 2019.

[1] National Emergency Office. 2018. "Specific emergency plan for risk variable - dangerous materials (Plan específico de emergencia por variable de riesgo - materiales peligrosos)" [https://www.onemi.gov.cl/wp-content/uploads/2018/09/PEEVR_MATERIALES_PELIGROSOS_01-02-2018.pdf]. Accessed October 2020.

[2] Ministry of Agriculture. 2019. "Master Plan for the Management of Sanitary Emergencies (Plan Maestro para la Gestión de Emergencias Sanitarias)". [https://www.sag.gob.cl/sites/default/files/plan_maestro_para_la_gestion_de_emergencias_sanitarias.pdf]. Accessed October 2020.

3.1.1c

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

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

Current Year Score: 0

In Chile, neither the "Specific emergency plan for risk variable - dangerous materials" by the National Emergency Office of the Ministry of Interior and Public Safety (ONEMI) nor the "Master Plan for the Management of Sanitary Emergencies" by the Agricultural and Livestock Service, the overarching plans, address vulnerable populations specifically. [1, 2]

[1] National Emergency Office. 2018. "Specific emergency plan for risk variable - dangerous materials (Plan específico de emergencia por variable de riesgo - materiales peligrosos)" [https://www.onemi.gov.cl/wp-content/uploads/2018/09/PEEVR_MATERIALES_PELIGROSOS_01-02-2018.pdf]. Accessed October 2020.

[2] Ministry of Agriculture. 2019. "Master Plan for the Management of Sanitary Emergencies (Plan Maestro para la Gestión de Emergencias Sanitarias)".

[https://www.sag.gob.cl/sites/default/files/plan_maestro_para_la_gestion_de_emergencias_sanitarias.pdf]. Accessed October 2020.

3.1.1d

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

Yes = 1 , No = 0

Current Year Score: 1

2020

WHO Strategic Partnership for IHR and Health Security (SPH)

3.1.2 Private sector involvement in response planning

3.1.2a

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

Yes = 1 , No = 0

Current Year Score: 0

There is no evidence that the country has a specific mechanism(s) for engaging with the private sector to assist with outbreak emergency preparedness and response. According to Chapter 4 "Roles and Functions", of the 2018 "Specific emergency plan for risk variable - dangerous materials", the Ministry of Health is responsible for co-ordinating with the private sector to procure specialised attention where the health ministry's means are insufficient. [1] There is no further evidence of agreements with the private sector from the Ministry of Health or the National Emergency Office. [2, 3].

[1] National Emergency Office. 2018. "Specific emergency plan for risk variable - dangerous materials (Plan específico de emergencia por variable de riesgo - materiales peligrosos)" [https://www.onemi.gov.cl/wp-content/uploads/2018/09/PEEVR_MATERIALES_PELIGROSOS_01-02-2018.pdf]. Accessed October 2020.

[2] Ministry of Health. [minsal.cl]. Accessed October 2020.

[3] National Emergency Office. [onemi.gov.cl]. Accessed October 2020.

3.1.3 Non-pharmaceutical interventions planning

3.1.3a

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

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

Current Year Score: 2

The country has a legal framework enabling the implementation of non-pharmaceutical interventions (NPIs) during an epidemic or pandemic for more than one disease.

The Sanitary Code of Chile provides a legal foundation for exceptional measures available to the government facing an epidemic or pandemic, including isolation of cases, diagnostics and travel controls. [1] The Sanitary Code, among other regulations, provides a legal basis for new legislation being issued during the Covid-19 pandemic, such as Decree 4 of 2020, which defines specific measures to be implemented as part of the declaration of a "sanitary alert". These include measures for social distancing, isolation of cases and closing of venues. [2] Furthermore, the 2010 "National Preparedness and Response Plan for an Influenza Pandemic" includes some guidelines on implementing social distancing. [3] No further evidence is available from the Ministry of Health or the Office for Emergencies. [4, 5]

[1] Ministry of Health. "Decree 725 - Sanitary Code". [<https://www.bcn.cl/leychile/navegar?idNorma=5595>]. Accessed October 2020.

[2] Ministry of Health. "Decree 4 of 2020 - Declaring Sanitary Alert".

[<https://www.bcn.cl/leychile/navegar?idNorma=1142163&idVersion=2020-08-20>]. Accessed October 2020.

[3] Ministry of Health. 2010. "National Preparedness and Response Plan for an Influenza Pandemic (Plan Nacional de Preparación y Respuesta para una Pandemia de Influenza)". [<http://epi.minsal.cl/wp-content/uploads/2016/03/PlanPandemiaMINSAL2010.pdf>]. Accessed October 2020.

[4] Ministry of Health. [minsal.cl]. Accessed October 2020.

[5] Office for Emergencies. [onemi.gov.cl]. Accessed October 2020.

3.2 EXERCISING RESPONSE PLANS

3.2.1 Activating response plans

3.2.1a

Does the country meet one of the following criteria?

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

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

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

Current Year Score: 1

The country has activated an infectious disease control plan but it has not completed a national-level biological threat-focused exercise in the past year.

Through Decree 4 of 2020 the national government declared a sanitary alert allowing for the implementation of measures to face Covid-19 including: requiring the use of face masks, disseminating sanitary guidelines through mass media, creation of temporary healthcare facilities, restrictions for workplaces and venues, crowd controls, isolation of infected people, contact tracing strategies, border controls, suspension of classes in the education system, among others. These are to be implemented through the conferring of extraordinary powers to the country's health authorities. [1] During the emergency, the government activated the "Action plan for Coronavirus" which is explained in a dedicated official website and is constantly updated. It includes measures covering health services, social services and guidelines for the functioning of economic activity and mobility, among other aspects. [2] There is no evidence from the WHO, the Ministry of Health or the emergency authority that Chile has conducted a national-level biological threat-focused exercise in the past year. [3, 4, 5]

- [1] Ministry of Health. "Decree 4 of 2020 - Declaring Sanitary Alert". [https://www.bcn.cl/leychile/navegar?idNorma=1142163&idVersion=2020-08-20]. Accessed October 2020.
- [2] Gob.cl. "Plan de Acción por Coronavirus". [https://www.gob.cl/coronavirus/plandeaccion/]. Accessed October 2020.
- [3] Ministry of Health. [minsal.cl]. Accessed October 2020.
- [4] WHO. 2020. "Strategic Partnership for International Health Regulations (2005) and Health Security (SPH)". [https://extranet.who.int/sph/simulation-exercise-list?field_region_tid=All&tid=251&field_simulation_status_tid=All&field_simulation_type_tid=All&title=]. Accessed October 2020.
- [5] National Office for Emergencies. [https://www.onemi.gov.cl/]. Accessed October 2020.

3.2.1b

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

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

Current Year Score: 0

There is no evidence that the country in the past year has identified a list of gaps and best practices in response to an infectious disease response or a biological-threat focused exercise, from the Ministry of Health or the After Action Review page of the World Health Organization. [1, 2]. The Ministry of Interior and Public Safety's catalogue of drills only addresses responses to volcanic eruptions, tsunamis, fires and earthquakes. [3] In August 2020, members of the senate discussed lessons learned from the management of the Covid-19 emergency by the government. However there is no evidence of a specific plan for improvement developed as an outcome. [4]

- [1] Ministry of Health. [https://www.minsal.cl]. Accessed October 2020.
- [2] World Health Organisation (WHO). "After Action Review". [https://extranet.who.int/sph/after-action-review]. Accessed October 2020.
- [3] National Office for Emergencies. "Chile Prepared (Chile Preparado)". [http://www.onemi.cl/simulacros/]. Accessed October 2020.
- [4] Senate of Chile. "A cinco meses de pandemia: analizan 'las lecciones aprendidas'". [https://www.senado.cl/a-cinco-meses-de-pandemia-analizan-las-lecciones-aprendidas/senado/2020-08-14/164238.html]. Accessed October 2020.

3.2.2 Private sector engagement in exercises

3.2.2a

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

Yes = 1 , No = 0

Current Year Score: 0

There is no evidence that the country in the past year has conducted a biological-threat focused exercise. [1, 2]. The Ministry of Interior and Public Safety's catalogue of drills only addresses responses to volcanic eruptions, tsunamis, fires and earthquakes. [3] There is no further evidence from the "simulation exercise" page of the World Health Organization. [4]

[1] Ministry of Health. [<https://www.minsal.cl>]. Accessed October 2020.

[2] World Health Organization (WHO). "After Action Review". [<https://extranet.who.int/sph/after-action-review>]. Accessed October 2020.

[3] National Office for Emergencies. "Chile Prepared (Chile Preparado)". [<http://www.onemi.cl/simulacros/>]. Accessed October 2020.

[4] World Health Organization. "Simulation Exercise". [<https://extranet.who.int/sph/simulation-exercise>]. Accessed October 2020.

3.3 EMERGENCY RESPONSE OPERATION

3.3.1 Emergency response operation

3.3.1a

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

Yes = 1 , No = 0

Current Year Score: 1

The National Office of Emergencies of the Ministry of the Interior and Public Security (ONEMI) acts as the emergency operations centre. It is the technical agency responsible for the co-ordination of the National Civil Protection System, a comprehensive network of local emergency operation centres. The system's mission is to plan, promote, articulate and execute prevention, response and rehabilitation actions in the face of health-related emergencies. ONEMI explicitly covers infectious pathogen and toxic materials risks through its "Specific emergency plan for risk variable - dangerous materials".

[1,2] Furthermore, within the Ministry of Health, there is the Department of Risk Management in Emergencies and Disasters, which among other functions, is in charge of coordinating the actions of monitoring, alert and activation of emergency response of the Ministry of Health. [3]

[1] Ministry of Interior and Public Safety. Decree 1.434 of 2017. "Approving National Emergency Plan (Aprueba Plan Nacional de Emergencia)". [<https://siac.onemi.gov.cl/documentos/1434.pdf>]. Accessed October 2020.

[2] National Emergency Office. 2018. "Specific emergency plan for risk variable - dangerous materials (Plan específico de emergencia por variable de riesgo - materiales peligrosos)" [https://www.onemi.gov.cl/wp-content/uploads/2018/09/PEEVR_MATERIALES_PELIGROSOS_01-02-2018.pdf]. Accessed October 2020.

[3] Ministry of Health. "Department of Risk Management in Emergencies and Disasters". [<https://degreyd.minsal.cl/conozcanos/>]. Accessed October 2020.

3.3.1b

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

Yes = 1 , No = 0

Current Year Score: 0

There is no evidence that the National Office for Emergencies conducts a drill at least once a year for public health emergencies nor that there is a requirement to do so. However, the Ministry of Health's Department of Risk Management in Emergencies and Disasters publishes information on more than one drill per year since 2018. These are not performed with a fixed frequency, and they address different emergencies, such as fires, border emergencies, or general health emergencies. In February 2020 drills took place across healthcare facilities in the country to prepare for the Covid-19 outbreak. [3] There is

no further evidence from the National Office for Emergencies or the Ministry of Health. [2, 3]

[1] Ministry of Health. "Department of Risk Management in Emergencies and Disasters - Drills".

[https://degreyd.minsal.cl/tag/simulacro/]. Accessed October 2020.

[2] Ministry of Health. [minsal.cl]. Accessed October 2020.

[3] National Office for Emergencies. [onemi.gov.cl]. Accessed October 2020.

3.3.1c

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

Yes = 1 , No = 0

Current Year Score: 0

There is no evidence to 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 from the National Office for Emergencies or the Ministry of Health. [1, 2] The Ministry of Interior and Public Safety's National Office of Emergencies has published information on simulations for natural disasters (such as earthquakes and tsunamis) but not for pandemic health threats. [3]

[1] Ministry of Health. [minsal.cl]. Accessed October 2020.

[2] National Office for Emergencies. [onemi.gov.cl]. Accessed October 2020.

[3] Office for Emergencies. "Chile Prepared (Chile Preparado)". [http://www.onemi.cl/simulacros/]. Accessed October 2020.

3.4 LINKING PUBLIC HEALTH AND SECURITY AUTHORITIES

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

3.4.1a

Does the country meet one of the following criteria?

- **Is there public evidence that public health and national security authorities have carried out an exercise to respond to a potential deliberate biological event (i.e., bioterrorism attack)?**

- **Are there publicly available standard operating procedures, guidelines, memorandums of understanding (MOUs), or other agreements between the public health and security authorities to respond to a potential deliberate biological event (i.e., bioterrorism attack)?**

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

Current Year Score: 1

Chile has published guidance for the public health and security authorities to respond to a potential deliberate biological event. Chile's 2018 "Specific emergency plan for risk variable - dangerous materials" outlines the Ministry of Health's operating procedures with specialised personnel of the Prefecture of Special Operations (GOPE) in response to possible intentional chemical, biological, radiological or nuclear events. The GOPE collaborates shall collaborate with the Ministry of Health, and may undertake actions such as: crowd control in the decontamination area, delivery of the decontaminated victims to the different teams doctors, delivery of information to the different media. Co-ordination of emergency response actions are framed in a command and control structure, for which the plan clearly defines the strategic political, tactical and

operational controls. Table 7 and 8 of the Plan clearly outline co-ordination roles between the public health and security authorities, including the Minister of the Interior and Public Security, Operations Centres of National and Regional Emergency, Early Warning Centres, and the Ministry of Health. [1]

[1] National Office for Emergencies. 2018. "Specific emergency plan for risk variable - dangerous materials (Plan específico de emergencia por variable de riesgo - materiales peligrosos)" [https://www.onemi.gov.cl/wp-content/uploads/2018/09/PEEVR_MATERIALES_PELIGROSOS_01-02-2018.pdf]. Accessed October 2020.

3.5 RISK COMMUNICATIONS

3.5.1 Public communication

3.5.1b

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

Yes = 1 , No = 0

Current Year Score: 0

There is no evidence of risk communication plans for health emergencies that address differential communication needs. Although The government's National Emergency Plan, adopted by Decree 1.434 of June 2017, and the 2018 "Specific Plan for Emergencies by Risk Variable - Dangerous Materials" detail emergency communication plans, they do not include how messages will reach populations with different communication needs. [1, 2] No further evidence is available from the Ministry of Health or the National Office for Emergencies. [3, 4]

[1] Ministry of Interior and Public Safety. Decree 1.434 of June 2017. "Approving National Emergency Plan (Aprueba Plan Nacional de Emergencia)". [<https://siac.onemi.gov.cl/documentos/1434.pdf>]. Accessed October 2020.

[2] National Office for Emergencies. "Specific Plan for Emergencies by Risk Variable - Dangerous Materials". [http://www.onemi.cl/wp-content/uploads/2018/09/PEEVR_MATERIALES_PELIGROSOS_01-02-2018.pdf]. Accessed October 2020.

[3] Ministry of Health. [minsal.cl]. Accessed October 2020.

[4] National Office for Emergencies. [onemi.gov.cl]. Accessed October 2020.

3.5.1 Risk communication planning

3.5.1a

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

Yes = 1 , No = 0

Current Year Score: 1

The National Emergency Plan by the National Office of Emergencies' (ONEMI), adopted by Decree 1.434 of June 2017, details the risk communication plan specifically intended for during emergencies. Specifically, the plan states that ONEMI has a communications system consisting of wire, wireless and satellite technologies that support each other in generating regional and national coverage. The plan details four communication platforms to be used during emergencies, including the

MultiProtocol Label Switching Network to communicate data points between national and regional centres, the radio communication network, the satellite platform, and the telephone system. Specifically, page 22 of the plan provides a table outlining the "Telecommunications System under Emergencies, Disasters and Catastrophes". [1] Additionally, the "Specific emergency plan by risk variable - dangerous materials" by the National Office for Emergencies, includes a section on communication and information, addressing a flowchart for information activities, responsibilities, telecommunications infrastructure, and instructions on dissemination to the public. [2]

[1] Ministry of Interior and Public Safety. Decree 1.434 of 2017. "Approving National Emergency Plan (Aprueba Plan Nacional de Emergencia)". [<https://siac.onemi.gov.cl/documentos/1434.pdf>]. Accessed October 2020.

[2] National Office for Emergencies. 2018. "Specific emergency plan for risk variable - dangerous materials (Plan específico de emergencia por variable de riesgo - materiales peligrosos)" [https://www.onemi.gov.cl/wp-content/uploads/2018/09/PEEVR_MATERIALES_PELIGROSOS_01-02-2018.pdf]. Accessed October 2020.

3.5.1c

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

Yes = 1 , No = 0

Current Year Score: 0

There is no evidence of a risk communication plan that designates a specific position within the government to serve as the primary spokesperson to the public during a public health emergency. The 2018 "Specific Plan for Emergencies by Risk Variable - Dangerous Materials" outlines certain communication roles in case of emergency for the Ministry of Interior and for the National Office for Emergencies. Also, the National Emergencies Operation Center, an ad-hoc coordinating body, is to define communication responsibilities if an emergency arises. However, these guidelines are not sufficiently specific for the case of a health emergency. [1] During the Covid-19 emergency there is no evidence of a communications plan that is publicly available. [2, 3] No further evidence is available from the Ministry of Health or the Office for Emergencies. [2, 4]

[1] National Office for Emergencies. "Specific Plan for Emergencies by Risk Variable - Dangerous Materials".

[http://www.onemi.cl/wp-content/uploads/2018/09/PEEVR_MATERIALES_PELIGROSOS_01-02-2018.pdf]. Accessed October 2020.

[2] Ministry of Health. [minsal.cl]. Accessed October 2020.

[3] Gob.cl. [<https://www.gob.cl/coronavirus/>]. Accessed October 2020.

[4] Office for Emergencies. [onemi.gov.cl]. Accessed October 2020.

3.5.2 Public communication

3.5.2a

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

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

Current Year Score: 2

There is evidence that the public health system has actively shared messages via online media platforms to inform the public about ongoing public health concerns and/or dispel rumors, misinformation or disinformation. The Ministry of Health has a website and social media platforms that are constantly updated. During the Covid-19 emergency the Ministry's website contains a large amount of resources, including up-to-date epidemiology data and the latest regulatory developments and guidelines. [1] The Ministry is active on social media, with profiles on Facebook [2], Twitter [3], Youtube [4], Instagram [5], which are constantly updated. During the Covid-19 emergency they frequently communicate facts and help to dispel rumours. Both the Twitter and Instagram channels, for example, have been active before Covid-19 and they disseminate facts about prevention and care of all types of chronic and infectious diseases (for example, vaccination campaigns, information on influenza, prevention of cancer and sexually transmitted diseases, among other topics).

[1]. Ministry of Health. [minsal.cl]. Accessed October 2020.

[2] Ministry of Health. [https://www.facebook.com/ministeriosaludchile/]. Accessed October 2020.

[3] Ministry of Health.

[https://twitter.com/ministeriosalud?ref_src=twsrc%5Egoogle%7Ctwcamp%5Eserp%7Ctwgr%5Eauthor]. Accessed October 2020.

[4] Ministry of Health. [https://www.youtube.com/user/ministeriosaludchile]. Accessed October 2020.

[5] Ministry of Health. [https://www.instagram.com/ministeriosalud/]. Accessed October 2020.

3.5.2b

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

No = 1, Yes = 0

Current Year Score: 1

There is no evidence that in the past year the government has shared misinformation on infectious diseases from sources such as El Mercurio (Chile) or El País (Spain). [1, 2] The government of Chile has enabled a dedicated website for Covid-19 providing official facts and figures on the disease. [3] This is also the case of the Ministry of Health, which features a section called "Myths" linking to a fact-checking resource by the World Health Organization. [4] However, during the Covid-19 emergency there was controversy regarding the accuracy of epidemiological reports by the Ministry of Health which coincided with the resignation of the Minister of Health in June 2020. However the data inconsistencies have been associated with methodological revisions in the reports. [5]

[1] El Mercurio. [https://digital.elmercurio.com/2020/10/09/A]. Accessed October 2020.

[2] El País. [https://elpais.com/]. Accessed October 2020.

[3] Gob.cl. [https://www.gob.cl/coronavirus/]. Accessed October 2020.

[4] Ministry of Health. "Coronavirus". [https://www.minsal.cl/]. Accessed October 2020.

[5] BBC. "Coronavirus en Chile: qué hay detrás de la renuncia del Ministro de Salud?". [https://www.bbc.com/mundo/noticias-america-latina-53037469]. Accessed October 2020.

3.6 ACCESS TO COMMUNICATIONS INFRASTRUCTURE

3.6.1 Internet users

3.6.1a

Percentage of households with Internet

Input number

Current Year Score: 82.33

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: 132.19

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: 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: 3.0

2019

Gallup; Economist Impact calculation

3.7 TRADE AND TRAVEL RESTRICTIONS

3.7.1 Trade restrictions

3.7.1a

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

Yes = 0, No = 1

Current Year Score: 1

There is no evidence that the country has issued a restriction on the export/import of medical goods due to an infectious disease outbreak in the past year. No evidence of such measures is available from the Ministries of Health, Agriculture or Foreign Affairs. [1, 2, 3]. Such measures are also not reported by the World Trade Organization during the Covid-19 emergency. [4]

[1] Ministry of Health. [minsal.cl]. Accessed October 2020.

[2] Ministry of Agriculture. [minagri.gob.cl]. Accessed October 2020.

[3] Ministry of Foreign Relations. [minrel.gob.co]. Accessed October 2020.

[4] World Trade Organization. "COVID-19 and world trade".

[https://www.wto.org/english/tratop_e/covid19_e/covid19_e.htm]. Accessed October 2020.

3.7.1b

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

Yes = 0, No = 1

Current Year Score: 1

There is no evidence that the country has issued a restriction on the export/import of non-medical goods due to an infectious disease outbreak in the past year. No evidence of such measures is available from the Ministries of Health, Agriculture or Foreign Affairs. [1, 2, 3]. Such measures are also not reported by the World Trade Organization during the Covid-19 emergency. [4]

[1] Ministry of Health. [minsal.cl]. Accessed October 2020.

[2] Ministry of Agriculture. [minagri.gob.cl]. Accessed October 2020.

[3] Ministry of Foreign Relations. [minrel.gob.co]. Accessed October 2020.

[4] World Trade Organization. "COVID-19 and world trade".

[https://www.wto.org/english/tratop_e/covid19_e/covid19_e.htm]. Accessed October 2020.

3.7.2 Travel restrictions

3.7.2a

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

Yes = 0, No = 1

Current Year Score: 0

There is evidence that 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. During the Covid-19 emergency, Chile mandated the closure of all land and sea borders and areas of the country for the transit of foreigners, from March 18, 2020. All Chilean nationals and permanent residents in Chile, who return to the country, regardless of their country of origin, may enter by submitting to Sanitary Customs and a mandatory 14-day quarantine. [1]

[1] Ministry of Foreign Relations. 2020. "Prohibición de ingreso a personas extranjeras no residentes y otras medidas del Gobierno de Chile (Prohibition of entry to non-resident foreigners and other measures of the Government of Chile)". [<https://minrel.gob.cl/prohibicion-de-ingreso-a-personas-extranjeras-no-residentes-y-otras/minrel/2020-03-22/143027.html>]. Accessed October 2020.

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

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

4.1.1 Available human resources for the broader healthcare system

4.1.1a

Doctors per 100,000 people

Input number

Current Year Score: 259.12

2018

WHO; national sources

4.1.1b

Nurses and midwives per 100,000 people

Input number

Current Year Score: 1332.48

2018

WHO; national sources

4.1.1c

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

Yes = 1, No = 0

Current Year Score: 0

There is no evidence of a plan to identify fields where there is an insufficient workforce and strategies to address these shortcomings for the health sector that was updated in the past five years.

The country has the 2014 "National Plan for the Admission, Training and Retention of Doctors and Specialists" which aims to reduce shortages of health professionals in the country. [1] The plan set out to increase the number of doctors in primary care by 1,480 and to train 4,000 new specialists between 2015 and 2018. Strategies include improvements in: planning, recruitment, selection, orientation/integration, training, retention and management practices. [2] Budget regulations require that each year a "report on gaps in health personnel by health service and specialty" is produced to justify continued investment in the program. The last available report is from 2018 [3] There is evidence that the program was still active in 2019, based on information from the Ministry of Health. [4] However there is no evidence of a specific plan that has been updated within the past five years, from the Ministries of Health, Labour or Education. [5, 6, 7]

[1] Ministry of Health. 2016. "Presidenta Bachelet anuncia fortalecimiento del Plan de Formación de Especialistas en Salud". [<https://www.minsal.cl/presidenta-bachelet-anuncia-fortalecimiento-del-plan-de-formacion-de-especialistas-en-salud/>]. Accessed October 2020.

[2] Ministry of Health. 2018. "PLAN DE INGRESO, FORMACIÓN Y RETENCIÓN DE MÉDICOS, ODONTÓLOGOS Y ESPECIALISTAS LOGROS Y DESAFÍOS".

[<http://biblioteca.digital.gob.cl/bitstream/handle/123456789/3626/Plan%20de%20formaci%C3%B3n%20y%20retenci%C3%B3n%20de%20especialistas.pdf?sequence=1&isAllowed=y>]. Accessed October 2020.

[3] Ministry of Health. 2018. "Informe sobre brechas de personal de salud en los servicios de salud".

[<https://www.senado.cl/site/presupuesto/2018/cumplimiento/Glosas%202018/tercera%20subcomision/16%20Salud/2135%20Salud.pdf>]. Accessed October 2020.

[4] Ministry of Health. 2019. "Plan de Ingreso, Formación y Retención de Especialistas en el Sector Público de Salud".

[<https://www.minsal.cl/medicosespecialistas/>]. Accessed October 2020.

[5] Ministry of Health. [minsal.cl]. Accessed October 2020.

[6] Ministry of Labour. [mintrab.gob.cl]. Accessed October 2020.

[7] Ministry of Education. [mineduc.cl]. Accessed October 2020.

4.1.2 Facilities capacity

4.1.2a

Hospital beds per 100,000 people

Input number

Current Year Score: 206

2018

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: 1

There is evidence of some capacity to isolate patients with highly communicable diseases in a biocontainment patient care unit and/or patient isolation room/unit located within the country.

In May 2020, the Ministry of Health reported that there were 1,800 intensive care beds available (these are part of the hospital network, thus of a permanent nature) to care for seriously ill patients due to Covid-19 and 1,400 rooms in Sanitary Residences to house patients confirmed with the disease without conditions for quarantine in a private home (these include adapted hotels, thus temporary). These were implemented during the Covid-19 emergency and they offer accommodation, food and assistance of a health team 24 hours. [1] A network of private clinics reported the existence of negative pressure rooms available in the handling of Covid-19. [2]

[1] Ministry of Health. 2020. "Government reports availability of 1,800 ICU beds and over 1,000 places in Health Residences in the country (Gobierno informa disponibilidad de 1.800 camas UCI y sobre mil cupos en Residencias Sanitarias en el país)". [<https://www.minsal.cl/gobierno-informa-disponibilidad-de-1-800-camas-uci-y-sobre-mil-cupos-en-residencias-sanitarias-en-el-pais/>]. Accessed October 2020.

[2] Clinicas de Chile. 2020. "More beds, doctors and isolated areas: the network preparations for phase 3 (Más camas, médicos y áreas aisladas: los preparativos de la red para la fase 3)". [<http://www.clinicasdechile.cl/noticias/medicina/mas-camas-medicos-y-areas-aisladas-los-preparativos-de-la-red-para-la-fase-3/>]. Accessed October 2020.

4.1.2c

Does the country meet one of the following criteria?

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

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

Yes = 1, No = 0

Current Year Score: 1

The country has demonstrated capacity to expand isolation capacity in response to an infectious disease outbreak in the past two years. In March 2020, facing the Covid-19 pandemic, the Ministry of Health announced the set up of more than 1,000 isolation rooms within Sanitary Residences for people who must comply with a quarantine (and have no where to carry it out properly), or those who have not complied with this obligation. These were distributed across the regions of Arica, Coquimbo, Concepción, Antofagasta, Valparaíso, Araucanía, Atacama, Los Lagos and Santiago. [1] By June 2020 there were more than 4,000 rooms enabled in Sanitary Residences across the country (including hotels adapted for isolation purposes). [2] In April 2020 the Ministry of Health also announced the set up of a isolation area specifically for geriatric patients in the National Geriatric Institute in Santiago. [2]

[1] Ministry of Health. 2020. "Ministro de Salud anunció más de mil habitaciones de aislamiento en el país".

[<https://www.minsal.cl/ministro-de-salud-anuncio-mas-de-mil-habitaciones-de-aislamiento-en-el-pais/>]. Accessed March 2021.

- [2] Ministry of Health. 2020. "Minsal habilita nueva residencia sanitaria en Hotel Enjoy de San Antonio". [<https://www.minsal.cl/minsal-habilita-nueva-residencia-sanitaria-en-hotel-enjoy-de-san-antonio/>]. Accessed March 2021.
- [2] Ministry of Health. 2020. "Habilitación de sala de aislamiento por COVID-19". [<https://www.ingerchile.cl/index.php/noticias/item/383-habilitacion-de-sala-de-aislamiento-por-covid-19>]. Accessed March 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, PPE) for routine needs. ChileCompra Mercado Publico is an electronic platform managed by ChileCompra, the Directorate of Public Procurement and Contracting. Through this platform, more than 850 public agencies, including the Ministry of Health and Ministry of Agriculture, publish requests for tenders regarding technical needs, including the acquisition of laboratory equipment and medical equipment. [1] The portal lists tenders for purchase of laboratory equipment, medical equipment and PPE, for example. [2]

[1] ChileCompra Mercado Publico. "Mercado Publico". [<https://www.mercadopublico.cl/Home>]. Accessed October 2020.

[2] ChileCompra Mercado Publico. "Tender search (Busqueda licitacion)". [<https://www.mercadopublico.cl/Home/BusquedaLicitacion>]. Accessed October 2020.

4.2.2 Stockpiling for emergencies

4.2.2a

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

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

Current Year Score: 0

There is no evidence that the country has a stockpile of medical supplies (e.g. MCMs, medicines, vaccines, medical equipment, PPE) for national use during a public health emergency. No evidence is available from the Ministries of Health, Defense, the National Office for Emergencies or Institute of Public Health. [1, 2, 3, 4] However, at the start of the Covid-19 emergency the Ministry of Health reported the stockpiling of testing kits and supplies. [5]

[1] Ministry of Health. [minsal.cl]. Accessed October 2020.

[2] Ministry of Defense. [defensa.cl]. Accessed October 2020.

[3] National Office for Emergencies. [onemi.gov.cl]. Accessed October 2020.

[4] Institute of Public Health. [ispch.cl]. Accessed October 2020.

[5] Ministry of Health. 2020. "Ministerio de Salud asegura disponibilidad de kits e insumos para confirmación diagnóstica de COVID-19". [https://www.minsal.cl/ministerio-de-salud-asegura-disponibilidad-de-kits-e-insumos-para-confirmacion-diagnostica-de-covid-19/]. Accessed October 2020.

4.2.2b

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

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

Current Year Score: 0

There is no evidence that the country has a stockpile of laboratory supplies for national use during a public health emergency. No evidence is available from the Ministries of Health, Defense, the National Office for Emergencies or Institute of Public Health. [1, 2, 3, 4]

[1] Ministry of Health. [minsal.cl]. Accessed October 2020.

[2] Ministry of Defense. [defensa.cl]. Accessed October 2020.

[3] National Office for Emergencies. [onemi.gov.cl]. Accessed October 2020.

[4] Institute of Public Health. [ispch.cl]. Accessed October 2020.

4.2.2c

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

Yes = 1, No = 0

Current Year Score: 0

There is no evidence that 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 available from the Ministries of Health, Defense, the National Office for Emergencies or Institute of Public Health. [1, 2, 3, 4]

[1] Ministry of Health. [minsal.cl]. Accessed October 2020.

[2] Ministry of Defense. [defensa.cl]. Accessed October 2020.

[3] National Office for Emergencies. [onemi.gov.cl]. Accessed October 2020.

[4] Institute of Public Health. [ispch.cl]. Accessed October 2020.

4.2.3 Manufacturing and procurement for emergencies

4.2.3a

Does the country meet one of the following criteria?

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

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

Current Year Score: 0

There is no evidence that the country has a plan to produce or procure medical supplies (e.g. MCMs, medicines, vaccines, equipment, PPE) for national use during a public health emergency. No evidence is available from the Ministries of Health, Defense, the National Office for Emergencies or Institute of Public Health. [1, 2, 3, 4] In March 2020, the public sector procurement platform "ChileCompra" made an appeal to all suppliers of health supplies and personal protection elements to manifest their availability of critical products amid the Covid-19 emergency. [5] Some local sources have criticized the lack of strategic planning of the government for acquiring critical supplies during the Covid-19 emergency. [6]

[1] Ministry of Health. [minsal.cl]. Accessed October 2020.

[2] Ministry of Defense. [defensa.cl]. Accessed October 2020.

[3] National Office for Emergencies. [onemi.gov.cl]. Accessed October 2020.

[4] Institute of Public Health. [ispch.cl]. Accessed October 2020.

[5] Ministry of Health. 2020. "Ministerio de Salud asegura disponibilidad de kits e insumos para confirmación diagnóstica de COVID-19". [<https://www.minsal.cl/ministerio-de-salud-asegura-disponibilidad-de-kits-e-insumos-para-confirmacion-diagnostica-de-covid-19/>]. Accessed October 2020.

[6] El Mostrador. 2020. "La falla estratégica de Mañalich para abastecer de insumos al mejor sistema de salud del planeta". [<https://www.elmostrador.cl/noticias/pais/2020/04/03/la-falla-estrategica-de-manalich-para-abastecer-de-insumos-al-mejor-sistema-de-salud-del-planeta/>]. Accessed October 2020.

4.2.3b

Does the country meet one of the following criteria?

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

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

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

Current Year Score: 0

There is no evidence that the country has a plan to produce or procure laboratory supplies for national use during a public health emergency. No evidence is available from the Ministries of Health, Defense, the National Office for Emergencies or Institute of Public Health. [1, 2, 3, 4] Some local sources have criticized the lack of strategic planning of the government for acquiring critical supplies during the Covid-19 emergency. [5]

[1] Ministry of Health. [minsal.cl]. Accessed October 2020.

[2] Ministry of Defense. [defensa.cl]. Accessed October 2020.

[3] National Office for Emergencies. [onemi.gov.cl]. Accessed October 2020.

[4] Institute of Public Health. [ispch.cl]. Accessed October 2020.

[5] Ministry of Health. 2020. "Ministerio de Salud asegura disponibilidad de kits e insumos para confirmación diagnóstica de COVID-19". [<https://www.minsal.cl/ministerio-de-salud-asegura-disponibilidad-de-kits-e-insumos-para-confirmacion-diagnostica-de-covid-19/>]. Accessed October 2020.

[6] El Mostrador. 2020. "La falla estratégica de Mañalich para abastecer de insumos al mejor sistema de salud del planeta". [<https://www.elmostrador.cl/noticias/pais/2020/04/03/la-falla-estrategica-de-manalich-para-abastecer-de-insumos-al-mejor-sistema-de-salud-del-planeta/>]. Accessed October 2020.

4.3 MEDICAL COUNTERMEASURES AND PERSONNEL DEPLOYMENT

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

4.3.1a

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

Yes = 1 , No = 0

Current Year Score: 0

There is no evidence of a plan, program, or guideline specifically guiding the dispense of medical countermeasures for national use during a public health emergency. According to Resolution No. 85 of 2011, the Rapid Response Team, under the Department of Epidemiology, is responsible for all field activities under the relevant emergency plans for the control of an infectious disease outbreak, specifically "carrying out the activities in the field following the mandated plan, working in teams, under orders of the leader; and to implement the crisis rooms at local focal points". However, it is unclear if such activities explicitly include the dispensing of medical countermeasures. [1] No evidence is available from the Ministries of Health, Defense, the National Office for Emergencies or the Institute of Public Health [2, 3, 4, 5]

[1] Ministry of Health. Resolution Exemption No. 85 of 2011. "Constitutes Rapid Response Team (ERR) of the International Health Regulations (Constituye Equipo de Respuesta Rapida (ERR) del Reglamiento Sanitario Internacional)". [http://epi.minsal.cl/wp-content/uploads/2016/04/ResEx85_15-02-2011.pdf]. Accessed October 2020.

[2] Ministry of Health. [minsal.cl]. Accessed October 2020.

[3] Ministry of Defense. [defensa.cl]. Accessed October 2020.

[4] National Office for Emergencies. [onemi.gov.cl]. Accessed October 2020.

[5] Institute of Public Health. [ispch.cl]. Accessed October 2020.

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

4.3.2a

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

Yes = 1 , No = 0

Current Year Score: 0

There is no evidence of a plan to receive health personnel from other countries to respond to a public health emergency. However, there are some temporary measures and schemes for cross-country collaboration. During the Covid-19 emergency the government issued Decree 6 which includes a measure to facilitate the entry of foreign health workers by "authorizing the hiring and practice of medical graduates abroad whose title is not revalidated or authorized in Chile." [1] The Ministry of External Relations adopted Decree No. 183, which establishes a co-operation agreement on health-related matters with the Republic of Paraguay. Specifically, Article 2 of the decree commits both parties to provide support in regards to health workforce in response to public health emergencies. [3] No further evidence is available from the Ministries of Health, Defense, the National Office for Emergencies or the Institute of Public Health [3, 4, 5, 6]

[1] Ministry of Health. 2000. "Decree 6". [<https://www.bcn.cl/leychile/navegar?idNorma=1143149>]. Accessed October 2020.

[2] Ministry of Foreign Relations. 2007. "Decree 183". [<https://www.bcn.cl/leychile/navegar?idNorma=267970>]. Accessed

October 2020.

[3] Ministry of Health. [minsal.cl]. Accessed October 2020.

[4] Ministry of Defense. [defensa.cl]. Accessed October 2020.

[5] National Office for Emergencies. [onemi.gov.cl]. Accessed October 2020.

[6] Institute of Public Health. [ispch.cl]. Accessed October 2020.

4.4 HEALTHCARE ACCESS

4.4.1 Access to healthcare

4.4.1a

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

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

Current Year Score: 3

2020

World Policy Analysis Center

4.4.1b

Access to skilled birth attendants (% of population)

Input number

Current Year Score: 99.7

2015

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: 747.33

2017

WHO Global Health Expenditure database

4.4.2 Paid medical leave

4.4.2a

Are workers guaranteed paid sick leave?

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

Current Year Score: 2

2020

World Policy Analysis Center

4.4.3 Healthcare worker access to healthcare

4.4.3a

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

Yes = 1 , No = 0

Current Year Score: 0

There is no publicly available evidence of a commitment providing prioritised healthcare services to healthcare workers who become sick as a result of responding to a public health emergency. However, during the Covid-19 emergency the government has taken actions in improving the protection of health workers. In June 2020 the Ministry of Health subscribed an agreement with the Association of Insurers of Chile to provide free life insurance to all health workers in the public healthcare system. [1] The Ministry of Health also published a document with recommendations on the wellbeing of health workers, which includes guidelines on psychosocial support. [2] No further evidence is available from the Ministry of Health or the National Office for Emergencies. [3, 4]

[1] Ministry of Health. 2020. "Health authorities sign agreement for the delivery of insurance to workers for COVID-19 (Autoridades de Salud suscriben acuerdo para la entrega de seguro a trabajadores por COVID-19)". [<https://www.minsal.cl/autoridades-de-salud-suscriben-acuerdo-para-la-entrega-de-seguro-a-trabajadores-por-covid-19/>]. Accessed October 2020.

[2] Ministry of Health. 2020. "Recommendations for care of health personnel during covid-19 (Recomendaciones para el cuidado Del personal de salud durante covid-19)". [<https://degreyd.minsal.cl/wp-content/uploads/2020/04/Recomendaciones-para-el-cuidado-del-personal-de-salud-durante-COVID-19.pdf>]. Accessed October 2020.

[3] Ministry of Health. [minsal.cl]. Accessed October 2020.

[4] National Office for Emergencies. [onemi.gov.cl]. Accessed October 2020.

4.5 COMMUNICATIONS WITH HEALTHCARE WORKERS DURING A PUBLIC HEALTH EMERGENCY

4.5.1 Communication with healthcare workers

4.5.1a

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

Yes = 1 , No = 0

Current Year Score: 1

There is a system in place for public health officials and healthcare workers to communicate during a public health emergency.

National Emergency Plan of the Ministry of Interior and Public Safety's Office of Emergencies (ONEMI), adopted by Decree 1.434 of June 2017, details the risk communication plan specifically intended for use during public health emergencies. The plan details four communication platforms to be used during emergencies, including the MultiProtocol Label Switching Network to communicate data points between national and regional centres. Also used are the radio communication network, the satellite platform and the telephone system. [1] ONEMI's "Specific emergency plan for risk variable - dangerous materials" explicitly details how top-level authorities and local-level officials, including emergency management workers and the relevant local government workers, communicate. Page 31 of the plan details that communication flows between the Communal Direction of Emergency, the Provincial Direction of Emergency, the Regional Direction of ONEMI (Regional CAT) and ONEMI (National CAT). Both documents refer to the existence of two-way communication flows between the local level and the regional level, as well as the regional level with the national level and they both involve the health sector, coordinated by the Ministry of Health. [2]

[1] Ministry of Interior and Public Safety. Decree 1.434 of 2017. "Approving National Emergency Plan (Aprueba Plan Nacional de Emergencia)". [<https://siac.onemi.gov.cl/documentos/1434.pdf>]. Accessed October 2020.

[2] National Office for Emergencies. 2018. "Specific emergency plan for risk variable - dangerous materials (Plan específico de emergencia por variable de riesgo - materiales peligrosos)" [https://www.onemi.gov.cl/wp-content/uploads/2018/09/PEEVR_MATERIALES_PELIGROSOS_01-02-2018.pdf]. Accessed October 2020.

4.5.1b

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

Yes = 1 , No = 0

Current Year Score: 0

There is no publicly available evidence detailing whether the system for public health officials and workers to communicate during an emergency encompasses both the public and private sector. Although the 2018 "Specific Plan for Emergencies by Risk Variable - Dangerous Materials" states that ONEMI's emergency response actors include agencies, services and institutions from both the public and private sectors before, during and after an emergency or a disaster, it is unclear how the private sector is explicitly included in communication tactics. [1] No further information is available from the Ministry of Health or the National Office for Emergencies. [2, 3]

[1] Ministry of Interior and Public Safety. 2018. "Specific Plan for Emergencies by Risk Variable - Dangerous Materials". [http://www.onemi.cl/wp-content/uploads/2018/09/PEEVR_MATERIALES_PELIGROSOS_01-02-2018.pdf]. Accessed October 2020.

[2] Ministry of Health. [minsal.cl]. Accessed October 2020.

[3] National Office for Emergencies. [onemi.gov.cl]. Accessed October 2020.

4.6 INFECTION CONTROL PRACTICES AND AVAILABILITY OF EQUIPMENT

4.6.1 Healthcare associated infection (HCAI) prevention and control programs

4.6.1a

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

Yes = 1 , No = 0

Current Year Score: 1

There is 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.

Since 1982, Chile's Ministry of Health has run a national program on Intrahospital Infections that aims to reduce healthcare-associated infections taking place in healthcare facilities through monitoring, regulations and oversight. According to a 2018 surveillance report on infections associated with healthcare services, the program monitors pneumonia, respiratory infections, nervous system infections, among others. The program especially focuses on those that are associated with invasive procedures or that have the potential to cause epidemics. This national program is mandatory for all hospitals and clinics, whether in the private or public sector. [1]

[1] Ministry of Health. 2015. "Intra-hospital Infections (Infecciones Intrahospitalarias)".

[http://www.minsal.cl/infecciones_intrahospitalarias/]. Accessed October 2020.

4.7 CAPACITY TO TEST AND APPROVE NEW MEDICAL COUNTERMEASURES

4.7.1 Regulatory process for conducting clinical trials of unregistered interventions

4.7.1a

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

Yes = 1 , No = 0

Current Year Score: 1

There is a national requirement for ethical review before beginning a clinical trial. Regulations of clinical trials by the Institute of Public Health point towards Law 20120 "on scientific research on the human being, its genome, prohibiting human cloning". [1] In Article 10 it stipulates that "all scientific research on human beings that involves some type of physical or mental intervention must always be carried out by qualified professionals in the field, justified in its objective and methodology and fully comply with the provisions of this law". Further, that "all biomedical scientific research must have the express authorization of the director of the establishment within which it is carried out, after a favorable report from the corresponding Scientific Ethics Committee, according to the regulations." [2]

[1] Institute of Public Health. "Clinical Tests (Ensayos Clinicos)". [<http://www.ispch.cl/ensayos-clinicos>]. Accessed October 2020.

[2] Ministry of Health. "Law 20120 on scientific research on the human being, its genome, prohibiting human cloning (ley 20120 sobre la investigacion cientifica en el ser humano, su genoma, y prohíbe la clonacion humana)".

[<https://www.bcn.cl/leychile/navegar?idNorma=253478>]. Accessed October 2020.

4.7.1b

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

Yes = 1 , No = 0

Current Year Score: 0

There is insufficient evidence of an expedited process for approving clinical trials for unregistered medical countermeasures to treat ongoing pandemics in Chile. Article 99 of the Sanitary Code of 2017 establishes that: "The Public Health Institute of Chile may provisionally authorize the distribution, sale and use of pharmaceutical products without prior registration, for clinical trials or other types of scientific research, as well as for urgent medicinal uses derived from situations of shortage or inaccessibility that may affect people considered individually or collectively". Further, "it will not be possible to develop a research protocol in unregistered drugs or for new uses in registered drugs without a favorable report from the corresponding Scientific Ethics Committee". [1] However, the law does not specify what the expedited approval process for the clinical trial is.

[1] Ministry of Health. Decree 725 of 2017. "Sanitary Code (Codigo Sanitario)".

[<https://www.bcn.cl/leychile/navegar?idNorma=5595>]. Accessed October 2020.

4.7.2 Regulatory process for approving medical countermeasures

4.7.2a

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

Yes = 1 , No = 0

Current Year Score: 1

According to Enforcement Decree Law 1, 2005 of the Ministry of Health, the Institute of Public Health is the government agency responsible for approving new medical countermeasures for humans. [1,2] Specifically, Article 59 outlines that the institute is in charge of authorising and registering medicines and other products, and also controlling the conditions of entry, export, manufacture, distribution, sale and use in any capacity, as well as advertising and promotion of the same products, in accordance with the respective regulations. [1,2]

[1] Transparent Government. 2018. "Powers, competencies, responsibilities, functions, attributions and / or tasks (Potestades, competencias, responsabilidades, funciones, atribuciones y/o tareas)."

[<http://transparencia.redsalud.gov.cl/transparencia/public/isp/potestades.html>]. Accessed October 2020.

[2] Ministry of Health. 2006. "Enforcement Decree Law 1, 2005 of the Ministry of Health (Decreto Fuerza Ley 1, 2005, del Ministerio de Salud Pública)". [<https://www.bcn.cl/leychile/navegar?idNorma=249177>]. Accessed October 2020.

4.7.2b

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

Yes = 1, No = 0

Current Year Score: 1

There is evidence of an expedited approval process for medical countermeasures. According to Article 99 of the Sanitary Code of 2017, the Institute of Public Health (ISP) may provisionally authorise the distribution of medicines without prior registration for urgent medicinal uses. [1,2] Decree 3 of the Ministry of Health specifically stipulates in Article 21 that the ISP may authorize the provisional sale or use of certain pharmaceutical products without registration sanitary in case of epidemics or emergency, urgency or catastrophe, which pose a serious risk to health or life of the inhabitants. [2]

[1] Ministry of Health. Decree 725 of 2017. "Sanitary Code (Codigo Sanitario)".

[<https://www.bcn.cl/leychile/navegar?idNorma=5595>]. Accessed October 2020.

[2] Ministry of Health. Decree 3 "On the control of pharmaceutical products"

[http://www.ispch.cl/sites/default/files/decreto_3_0.pdf]. Accessed October 2020.

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

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

5.1.1 Official IHR reporting

5.1.1a

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

Yes = 1, No = 0

Current Year Score: 1

2020

World Health Organization

5.1.2 Integration of health into disaster risk reduction

5.1.2a

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

Yes = 1, No = 0

Current Year Score: 0

There is no evidence that epidemics and pandemics are integrated into the national risk reduction strategy or is there a standalone national disaster risk reduction strategy for epidemics and pandemics. Neither the "National Policy for Disaster Risk Management" (2016) nor the "National Strategic Plan for Disaster Risk Management 2015-2018" (2016) by the National Platform for Disaster Risk Reduction integrate epidemics or pandemics. [1, 2] The National Office of Emergencies (ONEMI)'s "Specific Plan for Emergencies by Risk Variable - Dangerous Materials" (2018) addresses, amongst other risks, planning for pathogens with pandemic potential but does not explicitly detail risk reduction strategies. [3] No further evidence is available from the Ministry of Health or the Office for Emergencies. [4, 5]

[1] National Office for Emergencies. 2016. "Política nacional para la Gestión del Riesgo de Desastres". [http://repositoriodigitalonemi.cl/web/bitstream/handle/2012/1710/POLITICA_NAC_2016_ESP.pdf?sequence=6]. Accessed October 2020.

[2] National Office for Emergencies. 2016. "Plan Estratégico Nacional para la Gestión del Riesgo de Desastres 2015-2018". [https://siac.onemi.gov.cl/documentos/PLAN_ESTRATEGICO_BAJA.pdf]. Accessed October 2020.

[3] National Office for Emergencies. 2018. "Specific Plan for Emergencies by Risk Variable - Dangerous Materials". [http://www.onemi.cl/wp-content/uploads/2018/09/PEEVR_MATERIALES_PELIGROSOS_01-02-2018.pdf]. Accessed October 2020.

[4] Ministry of Health. [minsal.cl]. Accessed October 2020.

[5] Office for Emergencies. [onemi.gov.cl]. Accessed October 2020.

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

5.2.1 Cross-border agreements

5.2.1a

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

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

Current Year Score: 2

Chile participates in cross-border agreements with regards to public health emergencies. The Ministry of External Relations adopted Decree No. 183 of 2007, which establishes a co-operation agreement on health related matters with the Republic of Paraguay. Specifically, Article 2 of the decree commits the parties to prioritise joint or co-ordinated actions in cases of emergency, catastrophe and public calamity, engaging in promotion, protection, recovery and rehabilitation of health. This involves also the epidemiological surveillance of diseases declared of common interest to either country. In addition, special focus will be paid to the health problems of vulnerable populations such as children, adolescents, the elderly, mothers, workers, the handicapped and others of common interest. [1] News sources have reported ongoing activity of this partnership with delegates of both countries often convening to update the collaboration agenda, including the Ministry of Health. [2]

[1] Ministry of External Relations. Decree No. 183 of 2007. "Enacting the Agreement of co-operation in Matters of Health with Paraguay (Promulga el Acuerdo de Cooperación en Materia de Salud con Paraguay)". [<https://www.leychile.cl/Navegar?idNorma=267970>]. Accessed October 2020.

[2] Government of Paraguay. 2017. "Paraguay and Chile strengthen bilateral cooperation projects (Paraguay y Chile

fortalecen proyectos de cooperación bilateral)". [<https://www.stp.gov.py/v1/paraguay-y-chile-fortaleceran-proyectos-de-cooperacion-bilateral/>]. Accessed October 2020.

5.2.1b

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

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

Current Year Score: 2

Chile is a member of the Pan American Foot-and-Mouth Disease (FMD) and Veterinary Public Health Center (PANAFTOSA), an organization hosted by the Pan-American Health Organization (PAHO), which has the mission of providing technical cooperation to the countries of the region in the organization, development and strengthening of national FMD prevention, control, and eradication programs. Originally dedicated exclusively to FMD, it now also provides technical cooperation in zoonoses and food safety. [1] There is evidence of implementation as periodically the initiative publishes activity reports, including a 2020 report on surveillance of echinococcosis which includes a section on Chile. [2]

[1] PAHO. 2020 "Centro Panamericano de Fiebre Aftosa y Salud Pública Veterinaria - PANAFTOSA".

[<https://www.paho.org/es/centro-panamericano-fiebre-aftosa-salud-publica-veterinaria-panaftosa>]. Accessed October 2020.

[2] PAHO. 2020. "Pan American Foot and Mouth Disease Center (PANAFTOSA)". [<https://iris.paho.org/handle/10665.2/2973>]. Accessed October 2020.

5.3 INTERNATIONAL COMMITMENTS

5.3.1 Participation in international agreements

5.3.1a

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

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

Current Year Score: 2

2021

Biological Weapons Convention

5.3.1b

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

Yes = 1, No = 0

Current Year Score: 1

2021

Biological Weapons Convention

5.3.1c

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

Yes = 1, No = 0

Current Year Score: 1

2021

Biological Weapons Convention

5.3.1d

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

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

Current Year Score: 2

2021

Biological Weapons Convention

5.3.2 Voluntary memberships

5.3.2a

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

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

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

Current Year Score: 1

2021

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

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

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

5.4.1a

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

Yes = 1, No = 0

Current Year Score: 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 of public commitment to improve epidemic threat response capacity in the past three years. No evidence is available from the Ministries of Health or Agriculture, or the President's office. [1, 2, 3]

[1] Ministry of Health. [minsal.cl]. Accessed October 2020.

[2] Ministry of Agriculture. [minagri.gob.cl]. Accessed October 2020.

[3] Presidency. [https://prensa.presidencia.cl/]. Accessed October 2020.

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

5.5.2a

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

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

Current Year Score: 0

2021

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

5.5.2b

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

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

Current Year Score: 0

2021

OIE PVS assessments

5.5.3 Financing for emergency response

5.5.3a

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

Yes = 1 , No = 0

Current Year Score: 0

There is no publicly available evidence of any publicly identified special emergency public financing mechanism that the country can access in the event of a public health emergency. According to the most recent OIE PVS Evaluation Report (2010), there is no permanent fund or specific procedures to mobilise resources for emergency situations. [1] During the Covid-19 emergency the Confederation of Production and Trade (CPC) announced the creation of a private fund to support social organizations helping vulnerable populations. Furthermore in September 2020 the Senate discussed the project of a temporary emergency fund for Covid-19. [2, 3] Chile is not listed as an eligible country either for IDA or for Pandemic Financial Facility of the World Bank. [4, 5] No further evidence is available from the Ministry of Health or the Office for Emergencies. [6, 7]

[1] World Organisation for Animal Health (OIE). 2010. "PVS Evaluation Report (Informe de Evaluacion PVS)".

[http://www.oie.int/fileadmin/Home/eng/Support_to_OIE_Members/pdf/FinalReport-Chile.pdf]. Accessed October 2020.

[2] El Libero. 2020. "CPC announces that the Private Emergency Fund for Health in Chile will be allocated to foundations focused on the most vulnerable population (CPC anuncia que Fondo Privado de Emergencia para la Salud en Chile será destinado a fundaciones enfocadas en la población más vulnerable)". [<https://ellibero.cl/alerta/cpc-anuncia-que-fondo-privado-de-emergencia-para-la-salud-en-chile-sera-destinado-a-fundaciones-enfocadas-en-la-poblacion-mas-vulnerable/>]. Accessed October 2020.

[3] Senate. 2020. "At the third process, creation of the Transitory Emergency Fund COVID-19 (A tercer trámite creación del Fondo de Emergencia Transitorio COVID-19)". [<https://www.senado.cl/a-tercer-tramite-creacion-del-fondo-de-emergencia-transitorio-covid-19/senado/2020-09-16/154619.html>]. Accessed October 2020.

[4] World Bank. "Borrowing Countries". [<https://ida.worldbank.org/about/borrowing-countries>]. Accessed September 2020.

[5] World Bank. 2017. "Pandemic Emergency Financing Facility (PEF)".

[<http://pubdocs.worldbank.org/en/119961516647620597/PEF-Operational-Brief-Dec-2017.pdf>]. Accessed September 2020.

[6] Ministry of Health. [minsal.cl]. Accessed October 2020.

[7] Office for Emergencies. [onemi.gov.cl]. Accessed October 2020.

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

5.5.4a

Is there evidence that senior leaders (president or ministers), in the past three years, have made a public commitment either to:

- Support other countries to improve capacity to address epidemic threats by providing financing or support?

- Improve the country's domestic capacity to address epidemic threats by expanding financing or requesting support to improve capacity?

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

Current Year Score: 0

There is no evidence of public commitments to support other countries or improve local capacity to face epidemic threats, in the past three years. However, there is evidence of institutional investments. In March 2018 the government announced the 2018-2022 Health Programme outlining several areas for capacity development, including reduction of wait times, primary health reform, care model reform, sanitary infrastructure modernisation, medication pricing and cultural wellbeing, this did not address epidemic threats explicitly. [1] No further evidence is available from the Ministries of Health or Foreign Relations, from the United Nations or the World Health Organization. [2, 3, 4, 5]

[1] Ministry of Health. 2018. "2018-2022 Health Programme (Programa de Salud 2018-2022)".

[<https://www.minsal.cl/programa-de-salud-del-presidente-sebastian-pinera-una-cirugia-mayor-a-la-salud/>]. Accessed October 2020. [1] Ministry of Health. [<https://www.minsal.cl>]. Accessed October 2020.

[2] Ministry of Foreign Relations. [minrel.gob.cl]. Accessed October 2020.

[3] United Nations. [<https://news.un.org/en/>]. Accessed October 2020.

[4] Pan American Health Organization. "PAHO/WHO Media Center: news, features, multimedia".

[https://www.paho.org/hq/index.php?option=com_content&view=article&id=964:media-center&Itemid=958&lang=en]. Accessed October 2020.

5.5.4b

Is there evidence that the country has, in the past three years, either:

- Provided other countries with financing or technical support to improve capacity to address epidemic threats?

- Requested financing or technical support from donors to improve the country's domestic capacity to address epidemic threats?

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

Current Year Score: 1

There is evidence that Chile has invested donor finance to improve domestic capacity to address epidemic threats in the past three years.

According to the World Health Organization, for the period 2020-21, US\$132,000 have been allocated to Chile to support pandemic and epidemic preparation through programs: "Research agendas, predictive models and innovative tools, products and interventions available for high-threat health hazards"; "Proven prevention strategies for priority pandemic-/epidemic-prone diseases implemented at scale"; "Mitigate the risk of the emergence and re-emergence of high-threat pathogens"; "Polio eradication and transition plans implemented in partnership with the Global Polio Eradication Initiative". [1] The Global Health Security Tracker notes that Chile has been a recipient of funds to support action against infectious diseases between 2014 and 2020. For example, Chile was a recipient of assistance in institutional support from the Global Fund to Fight AIDS, Tuberculosis and Malaria between 2017 and 2019. [2] The United Nations reports that Chile contributed US\$250,000 to the UN Haiti Cholera Response Multi Partner Trust Fund in 2017. [3]

[1] World Health Organization. "CHILE". [<https://open.who.int/2020-21/country-programme/CHL/02.002>]. Accessed October 2020.

[2] Global Health Security Funding Tracker. [<https://tracking.ghscosting.org/#/data>]. Accessed October 2020.

[3] United Nations. "Multi Partner Trust Fund Office". [<http://mptf.undp.org/factsheet/donor/00082>]. Accessed October

2020.

5.5.4c

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

Yes = 1 , No = 0

Current Year Score: 0

2021

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

5.6 COMMITMENT TO SHARING OF GENETIC AND BIOLOGICAL DATA AND SPECIMENS

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

5.6.1a

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

Yes = 1 , No = 0

Current Year Score: 0

There is no evidence of 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. For instance, Decree 183 of 2007 adopting a cooperation agreement between Chile and Paraguay makes explicit mention of shared epidemiological surveillance, but there is no specific mention of genetic data [1]. As signatory of the International Health Regulations, regarding a public health emergency of international concern the country shall communicate to WHO timely, accurate and sufficiently "detailed public health information available to it on the notified event, where possible including case definitions, laboratory results, source and type of the risk, number of cases and deaths." [2] Guidelines by the Ministry of Health determine that for confirmation of cases of Ebola a sample will be sent to a WHO Collaborating Center appointed for the region (National Microbiology Laboratory Public Health Agency of Canada). [3]

[1] Ministry of External Relations. Decree No. 183 of 2007. "Enacting the Agreement of co-operation in Matters of Health with Paraguay (Promulga el Acuerdo de Cooperacion en Materia de Salud con Paraguay)".

[<https://www.leychile.cl/Navegar?idNorma=267970>]. Accessed October 2020.

[2] World Health Organization. 2005. "International Health Regulations".

[<https://www.who.int/ihr/publications/9789241596664/en/>]. Accessed October 2020.

[3] Ministry of Health. 2014. "Sampling and sending protocol for confirmation of suspect case of virus disease Ebola".

[<https://ebola.minsal.cl/wp-content/uploads/2014/11/Protocolo-Manejo-Muestra-para-Confirmaci%c3%b3n.pdf>]. Accessed October 2020.

5.6.1b

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

Yes = 0, No = 1

Current Year Score: 1

There is no evidence via the Ministry of Health, the Institute of Public Health, Chile's top news sources such as El Mercurio, or the WHO or PAHO's news sites that Chile has not shared samples in accordance with the Pandemic Influenza Preparedness (PIP) framework in the past two years [1,2,3,4].

[1] Ministry of Health and Welfare. [minsal.cl]. Accessed October 2020.

[2] Institute of Public Health. [ispch.cl]. Accessed October 2020.

[3] El Mercurio. 2020. [<https://digital.elmercurio.com/2020/10/09/A>]. Accessed October 2020

[4] PAHO. "PAHO/WHO Media Center".

[https://www.paho.org/hq/index.php?option=com_content&view=article&id=466:2008-media-center-press-releases&Itemid=40108&lang=en]. Accessed October 2020

5.6.1c

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

Yes = 0, No = 1

Current Year Score: 1

There is no evidence via the Ministry of Health, the Institute of Public Health, Chile's top news sources such as El Mercurio, or the WHO or PAHO's news sites that Chile has not shared pandemic pathogen samples during an outbreak in the past two years. There is also no evidence that Covid-19 samples were not shared. [1,2,3,4].

[1] Ministry of Health and Welfare. [minsal.cl]. Accessed October 2020.

[2] Institute of Public Health. [ispch.cl]. Accessed October 2020.

[3] El Mercurio. 2020. [<https://digital.elmercurio.com/2020/10/09/A>]. Accessed October 2020

[4] PAHO. "PAHO/WHO Media Center".

[https://www.paho.org/hq/index.php?option=com_content&view=article&id=466:2008-media-center-press-releases&Itemid=40108&lang=en]. Accessed October 2020

Category 6: Overall risk environment and vulnerability to biological threats

6.1 POLITICAL AND SECURITY RISK

6.1.1 Government effectiveness

6.1.1a

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

Input number

Current Year Score: 2

2020

Economist Intelligence

6.1.1b

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

Input number

Current Year Score: 3

2020

Economist Intelligence

6.1.1c

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

Input number

Current Year Score: 3

2020

Economist Intelligence

6.1.1d

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

Input number

Current Year Score: 3

2020

Economist Intelligence

6.1.1e

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

Input number

Current Year Score: 67

2020

Transparency International

6.1.1f

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

Input number

Current Year Score: 3

2020

Economist Intelligence

6.1.1g

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

Input number

Current Year Score: 2

2020

Economist Intelligence

6.1.2 Orderly transfers of power

6.1.2a

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

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

Current Year Score: 4

2021

Economist Intelligence

6.1.3 Risk of social unrest

6.1.3a

What is the risk of disruptive social unrest?

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

Current Year Score: 1

2021

Economist Intelligence

6.1.4 Illicit activities by non-state actors

6.1.4a

How likely is it that domestic or foreign terrorists will attack with a frequency or severity that causes substantial disruption?

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

Current Year Score: 3

2021

Economist Intelligence

6.1.4b

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

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

Current Year Score: 0

2020

UN Office of Drugs and Crime (UNODC)

6.1.4c

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

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

Current Year Score: 3

2021

Economist Intelligence

6.1.5 Armed conflict

6.1.5a

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

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

Current Year Score: 4

2021

Economist Intelligence

6.1.6 Government territorial control

6.1.6a

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

Yes = 1, No = 0

Current Year Score: 1

2021

Economist Intelligence

6.1.7 International tensions

6.1.7a

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

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

Current Year Score: 3

2021

Economist Intelligence

6.2 SOCIO-ECONOMIC RESILIENCE

6.2.1 Literacy

6.2.1a

Adult literacy rate, population 15+ years, both sexes (%)

Input number

Current Year Score: 96.9

2015

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

6.2.2 Gender equality

6.2.2a

United Nations Development Programme (UNDP) Gender Inequality Index score

Input number

Current Year Score: 0.71

2018

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

6.2.3 Social inclusion

6.2.3a

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

Input number

Current Year Score: 0.2

2017

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: 1

For 2019 ILOSTAT reported an informality rate of 29.2% of all employment (harmonized). [1]

[1] ILOSTAT. 2020. "Informal employment and informal sector as a percent of employment by sex - Harmonized".
[https://www.ilo.org/shinyapps/bulkexplorer19/?lang=en&segment=indicator&id=IFL_4IEM_SEX_ECO_IFL_RT_A]. Accessed
September 2020

6.2.3c

Coverage of social insurance programs (% of population)

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

Current Year Score: 3

2016, or latest available

World Bank; Economist Impact calculations

6.2.4 Public confidence in government

6.2.4a

Level of confidence in public institutions

Input number

Current Year Score: 1

2021

Economist Intelligence Democracy Index

6.2.5 Local media and reporting

6.2.5a

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

Input number

Current Year Score: 2

2021

Economist Intelligence Democracy Index

6.2.6 Inequality

6.2.6a

Gini coefficient

Scored 0-1, where 0=best

Current Year Score: 0.44

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: 2

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: 4

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: 3

2021

Economist Intelligence

6.4 ENVIRONMENTAL RISKS

6.4.1 Urbanization

6.4.1a

Urban population (% of total population)

Input number

Current Year Score: 87.64

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: 1.91

2008-2018

World Bank; Economist Impact

6.4.3 Natural disaster risk

6.4.3a

What is the risk that the economy will suffer a major disruption owing to a natural disaster?

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

Current Year Score: 2

2021

Economist Intelligence

6.5 PUBLIC HEALTH VULNERABILITIES

6.5.1 Access to quality healthcare

6.5.1a

Total life expectancy (years)

Input number

Current Year Score: 80.04

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: 328.5

2019

WHO

6.5.1c

Population ages 65 and above (% of total population)

Input number

Current Year Score: 11.88

2019

World Bank

6.5.1d

Prevalence of current tobacco use (% of adults)

Input number

Current Year Score: 44.7

2018

World Bank

6.5.1e

Prevalence of obesity among adults

Input number

Current Year Score: 28

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: 99

2017

UNICEF; Economist Impact

6.5.2b

Percentage of homes with access to at least basic sanitation facilities

Input number

Current Year Score: 99

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: 1172.17

2018

WHO Global Health Expenditure database

6.5.4 Trust in medical and health advice

6.5.4a

Trust medical and health advice from the government

Share of population that trust medical and health advice from the government , More than 80% = 2, Between 60-80%, or no data available = 1, Less than 60% = 0

Current Year Score: 1

2018

Wellcome Trust Global Monitor 2018

6.5.4b

Trust medical and health advice from medical workers

Share of population that trust medical and health advice from health professionals , More than 80% = 2, Between 60-80%, or no data available = 1, Less than 60% = 0

Current Year Score: 1

2018

Wellcome Trust Global Monitor 2018