JOINT EXTERNAL EVALUATION OF IHR CORE CAPACITIES of the

DEMOCRATIC REPUBLIC OF TIMOR-LESTE

Mission report:

19–23 November 2018

World Health Organization

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CONTENTS

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ABBREVIATIONS

AEFI	adverse events following immunization
AI	avian influenza
AIFAESA	Inspection and Supervision Authority of Economic, Health and Food Activities
AMR	antimicrobial resistance
BSL	Biological Safety Level
CAC	Codex Alimentarius Commisssion
CBRN	chemical/biological/radiological/nuclear
CHC	community health centre
EBS	event-based surveillance
EID	emerging infectious disease
EMT	Emergency Medical Team
EOC	emergency operations centre
EPI	Expanded Programme on Immunization
EQA	external quality assessment
EVD	Ebola virus disease
EWARS	Early Warning Alert and Response System
FAO	Food and Agriculture Organization of the United Nations
FETP	field epidemiology training programme
GAP	Global Action Plan
GIS	geographic information systems
GLASS	Global Antimicrobial Surveillance System
HIMS	health information management system
HPV	human papilloma virus
HR	human resources
IBS	indicator-based surveillance
IDSR	Integrated Disease Surveillance and Response
IHR	International Health Regulations
ILI	influenza-like illness
INFOSAN	International Network of Food Safety Authorities
JEE	Joint External Evaluation

LIMS	Laboratory Information Management System
MoH	Ministry of Health
MoAF	Ministry of Agriculture and Fisheries
MoSA	Ministry of Social Affairs
MoU	memorandum of understanding
MSS	Ministry of Social Solidarity
NAP	National Action Plan
NFP	National Focal Point
NGO	nongovernmental organization
NHL	National Health Laboratory
NMCC	National Multisectoral Coordination Committee
OCHA	UN Office for the Coordination of Humanitarian Affairs
OIE	World Organisation for Animal Health
PHEIC	public health emergency of international concern
PoC	point of contact
PoE	point of entry
PVS	Performance of Veterinary Services
RI	routine immunization
RRT	rapid response teams
SARI	severe acute respiratory infection
SOP	standard operating procedure
TLHIS2	Timor-Leste Health Information System, version 2
TTX	table-top exercise
UNICEF	United Nations Children's Fund
UN	United Nations
VDL	Veterinary Diagnostic Laboratory
WAHIS	World Animal Health Information System
WASH	water, sanitation and hygiene
WHO	World Health Organization
WHE	WHO Health Emergencies Programme

EXECUTIVE SUMMARY

This report is the product of a Joint External Evaluation (JEE) of Timor-Leste's capacity to prevent, detect and respond to public health threats under the International Health Regulations (IHR) (2005). Timor-Leste began the process on 30 April 2018, culminating with a JEE external team visit in November 2018. This is the report of the external team, based on a detailed and comprehensive self-assessment performed by the Timor-Leste internal JEE team.

The external JEE team found the internal Timor-Leste JEE assessment team to be diligent, open and transparent, scrupulously honest and extremely demanding as they evaluated themselves. The team was overwhelmingly young and passionate, reflecting the vibrancy of a new and rapidly evolving country. The internal JEE team, and health workers in general, displayed considerable optimism and a strong desire to make their health-care system stronger and more responsive.

Strengths

The JEE team noted that in Timor-Leste, public health is built on a strong foundation of primary health care, limited by insufficient resources but based on a solid core of physicians and public health workers, which signals government commitment to health-care access across the country. This is particularly evident in the immunization programme, where a best practice community outreach approach is readily applicable to other IHR activities. Consistent with this approach is the strength of the country's communication programmes, further displaying a broad commitment to all citizens.

Themes and cross-cutting issues

Several pervasive issues accentuated the difficulties the government faces in implementing a number of its IHR responsibilities.

- **Organization and management.** Although an IHR National Focal Point (NFP) leads IHR capacity development, the IHR is a highly complex programme that intensifies as development activity accelerates. Organizational focal points in many ministries and agencies must be able to coordinate their activities, not only to advance IHR implementation but also for ongoing surveillance and response functions. These responsible parties need to be clearly identified and officially connected. Documentation exists in many forms, including regulations, plans, assessments and procedures, but there has been no intentional effort to consolidate these into an IHR framework or to identify and mitigate gaps.
- **Budget and staffing.** To maintain successful programmes, budgets must be stable and predictable, reflecting multi-year commitments and a recognition that health security is a goal that spans most political parties and ideologies. Staffing is particularly dependent on stable budgets. Staffing limitations are widespread, with frequent shortcomings in the number of budgeted staff, the level of training and the ability to retain individuals once they are fully competent.
- **Logistics.** Although logistics are improving, they remain a challenge across many systems, with delays or failures in procurement, inability to enforce quality assurance and difficulty in simultaneously maintaining essential people, equipment and supplies. Service delivery and quality underpin the country's health care and should continuously improve as IHR capacities are further developed.

The evaluation contains many level 1 and 2 scores, but these do not necessarily suggest an absence of capacity or a failure to master the given technical areas. For example, surveillance is effectively conducted without an electronic system. Higher capacity scores merely indicate the existence of additional processes, which can decrease the associated public health risks. There is no imperative

to rapidly move to level 5 scores. Sustainable development requires small steps that lead to steady improvement across a number of years.

Priority areas

Although priority actions exist in all technical areas, the combined JEE team identified several areas where focused improvement efforts would be particularly valuable to the country. Though linked to specific technical areas, these action areas are cross-cutting in their impact.

- **Emergency response capacity.** Timor-Leste identified response as its intermediate priority, especially enhancing its ability to quickly deliver medical resources where they are needed. This includes assessing national emergency communications and mobile resources.
- **Preparedness and response plans related to IHR.** imor-Leste has put significant prior effort into planning, so there is a need to update, expand and harmonize existing strategic plans. A usable National Action Plan for Public Health Security is necessary to fully define the framework for most IHR activities in the country.
- **Laboratory.** The role of the laboratory system in supporting and directing response was also emphasized. The integration of laboratory information, improved laboratory capacity, improved quality assurance and better biosafety and biosecurity fit under the common theme of laboratory strengthening.

As Timor-Leste translates the JEE priority actions into a National Action Plan for Public Health Security, it might consider that while action requires planning, the latter should not delay action. Timor-Leste has insufficient excess staff for large planning exercises. Rolling action plans may be most useful, with broad initial costing followed by specific technical and business plans. This would allow Timor-Leste to rapidly jumpstart a range of new and specific activities within its existing programmes.

In addition, while increased activity requires increased staffing, this in turn necessitates increased funding. Meeting the country's commitments to the IHR will require numerous new activities for which additional staff will be needed, placing greater demand on the government to maintain consistent and sufficient funding over time.

SCORES AND PRIORITY ACTIONS

Technical areas	Indicator no.	Indicator	Score	Priority Actions
PREVENT				
National legislation, policy and financing	P.1.1	The State has assessed, adjusted and aligned its domestic legislation, policies and administrative arrangements in all relevant sectors to enable compliance with the IHR	2	Endorse regulation on IHR implementation. Adjust and align national legislation, policies and administrative arrangements in all relevant sectors, and develop the National Action Plan for Health Security, based on findings of the Joint External Evaluation, to enable compliance with the IHR commitments. Develop separate budget line in national budget for IHR core capacity strengthening.
	P.1.2	Financing is available for the implementation of IHR capacities	2	
	P.1.3	A financing mechanism and funds are available for timely response to public health emergencies	2	
IHR coordination, communication and advocacy	P.2.1	A functional mechanism established for the coordination and integration of relevant sectors in the implementation of IHR	1	Establish multisectoral IHR steering committee under existing high-level structures that facilitate IHR implementation. Enhance the capacity of IHR focal point and focal points in relevant sectors by developing standard operating procedures (SOPs), regular training and providing necessary infrastructure.
Antimicrobial resistance (AMR)	P.3.1	Effective multisectoral coordination on AMR	3	Promote and support multisectoral coordination to implement the National Action Plan on AMR, including antimicrobial stewardship in human and animal health, and agriculture. Revise and update the existing essential medicines list with special reference to the prudent use of antimicrobial agents, revise AMR prevention and control guidelines at the primary health care level, and list the specific priority pathogens in Timor-Leste. Develop further laboratory capacity across both sectors to test for and characterize AMR.
	P.3.2	Surveillance of AMR	1	
	P.3.3	Infection prevention and control	1	
	P.3.4	Optimize use of antimicrobial medicines in human and animal health and agriculture	1	
Zoonotic disease	P.4.1	Coordinated surveillance systems in place in the animal health and public health sectors for zoonotic diseases/ pathogens identified as joint priorities	1	Map zoonotic diseases in the human and animal sectors, develop a list of priority zoonotic diseases and establish effective surveillance systems for all these diseases. Approve and implement the One Health Strategic Framework with sustainable financing. Establish a multisectoral operational mechanism/ incident command structure to respond to zoonotic diseases and conduct training to test the plan. Accelerate implementation of Timor-Leste animal health legislation under the biosecurity legal framework (plant and animal health).
	P.4.2	Mechanisms for responding to infectious and potential zoonotic diseases established and functional	1	

Technical areas	Indicator no.	Indicator	Score	Priority Actions
Food safety	P.5.1	Surveillance systems in place for the detection and monitoring of foodborne diseases and food contamination	2	Establish National Food Safety Commission and Codex Committee. Develop and enact Food Act. Develop multisectoral National Food Safety Emergency Detection and Response Plan, and institutionalize formal coordination mechanism at national and municipal levels. Train food inspectors and relevant officials on foodborne disease surveillance, outbreak investigation and response management.
	P.5.2	Mechanisms are established and functioning for the response and management of food safety emergencies	1	
Biosafety and biosecurity	P.6.1	Whole-of-government biosafety and biosecurity system in place for all sectors (including human, animal and agriculture facilities)	1	Develop and implement biosafety and biosecurity legal framework with strong enforcement mechanism and monitoring and evaluation. Develop the national plan of action for biosafety and biosecurity for human, animal and agriculture sectors. Develop a process for in-country training that accommodates the entire specimen to result pathway including specimen collection, specimen processing, culture and identification, and storage of pathogens and transport to the reference laboratory.
	P.6.2	Biosafety and biosecurity training and practices in all relevant sectors (including human, animal and agriculture)	2	
Immunization	P.7.1	Vaccine coverage (measles) as part of national programme	4	Widen access to the Timor-Leste Health Information System (version 2) (TLHIS2) dashboard for routine immunization data from the health information management system (HIMS), and use the indicators to propose actions for strengthening the Expanded Programme on Immunization (EPI). Conduct periodic evaluations of the routine immunization system. Consider the use of alternative operational denominator estimates used to calculate vaccination coverage for specific EPI operations. Adjust the national vaccine distribution system to ensure the elimination of stock-outs at the subnational level.
	P.7.2	National vaccine access and delivery	4	

Technical areas	Indicator no.	Indicator	Score	Priority Actions
DETECT				
National laboratory system	D.1.1	Laboratory testing for detection of priority diseases	3	Establish a legal framework for human and animal laboratory quality management that provides legislation, regulation and standards so that accreditation to ensure patient (human and animal) safety is assured. Across animal and human laboratory practice, embed a culture of continuous professional development in laboratory quality management, laboratory safety, as well as require laboratory techniques through regular certified training. Cooperate, if possible, on common components in human and animal health to strengthen the laboratory system, (e.g. a laboratory information system, a specimen referral system for overseas testing, laboratory executive management and improved diagnosis in district settings).
	D.1.2	Specimen referral and transport system	2	
	D.1.3	Effective national diagnostic network	2	
	D.1.4	Laboratory quality system	1	
Surveil-lance	D.2.1	Surveillance systems	3	Train multidisciplinary multi-hazard emergency/ rapid response teams for all 13 municipalities to investigate and respond to all public health events. Develop and strengthen web-based reporting system for both animal and human surveillance. Improve capacity to analyse data and respond at municipality/district and subdistrict level. Implement procedure for immediate sharing of information on suspected outbreaks of highly pathogenic avian influenza (HPAI), rabies, brucellosis and anthrax in both humans and animals, and joint investigation and response. Strengthen collection, storage and transportation of samples from the periphery to the national level.
	D.2.2	Use of electronic tools	2	
	D.2.3	Analysis of surveillance data	3	
Reporting	D.3.1	System for efficient reporting to FAO, the World Organisation for Animal Health (OIE) and WHO	2	Develop protocols and processes using One Health approach for public health emergency reporting. Build capacity and develop communication and coordination mechanism for information sharing among IHR NFP, OIE delegate, International Network of Food Safety Authorities (INFOSAN) emergency contact point and national Codex contact point.
	D.3.2	Reporting network and protocols in country	2	
Human resources (animal and human health sectors)	D.4.1	An up-to-date multisectoral workforce strategy is in place	2	Expand existing strategies into a comprehensive workforce strategy for each sector, including initial training, government retention and career advancement. Implement and formalize to sustain the current FETP programme as part of a documented plan to increase the number of epidemiologists, and consider adding laboratory and veterinary components. Finalize the draft human resource workplan for the veterinary sector. Advocate for the capital development fund to offer more scholarships.
	D.4.2	Human resources are available to effectively implement IHR	2	
	D.4.3	In-service trainings are available	2	
	D.4.4	A field epidemiology training programme (FETP) or other applied epidemiology training programme in place	2	

Technical areas	Indicator no.	Indicator	Score	Priority Actions
RESPOND				
Emergency preparedness	R.1.1	Strategic emergency risk assessments conducted and emergency resources identified and mapped	1	Conduct and publish risk assessment and resource mapping for all public health hazards including natural, communicable disease, chemical, biological, radiation and food hazards; pre-position essential items for emergency/disaster response. Develop a comprehensive multisectoral multi-hazard preparedness plan. Ensure national multisectoral emergency response plans are developed for all public health hazards. Identify and document options for accessing surge capacity and conduct training and refresher training for rapid response teams in all municipalities.
	R.1.2	National multisectoral multi-hazard emergency preparedness measures, including emergency response plans, are developed, implemented and tested	1	
Emergency response operations	R.2.1	Emergency response coordination	2	Clarify, formalize and document the emergency response coordination mechanism within Ministry of Health (MoH) and across ministries and for all hazards. Establish a functional and sustainable health-focused EOC. Develop a programme of exercises and after-action reviews across all hazards; include simulation exercises based on the scenario in the health cluster contingency plan.
	R.2.2	Emergency operations centre (EOC) capacities, procedures and plans	1	
	R.2.3	Emergency Exercise Management Programme	2	
Linking public health and security authorities	R.3.1	Public health and security authorities (e.g. law enforcement, border control, customs) linked during a suspect or confirmed biological, chemical or radiological event	1	Identify and share points of contact with specific roles and responsibilities in each IHR risk area, as well as points of contact in the security sector. Conduct national risk assessment and identify potential risks. Conduct scenario-based dry run or table-top exercise (TTX) for the priority risks among the points of contact (PoCs) from stakeholders. Establish a secure communication mechanism e.g. domain-controlled email system.
Medical countermeasures and personnel deployment	R.4.1	System in place for activating and coordinating medical countermeasures during a public health emergency	1	Draft a national plan for sending and receiving medical countermeasures during public health emergencies, including threshold and authority for activation, customs clearance and logistics. Establish national and local Emergency Medical Team referring to global standard. Prepare the national medicines regulatory authority for rapid emergency use authorization of medicines not yet approved in the country
	R.4.2	System in place for activating and coordinating health personnel during a public health emergency	1	
	R.4.3	Case management procedures implemented for IHR-relevant hazards	2	

Technical areas	Indicator no.	Indicator	Score	Priority Actions
Risk communication	R.5.1	Risk communication systems for unusual/ unexpected events and emergencies	2	Develop risk communication guidelines in the health sector and align them with the national health emergency communication plan/strategy. Conduct media awareness workshops and other interventions to strengthen risk communication capacity in the country.
	R.5.2	Internal and partner coordination for emergency risk communication	3	
	R.5.3	Public communication for emergencies	3	
	R.5.4	Communication engagement with affected communities	3	
	R.5.5	Addressing perceptions, risky behaviours and misinformation	2	
IHR-RELATED HAZARDS AND POINTS OF ENTRY				
Points of entry	PoE.1	Routine capacities established at points of entry	2	Develop all routine core capacities (medical care for ill travellers, conveyances inspection, environmental sanitation and vector control) at designated points of entry as prescribed in the IHR Annex. Develop local public health emergency contingency plans at designated points of entry consistent with the national point of entry contingency plan and incorporated into the National Emergency Response Plan, and conduct regular simulation exercises. Develop procedures to coordinate public health activities with animal and food sectors at points of entry.
	PoE.2	Effective public health response at points of entry	2	
Chemical events	CE.1	Mechanisms established and functioning for detecting and responding to chemical events or emergencies	1	Conduct and publish a risk assessment detailing chemical inventories and a situation analysis of the current state of chemical event response and the associated gaps in preparedness. Develop appropriate policy and legislation on chemical event surveillance, alert processes and response. Create or identify, fund and staff a government institution responsible for developing the national policies and mechanisms for managing chemical events and increasing political will and public awareness around chemical risks.
	CE.2	Enabling environment in place for management of chemical events	1	
Radiation emergencies	RE.1	Mechanisms established and functioning for detecting and responding to radiological and nuclear emergencies	1	Conduct and publish a risk assessment of potential events and a situation analysis of the current state of radiation event response and associated gaps in preparedness. Develop appropriate policy and legislation on radiation event surveillance, alert processes and response. Create or identify a government institution responsible for developing the national policies and mechanisms for managing radiation events, and for increasing political will and public awareness radiation risks.
	RE.2	Enabling environment in place for management of radiological and nuclear emergencies	1	

Scores: 1=No capacity; 2=Limited capacity; 3=Developed capacity; 4=Demonstrated capacity; 5=Sustainable capacity.

PREVENT

NATIONAL LEGISLATION, POLICY AND FINANCING

INTRODUCTION

The IHR (2005) provide obligations and rights for States Parties to prevent, protect against, control and provide a public health response to the international spread of diseases. In some States Parties, implementation of the IHR may require new or modified legislation. Even if new or revised legislation may not be specifically required, States may still choose to revise some regulations or other instruments in order to facilitate IHR implementation and maintenance. Implementing legislation could serve to institutionalize and strengthen the role of IHR and operations within the State Party. It can also facilitate coordination among the different entities involved in their implementation. See detailed guidance on IHR implementation in national legislation at http://www.who.int/ihr/legal_issues/legislation/en/index.html. In addition, policies that identify national structures and responsibilities as well as the allocation of adequate financial resources are also important.

Target

Adequate legal framework for States Parties to support and enable the implementation of all their obligations and rights made by the IHR. Development of new or modified legislation in some States Parties for the implementation of the Regulations. Where new or revised legislation may not be specifically required under a State Party's legal system, the State may revise some legislation, regulations or other instruments in order to facilitate their implementation in a more efficient, effective or beneficial manner. States Parties ensure provision of adequate funding for IHR implementation through the national budget or other mechanisms. Country has access to financial resources for the implementation of IHR capacities. Financing that can be accessed on time and distributed in response to public health emergencies, is available.

TIMOR-LESTE LEVEL OF CAPABILITIES

Timor-Leste has been progressively re-building the state since independence in 2002 and has now established systems of national governance. It is in the process of building its administration and governmental institutions. The country adopted IHR in June 2007, an IHR National Focal Point (NFP) has been assigned and core capacities have been developed in some IHR-related areas, including antimicrobial resistance, immunization and surveillance. Some important core capacities are yet to be developed, especially on using IHR as a reference for adjusting regulation to improve core capacities to detect, prevent and respond.

Limited staff and capacity for legislation, policies and administrative arrangements in most government sectors hinder compliance with IHR requirements. Implementation of IHR across government sectors is an issue, as awareness about IHR implementation is limited and priorities of different sectors vary.

There are several regulations, policies and programmes in place to support and strengthen IHR implementation, such as those related to water and sanitation, antibiotic use, surveillance and epidemiology and food safety, among others. There is a National Strategic Development Plan 2011–2030 and a National Health Sector Strategic Plan 2011–2030 with indicators. Every year, the Ministry of Health (MOH) reviews its action plan and compares results with the indicators.

Timor-Leste has been a member of the World Organisation for Animal Health (OIE) since 2010. It conducted an Evaluation Performance of Veterinary Services (PVS) in 2011 and a PVS gap analysis in 2014. It has enacted a quarantine law for animals, plants and fisheries. Drafts of various laws, policies and plans that will help develop IHR implementation are currently under consideration by the legislature.

There is no overall financing plan for IHR implementation or allocation of a dedicated budget for public health emergencies, IHR functions or health security activities. The country has so far been largely dependent on external funding for public health emergency preparedness. However, different government sectors have budgets and activities that contribute, directly and indirectly, to IHR implementation in areas such as surveillance, food safety, animal health, immunization etc. The MoH and the Ministry of Agriculture and Fisheries (MoAF) have limited budgets that can be used in certain situations, including for surveillance and response. For major emergencies, contingency funds from the Prime Minister's office may be accessed by line ministries upon submission of a proposal.

Indicators and scores

P.1.1 The State has assessed, adjusted and aligned its domestic legislation, policies and administrative arrangements in all relevant sectors to enable compliance with the IHR – Score 2

Strengths and best practices

- There are various regulations, policies and programmes in place to support and strengthen IHR implementation.
- A quarantine law for animals, plants and fisheries has been enacted.
- The National Action Plan on Antimicrobial Resistance (NAP-AMR) was reviewed in 2018.
- A PVS and PVS gap analysis have been conducted.

Areas that need strengthening and challenges

- The regulation on IHR implementation in Timor-Leste should be finalized.
- Compliance with IHR requirements is hampered by limited staff and capacity for legislation, policies and administrative arrangements in most government sectors.
- Government sectors place a low priority on building IHF core capacity.

P.1.2 Financing is available for the implementation of IHR capacities – Score 2

Strengths and best practices

- Different government sectors have budgets and activities that contribute to IHR implementation.
- The MoH and MoAF have limited budgets that can be used for certain situations, including for surveillance and response.

Areas that need strengthening and challenges

- There is no dedicated budget for developing IHR core capacities or addressing public health emergencies.

P.1.3 A financing mechanism and funds are available for the timely response to public health emergencies – Score 2

Strengths and best practices

- Contingency funds in the Prime Minister's office may be accessed in case of public health emergencies.

Areas that need strengthening and challenges

- A separate and dedicated budget line to strengthen IHR core capacities should be established in the national budget.

Recommendations for priority actions

- Endorse regulation on IHR implementation.
- Adjust and align national legislation, policies and administrative arrangements in all relevant sectors, and develop the National Action Plan for Health Security, based on findings of the JEE, to enable compliance with the IHR commitments.
- Develop a separate budget line in national budget for IHR core capacity strengthening.

IHR COORDINATION, COMMUNICATION AND ADVOCACY

INTRODUCTION

The effective implementation of the IHR requires multisectoral/multidisciplinary approaches through national partnerships for efficient alert and response systems. Coordination of nationwide resources, including the designation of an NFP, and adequate resources for IHR implementation and communication, is a key requisite for a functioning IHR mechanism at the country level.

Target

Multisectoral/multidisciplinary approaches through national partnerships that allow efficient, alert and response systems for effective implementation of the IHR. Coordinate nationwide resources, including sustainable functioning of a IHR National Focal Point – a national centre for IHR communications, which is a key obligation of the IHR – that is accessible at all times. State Parties provide WHO with contact details of IHR National Focal Points, continuously update and annually confirm them.

TIMOR-LESTE LEVEL OF CAPABILITIES

Timor-Leste adopted IHR in June 2007 and has conducted regular self-reporting to WHO on its implementation since 2012.

The IHR NFP is assigned to the Head of Communicable Disease Control, National Department of Public Health, Ministry of Health, according to an MoH Decree Law. The NFP serves as key focal point for IHR communication and coordination among stakeholders.

At the national level, coordination across relevant ministries on a potential public health emergency of international concern (PHEIC) is under the MoH, the Ministry of Social Solidarity (MSS) and the Ministry of the Interior.

National contingency plans are available for certain diseases such as Ebola virus disease (EVD) and avian influenza (AI). Timor-Leste established a national task force for AI in 2004, which has now been replaced by a National Commission for Outbreak Control, responsible for public health disaster preparation and response. In the absence of a public health event, the committee remains inactive between epidemics.

The MoH health budget has allocations for any "declared emergency" under its "miscellaneous" items.

The following agencies make up the National Commission for Outbreak Control: Police (coordination between NFP and national and global health security); Ministry of Foreign Affairs (coordination between NFP and international affairs); Ministry of Defense (coordination between NFP and civil security and immigration border patrol and fire-fighters); MoAF (coordination of One Health); MSS (coordination between NFP and natural disaster department); Ministry of Finance (coordination between NFP and Finance to access the budget allocated under the Prime Minister's office in case of an emergency); Ministry of Tourism and Environment (coordination between NFP and relevant department for updates on internal and external health issues).

Indicators and scores

P.2.1 A functional mechanism established for the coordination and integration of relevant sectors in the implementation of IHR – Score 1

Strengths and best practices

- Procedures and guidelines are available for coordination between IHR NFP and relevant national sectors for specific diseases.
- Coordination among relevant sectors for natural disasters takes place through the MSS.
- The MoH national state budget is available for any declared emergency, including those related to IHR.
- Efficient communication and coordination among sectors and agencies exists, even in the absence of formal structures or mechanisms. The JEE process is an example of this communication and coordination capacity.

Areas that need strengthening and challenges

- There is an absence of standard operating procedures (SOP) or guidelines for the functioning of the IHR NFP.
- Access to and sharing of information with other IHR NFPs in the region needs improvement.
- IHR NFP capacity should be enhanced by WHO.
- Budget constraints prevent full implementation of IHR-related activities as IHR is not yet a priority.
- Retention of skilled and trained staff for IHR coordination and implementation is problematic.

Recommendations for priority actions

- Establish multisectoral IHR steering committee under existing high-level structures that facilitate IHR implementation.
- Enhance the capacity of IHR National Focal Point and focal points in relevant sectors by developing SOPs, regular training and providing necessary infrastructure.

ANTIMICROBIAL RESISTANCE

INTRODUCTION

Bacteria and other microbes evolve in response to their environment and inevitably develop mechanisms to resist being killed by antimicrobial agents. For many decades, the problem was manageable as the growth of resistance was slow and the pharmaceutical industry continued to create new antibiotics.

Over the past decade, however, this problem has become a crisis. Antimicrobial resistance (AMR) is evolving at an alarming rate and is outpacing the development of new countermeasures capable of thwarting infections in humans. This situation threatens patient care, economic growth, public health, agriculture, economic security and national security.

Target

A functional system in place for the national response to combat AMR with a One Health approach, including:

a) Multisectoral work spanning human, animal, crops, food safety and environmental aspects. This comprises developing and implementing a national action plan to combat AMR, consistent with the Global Action Plan (GAP) on AMR.

b) Surveillance capacity for AMR and antimicrobial use at the national level, following and using internationally agreed systems such as the WHO Global Antimicrobial Resistance Surveillance System (GLASS) and the OIE global database on use of antimicrobial agents in animals.

c) Prevention of AMR in health-care facilities, food production and the community, through infection prevention and control measures.

d) Ensuring appropriate use of antimicrobials, including assuring quality of available medicines, conservation of existing treatments and access to appropriate antimicrobials when needed, while reducing inappropriate use.

TIMOR-LESTE LEVEL OF CAPABILITIES

As a least developed country, Timor-Leste suffers from a high burden of infectious diseases and struggles to address tuberculosis, acute respiratory infections, diarrhoea, malaria and neonatal septicaemia in children under five years of age. Limited surveillance and research has been carried out on resistant microbial organisms, which makes it difficult to capture the current scope of the problem. Other factors adding to the infectious disease burden include the modest proportion of the population with access to improved drinking water (72%) and the relatively low proportion using improved sanitation. Between 2010 and 2015, several WHO Regional Committee resolutions on prevention and containment of AMR were adopted, acknowledging that addressing the problem would require political commitment, multisectoral coordination, sustained investment and technical assistance. A situation analysis was undertaken in August 2016 involving National AMR Control Committee members, senior technical advisors of the national health authority, the veterinary services sector and WHO.

The situation analysis revealed a high level of political commitment for AMR containment efforts. A number of initiatives were launched and existing ones strengthened. The government, in partnership with WHO, conducted national level campaigns to raise awareness on AMR among the general population and health professionals. A national drug regulatory authority was established with the National Directorate of Pharmacy and Medicine and under the Directorate General (Service Delivery) to oversee medicines regulation and licensing, pharmacovigilance and market authorization. National medicine policies were

updated and standard treatment guidelines for antibiotic prescription such as the Antibiotic Guidelines have been put in place. Public health system strengthening is a continuing process, and formal campaigns are consolidated or launched focusing on vaccination, sanitation and hygiene at the community level.

The NAP-AMR (2016–2020) takes these efforts further, reinforcing the government's commitment to universal health care, animal health and welfare, and food security. Based on implementation of the five strategic objectives, the NAP AMR charts a new phase in Timor-Leste's journey towards achieving goals related to AMR compliance.

A National Multisectoral Coordination Committee (NMCC) has been established. Some capacity exists at the National Health Laboratory (NHL) to conduct human AMR surveillance and test samples, with good international AMR collaboration already in place. The MoH has implemented a nationwide sanitation and hygiene campaign and a water, sanitation and hygiene (WASH) programme for infection prevention and control up to community health centre (CHC) level. Waste control has been improved by using incinerators at national and referral hospitals. A policy and guidelines for antibiotic use are in place; the use of antibiotics in human and animal health requires a doctor or veterinarian's prescription, although enforcing this regulation is a challenge. Other challenges include limited human resource skills and budget; limited laboratory capacity, especially in animal health; the need to strengthen multisectoral coordination mechanisms; the need for training to improve the understanding and skills of health professionals (MoH and MoAF) to use antimicrobials prudently; and inadequate advocacy for antimicrobial stewardship programmes at subnational level.

Indicators and scores

P.3.1 Effective multi-sector coordination on AMR – Score 3

Strengths and best practices

- The NAP-AMR was approved in May 2017 and is in place, along with a NMCC.
- An AMR Task Force is in the planning stage.

Areas that need strengthening and challenges

- There are limited skilled human resources and laboratory testing capacity.
- The government budget allocated to addressing the challenge of AMR is insufficient.
- The AMR Task Force has not yet been endorsed by the Council of Ministers.
- Improved cooperation and networking is needed across sectors, especially between the human and animal health sectors.
- A list of specific priority pathogens for AMR surveillance in Timor-Leste is needed.

P.3.2 Surveillance of AMR – Score 1

Strengths and best practices

- AMR surveillance guidelines have been developed, although quality and analyses are limited to date.
- There is strong collaboration with international referral networks to dispatch samples for AMR testing and analysis.
- Results of initial AMR testing in humans have been published and are in the public domain.
- There is some capacity in the NHL to conduct microbiological testing of human samples for AMR.

Areas that need strengthening and challenges

- Human and animal AMR laboratory testing capabilities and facilities should be strengthened.
- AMR testing capacity should be established at the MoAF Veterinary Diagnostic Laboratory (VDL), through capacity building for laboratory technical staff, implementation of SOPs to international standards (i.e. of the Clinical Laboratory Standards Institute) and use of standardized reporting templates.
- Data, information sharing and networking between human health and animal health stakeholders need to be strengthened.
- Sentinel AMR surveillance sites and AMR referral laboratories should be designated and appointed for both human and animal health.
- Integrated AMR prevention and control guidelines for all health-care facilities should be developed, including for the animal sector.
- Resource allocations for AMR surveillance and laboratory testing should be increased and include the establishment of an efficient AMR reagents and supplies procurement system.

P.3.3 Infection prevention and control – Score 1

Strengths and best practices

- The MoH has implemented a nationwide sanitation and hygiene campaign, and a WASH programme for infection prevention and control is available up to CHC level.
- National, regional and referral hospitals are supported by Saint John of God (Australia) for infection prevention and control in their basic nursing care training.

Areas that need strengthening and challenges

- More safe public water supplies should be made available to reduce the incidence of diarrhoeal diseases.
- A training of trainers programme should be established to increase capacity for infection prevention and control at health facilities, and to implement monitoring and evaluation procedures to track progress.
- There is a need for greater awareness, within the agriculture sector, of disease prevention, treatment and control measures.
- Basic training on AMR and the responsible use of antimicrobials should be included in the para-veterinarian training curriculum at the National University.

P.3.4 Optimize use of antimicrobial medicines in human and animal health and agriculture – Score 1

Strengths and best practices

- Policy and guidelines for antibiotic use are in place.
- The use of antibiotics in human and animal health requires a doctor's or veterinarian's prescription.
- Standard treatment guidelines are in place across Timor-Leste.
- All health care and veterinary service facilities report on antimicrobial usage.

Areas that need strengthening and challenges

- Sufficient national budget should be allocated to implement an antimicrobial stewardship programme.
- Cross-sectoral AMR stakeholder cooperation and networking under the One Health working group require strengthening.
- Health professionals (MoH and MoAF) should be trained through appropriate AMR training modules to better understand antimicrobials and use them prudently.
- The sale and use of antimicrobials solely on a doctor's or veterinarian's prescription should be enforced.
- Advocacy is needed for support to antimicrobial stewardship programmes from regional and local governments.
- Revise the existing human essential medicines list.
- A policy to control or ban the importation and use of antimicrobial growth promotors in the livestock sector should be developed.
- Behaviour change among health-care workers should be promoted and the community should be empowered and educated in the prudent use of antimicrobials.

Recommendations for priority actions

- Promote and support multisectoral coordination to implement the National Action Plan on AMR, including antimicrobial stewardship in human and animal health and agriculture.
- Revise and update the existing essential medicines list with special reference to the prudent use of antimicrobial agents, revise AMR prevention and control guidelines at the primary health-care level, and list the specific priority pathogens in Timor-Leste.
- Develop further laboratory capacity across both sectors to test for and characterize AMR.

ZOONOTIC DISEASES

INTRODUCTION

Zoonotic diseases are communicable diseases that can be transmitted between animals and humans. These diseases are caused by viruses, bacteria, parasites and fungi carried by animals, insects or inanimate vectors that aid in their transmission. Approximately 75% of recently emerging infectious diseases affecting humans are of animal origin; and approximately 60% of all human pathogens are zoonotic.

Target

Functional multisectoral, multidisciplinary mechanisms, policies, systems and practices are in place to minimize the transmission of zoonotic diseases from animals to human populations.

TIMOR-LESTE LEVEL OF CAPABILITIES

Timor-Leste has recorded no major zoonotic disease outbreaks in recent years but has prepared itself for incursions of zoonoses by developing a series of measures.

An avian influenza task force was recently replaced by the National Commission for Outbreak Control, which is responsible for all emerging infectious diseases (EID) including EVD. A national contingency plan for EID is available.

A National Preparedness and Contingency Plan on Rabies (Version 1.2; January 2018) has been developed by the MoAF and MoH to address any incursion of the disease from neighbouring countries; this plan is awaiting endorsement by the Minister of Agriculture and Fisheries to the Council of Ministers. Quarantine laws, decrees and regulations are in place and implemented at all points of entry (PoE) into the country, and a draft decree law on animal health has been prepared that also addresses the issue of control of zoonoses.

A national One Health strategic framework has been drafted and was endorsed by the MoAF and the MoH during World Rabies Day in October 2018.

Following Timor-Leste's membership of the OIE in 2010, the country underwent an OIE PVS assessment in 2011, followed by a PVS gap analysis in 2014. The gap analysis flagged the presence of bovine brucellosis as a major disease concern both for public health and as a factor that restricts reproduction rates in cattle and buffalo. The report recommended developing and piloting a control programme.

Timor-Leste does not have a list of priority zoonotic diseases. However, there is a list of priority communicable diseases, which includes rabies and anthrax. Identification of priority zoonoses between the MoAF and the MoH should be undertaken following the mapping of zoonotic diseases in the country. Once the list is defined, joint risk assessment and investigation of zoonotic diseases would benefit from using the FAO/OIE/WHO Four-Way Linking Project framework, the aim of which is to link epidemiological and virological information from the animal health and public health sectors in time and place to improve disease outbreak investigation.

Key strengths related to zoonotic diseases include close coordination and communication between public health and animal health, which will be further formalized through the One Health Working Group. Joint training of cross-sectoral rapid response teams (RRT) has taken place at both the central and subnational levels. Bilateral cooperation on zoonotic disease control takes place with neighbouring countries and simulation exercises on rabies incursions have been carried out at five PoE. Table-top exercises (TTX) have also been conducted for avian influenza, EVD and PHEIC response. Quarantine laws are in place and being enforced. However, areas for strengthening include development of the legal framework and promulgation of the Law on Animal Health, and mapping zoonoses in Timor-Leste. Access to funding for surveillance, detection and response to zoonotic diseases needs to be assured, as does a mechanism to access the emergency budget held in the Prime Minister's office in the event of a serious incursion of a zoonotic disease.

Indicators and scores

P.4.1 Coordinated surveillance systems in place in the animal health and public health sectors for zoonotic diseases/pathogens identified as joint priorities – Score 1

Strengths and best practices

- Coordination and communication between human health and animal health surveillance teams exists and is improving, although informal (to be formalized through the One Health Working Group).
- The MoH and MoAF have developed some capacity and systems are in place for surveillance of zoonoses, but these are not yet integrated.
- The MoH sentinel surveillance for influenza is established, functioning and able to detect and subtype influenza viruses.
- MoH and MoAF personnel have been trained in rabies and EID surveillance.

Areas that need strengthening and challenges

- There is a need to develop and strengthen the legal framework for priority zoonotic disease control through prevention, early detection and response.
- The lack of community awareness of zoonotic diseases remains a challenge.
- The existing infrastructure, human resources and institutional capacity to address zoonotic diseases needs to be strengthened.

P.4.2 Mechanisms for responding to infectious and potential zoonotic diseases established and functional – Score 1

Strengths and best practices

- Bilateral cooperation with neighbouring countries and international organizations has been instituted.
- Quarantine laws are in place and enforced.
- Joint disease outbreak investigation and response including simulation and TTX have been conducted for zoonotic diseases such as rabies, avian influenza and EVD.
- Contingency plans have been developed for AI, EVD, rabies and PHEIC at PoE.

Areas that need strengthening and challenges

- The draft animal health and quarantine legislation currently being debated needs to be finalized, ratified and promulgated.
- Functioning and sustainable funding for the One Health Working Group, established in 2018, needs to be secured as a priority.
- A mechanism (or SOP) should be developed to access the emergency funds held in the Prime Minister's office in the event of a serious zoonotic disease incursion.

Recommendations for priority actions

- Map zoonotic diseases in the human and animal sectors, develop a list of priority zoonotic diseases and establish effective surveillance systems for all these diseases.
- Approve and implement the One Health Strategic Framework with sustainable financing.
- Establish a multisectoral operational mechanism/incident command structure to respond to zoonotic diseases and conduct training to test the plan.
- Accelerate implementation of Timor-Leste animal health legislation under the biosecurity legal framework (plant and animal health).

FOOD SAFETY

INTRODUCTION

Foodborne and waterborne diarrhoeal diseases are leading causes of illness and death, particularly in less developed countries. The rapid globalization of food production and trade has increased the potential likelihood of international incidents involving contaminated food. The identification of the source of an outbreak and its containment are critical for control. Risk management capacity with regard to control throughout the food chain continuum must be developed. If epidemiological analysis identifies food as the source of an event, based on a risk assessment, suitable risk management options that ensure the prevention of human cases (or further cases) need to be put in place.

Target

A functional system is in place for surveillance and response capacity of States Parties for foodborne disease and food contamination risks or events with effective communication and collaboration among the sectors responsible for food safety.

TIMOR-LESTE LEVEL OF CAPABILITIES

Implementation of a food safety management system in Timor-Leste has only started recently. Several agencies are responsible for food safety: the Inspection and Supervision Authority of Economic, Health and Food Activities (AIFAESA), MoH, MoAF and the Ministry of Commerce and Industry. The AIFAESA is responsible for inspection, fiscal economic activity, sanitation and food. This inspection authority and the MoH implement domestic food inspection, while MoAF implements inspection and certification of foods of animal origin including import and export inspection at PoEs. However, no inspection is carried out at PoEs for other types of foods except for examination of documents by the Customs Agency. Antimicrobial and other drug residues in food including additives are overseen by the National Directorate of Pharmacy and Medicine. The Food Council is responsible for the country's overall food security.

A surveillance system for foodborne disease outbreaks is implemented by the MoH, which has established event-based surveillance (EBS) and indicator-based surveillance (IBS) for foodborne diarrhoeal and hepatitis viral diseases. Any foodborne disease outbreak is a priority notifiable disease and must be reported within 24 hours. The RRT then intervenes at national and all municipal levels

Timor-Leste became a member of the International Network of Food Safety Authorities (INFOSAN) in 2015 and a member of the Codex Alimentarius Commission (CAC) in 2018. The MoH is also implementing its National Food Safety Strategy 2018–2022.

While several laws authorize inspection and monitoring of food safety, there is no comprehensive food act for food safety management. A list of priority foodborne diseases should be developed, along with explicit case definitions for EBS and IBS. Currently, the food laboratory is only equipped to conduct a few rapid qualitative tests (e.g. borax and formalin). Both infrastructure and human resources need strengthening to develop capacity for microbiological and chemical testing.

The country has made significant progress in terms of food inspection, identification of RRTs at national and municipal levels, training (both in-country and abroad in countries such as Portugal and Indonesia) on foodborne disease surveillance, outbreak investigation and management, sample collection, packaging and transport. In addition, restaurant operators, street food vendors and school kitchen staff in all 13 municipalities have been trained in the five key food safety principles. The MoAF also trained 10 meat inspectors in meat hygiene inspection and certification. Despite this progress, there is no adequate multisectoral mechanism to coordinate surveillance, information sharing, outbreak investigation and response to food safety emergencies. A multisectoral Food Safety Emergency Investigation and Response Plan should be developed, along with SOPs to handle food safety emergencies.

Indicators and scores

P.5.1 Surveillance systems in place for the detection and monitoring of foodborne diseases and food contamination – Score 2

Strengths and best practices

- The foodborne disease outbreak reporting mechanism is captured through IBS and EBS and should be reported within 24 hours of detection by telephone/WhatsApp.
- There is strong political commitment around food safety.
- The MoAF undertakes inspections and surveillance in abattoirs and among butchers, and receives daily surveillance data from them.
- Surveillance data on foodborne diseases are analysed routinely and published in the Epidemiological Bulletin at national level by the MoH.
- AIFAESA regularly inspects restaurants and food processing plants and tests food samples in a food laboratory.

Areas that need strengthening and challenges

- The number of rapid test kits for borax and formalin supplied to environment health officers at municipal level is insufficient.
- Food safety officials should be trained in food inspection, meat hygiene and inspection, surveillance and monitoring of foods, foodborne disease outbreak investigation and response management.
- Faecal samples from suspected food poisoning cases are not sent regularly to the national referral laboratory.
- The MoAF should strengthen capacity for import inspection, testing and certification of foods of animal origin.
- Food laboratory capacity need to be strengthened to expand the scope of tests and supply of reagents and rapid test kits.
- There is no food laboratory capacity to test for chemical substances such as heavy metal and pesticide residues and other contaminants.
- There is no national food legislation or standard for food inspection and safety monitoring.
- There is only one viable abattoir (located in Dili) in the entire country.
- Most meat and fish sold on the streets is not adequately processed in commercial premises.
- There is a need to link laboratory results to existing surveillance systems for analysis, profiling and risk assessment of food safety.

P.5.2 Mechanisms are established and functioning for the response and management of food safety emergencies – Score 1

Strengths and best practices

- The MoH has developed a National Food Safety Strategy (2018–2022), but this has not yet been approved by the government.
- A functional multisectoral RRT (MoH, MoAF, AIFAESA) for foodborne disease outbreaks is in place at national and municipal levels. However, there is no mechanism for a coordinated multisectoral response.
- The foodborne disease surveillance system detects and investigates any major outbreak in a timely manner. During a 2018 outbreak, the RRT immediately interviewed patients, inspected the premises and implemented the necessary control measures. Investigation findings are published in the Epidemiological Bulletin.

Areas that need strengthening and challenges

- There is a need to develop a multisectoral Food Safety Emergency Investigation and Response Plan and SOPs to handle food safety emergencies.
- Foodborne disease outbreak investigation capacity should be improved by developing guidelines, manuals and SOPs including standard outbreak investigation and data collection forms and similar materials.
- CAC requirements should be implemented more robustly and a national food safety commission and committee established.
- Strengthen the implementation of the One Health Strategic Framework through a One Health Working Group to respond to food safety threats.
- In many instances there is no coordination in investigations to link clinical samples to food sources for simultaneous identification of pathogens.
- Foodborne diseases have not yet become health priorities at the municipal level.
- Retention of trained staff is hampered by ongoing reorganization and staff transfers at the national and subnational levels.

Recommendations for priority actions

- Establish National Food Safety Commission and Codex Committee.
- Develop and enact Food Act.
- Develop multisectoral national Food Safety Emergency Detection and Response Plan, and institutionalize formal coordination mechanism at national and municipal levels.
- Train food inspectors and relevant officials on foodborne disease surveillance, outbreak investigation and response management.

BIOSAFETY AND BIOSECURITY

INTRODUCTION

It is vital to work with pathogens in the laboratory to ensure that the global community possesses a robust set of tools – such as drugs, diagnostics and vaccines – to counter the ever-evolving threat of infectious diseases.

Research with infectious agents is critical for the development and availability of public health and medical tools that are needed to detect, diagnose, recognize and respond to outbreaks of infectious diseases of both natural and deliberate origin. At the same time, the expansion of infrastructure and resources dedicated to work with infectious agents have raised concerns regarding the need to ensure proper biosafety and biosecurity to protect researchers and the community. Biosecurity is important in order to secure infectious agents against those who would deliberately misuse them to harm people, animals, plants or the environment.

Target

A whole-of-government multisectoral national biosafety and biosecurity system with dangerous pathogens identified, held, secured and monitored in a minimal number of facilities according to best practices; biological risk management training and educational outreach conducted to promote a shared culture of responsibility, reduce dual-use risks, mitigate biological proliferation and deliberate use threats, and ensure safe transfer of biological agents; and country-specific biosafety and biosecurity legislation, laboratory licensing and pathogen control measures in place as appropriate.

TIMOR-LESTE LEVEL OF CAPABILITIES

Timor-Leste has one national human health laboratory, five laboratories at regional or referral hospitals and 67 laboratories at the CHC level. There is only one national animal health laboratory.

There is no system in Timor-Leste for biosecurity (pathogen security), and no SOPs and procedures have been drafted for biosecurity.

The NHL has a limited laboratory quality management system, including a general biosafety and biosecurity manual.

With the exception of the national human and animal laboratory, all laboratories face issues with stable electrical supply. In the absence of an uninterruptable power supply, the equipment and facility as a whole are not adequately equipped for biosafety and biosecurity.

The national animal health laboratory was commissioned at Biological Safety Level 2 (BSL2), while the national human health laboratory was commissioned at the end of construction as BSL2 with some extra modifications for managing Mycobacterium tuberculosis cultures such as negative pressure, in-laboratory autoclave and pass-through dunk tank.

Indicators and scores

P.6.1 Whole-of-government biosafety and biosecurity system in place for all sectors (including human, animal and agriculture facilities) – Score 1

Strengths and best practices

- The NHL has a laboratory quality management system, including a general biosafety and biosecurity manual.
- Both the human and animal laboratory are certified to Biosafety Level II.
- SOPs are in place for transporting specimens in accordance with international requirements.

Areas that need strengthening and challenges

- National biosafety and biosecurity legislation, regulations and standards should be developed and implemented.
- Capacity and human resources should be strengthened to ensure the sustainability of biosafety and biosecurity programmes.
- Improved in-country expertise is needed for regular maintenance, certification and calibration of equipment.
- A national multisector approach should be adopted for working safely in laboratories and keeping laboratories secure.
- Policy development is needed to outline the risk management approach to laboratory biosafety as well as for the security of pathogens and specimens that should be kept contained.

P.6.2 Biosafety and biosecurity training and practices in all relevant sectors (including human, animal and agriculture) – Score 2

Strengths and best practices

- NHL has sent staff to attend training on biosafety and biosecurity programmes.
- Couriers are used to transport both human and animal samples to overseas laboratories.
- There is a general awareness of the need to work safely in human and animal laboratories.
- Some documentation exists for managing the specimen pathway and the processing of specimens in low-level containment.

Areas that need strengthening and challenges

- Policy development in pathogen security is needed to ensure dangerous pathogens are contained and do not present a risk to the community.
- Greater human resource capacity is needed for laboratory scientists and other personnel.
- Safer waste management should be achieved by optimizing the movement of materials in the laboratory to avoid contamination of work materials and operators.

Recommendations for priority actions

- Develop and implement biosafety and biosecurity legal framework with strong enforcement mechanism and monitoring and evaluation.
- Develop the national plan of action for biosafety and biosecurity for human, animal and agriculture sectors.
- Develop a process for in-country training that accommodates the entire specimen to result pathway including specimen collection, specimen processing, culture and identification, and storage of pathogens and transport to the reference laboratory.

IMMUNIZATION

INTRODUCTION

Immunizations are estimated to prevent more than two million deaths a year globally. Immunization is one of the most successful global health interventions and cost-effective ways to save lives and prevent disease. Measles immunization is emphasized because it is widely recognized as a proxy indicator for overall immunization against vaccine-preventable diseases. Countries will also identify and target immunization to populations at risk of other epidemic-prone, vaccine-preventable diseases of national importance (e.g. cholera, Japanese encephalitis, meningococcal disease, typhoid and yellow fever). Diseases that are transferable from cattle to humans, such as anthrax and rabies, are also included.

Target

A national vaccine delivery system – with nationwide reach, effective distributions, access for marginalized populations, adequate cold chain and ongoing quality control – that is able to respond to new disease threats.

TIMOR-LESTE LEVEL OF CAPABILITIES

The Government of Timor-Leste is strongly committed to supporting all operations and costs of the national Expanded Programme on Immunization (EPI). Indeed, the National Health Sector Strategic Plan 2011–2030 describes immunizations as one of the key health strategies.

The government has developed a network of health facilities for every 1000–1500 inhabitants to provide easy access to health-care services and allow EPI to reach every child with the nine antigens included in the routine immunization schedule. These antigens are offered daily in the country's 67 health facilities. Some 90% of the country's 12-month-old population has received at least one dose of measles-containing vaccine and the trajectory of progress, plans and capacities are in place to achieve 95% coverage by 2020. More than 90% of all subnational units (i.e. districts, provinces or states) are covered.

Functional vaccine procurement and forecasting take into account global stocks. As a result there are no stock-outs at the central level and only rare stock-outs at district levels.

The EPI benefits from strong collaboration with partners (WHO, UNICEF) who ensure the rapid procurement of vaccine doses and support the data collection, analysis and dissemination process. All immunization data are collected on the Timor-Leste Health Information System (TLHIS2) platform.

Thanks to these efforts, Timor-Leste reached considerable milestones. The country achieved polio-free status in 2014 and measles and rubella elimination certification in 2018. The EPI performance indicators at the national level show a steady increase in the proportion of children vaccinated with a full complement of antigens, a trend supported by external evaluations. The country intends to maintain its efforts to ensure each child receives the full complement of antigens. Also, Timor-Leste plans to introduce rotavirus, human papilloma virus (HPV), Japanese encephalitis and pneumococcal conjugate vaccines into the national schedule between 2020 and 2022.

The cold chain network is well maintained and reaches all health facilities, with vaccine delivery (maintaining the cold chain) available in 60–79% of districts and in 60–79% of the country's target population.

There seem to be no difference in EPI performance between municipalities, nor between population groups. All are reached equally. Cases of adverse events following immunization (AEFI) are rare and reported immediately. Finally, the timeliness, completeness and accuracy rates of the routine immunization data are reviewed every month through the TLHIS2 platform, but validation of these data in the field is not performed regularly.

Indicators and scores

P.7.1 Vaccine coverage (measles) as part of national programme – Score 4

Strengths and best practices

- A Health Informatics Management System (HIMS) is in place to collect routine immunization (RI) data and produce monthly performance and process reports.
- RI coverage for measles-containing vaccine 1 is 76% (HIMS 2017 report), while the national-level vaccination coverage of the measles-rubella campaign conducted in July 2018 is 97% (Rapid Convenience Assessment results).
- All health facilities provide daily high-quality RI services to the target population.
- RI services are integrated into other basic health-care service delivery programmes (for example nutrition, vitamin A administration, de-worming, antenatal care).
- The government has implemented Integrated Community Health Services to bring RI services to hard-to-reach children.
- Local authorities and community volunteers support the development and update of the RI micro plans.

Areas that need strengthening and challenges

- RI coverage for the main antigens does not reach 95% in all municipalities.
- Supportive supervisory visits to health facilities are not conducted regularly.
- The quality of roads and public transportation impedes access to remote areas.
- The pentavalent drop-out rate among children younger than 12 months is above 5%.
- Reviews of RI services at the national and municipal levels should be conducted regularly.
- Refresher trainings at the health facility level are not provided regularly.

P.7.2 National vaccine access and delivery – Score 4

Strengths and best practices

- One health facility exists for every 1000–1500 persons.
- Vaccine delivery is available in all 67 health facilities across the 13 municipalities, and in 75% of health posts with electricity coverage.
- Rural health posts with no electricity coverage are allocated 10 solar panel refrigerators.
- All health facilities benefit from a strong supply chain for vaccines, and are equipped with WHO pre-qualify ice-lined refrigerators.
- A functional vaccine procurement and forecasting system is in place, resulting in no vaccine stock-outs at the national level and rare stock-outs at the municipal level.

Areas that need strengthening and challenges

- Some parts of the country lack electricity coverage.
- The cold chain maintenance and repair system still allows for rare vaccine stock-out events at the subnational level.
- New health facilities may experience delays in receiving ice-lined refrigerators.
- Effective health education and promotion on immunization must be updated to include strategies for newly introduced vaccines.
- The national-level team has been allocated limited funds for operational costs.
- Monthly village-level reviews should use RI coverage data to identify gaps and develop data-driven solutions.

Recommendations for priority actions

- Widen access to the TLHIS2 dashboard for routine immunization data from HIMS, and use the indicators to propose actions for strengthening EPI.
- Conduct periodic evaluations of the routine immunization system.
- Consider the use of alternative operational denominator estimates used to calculate vaccination coverage for specific EPI operations.
- Adjust the national vaccine distribution system to ensure the elimination of stock-outs at the subnational level.

DETECT

NATIONAL LABORATORY SYSTEM

INTRODUCTION

Public health laboratories provide essential services including disease and outbreak detection, emergency response, environmental monitoring and disease surveillance. State and local public health laboratories can serve as a focal point for a national system, through their core functions for human, veterinary and food safety including disease prevention, control and surveillance; integrated data management; reference and specialized testing; laboratory oversight; emergency response; public health research; training and education; as well as partnerships and communication.

Target

Surveillance with a national laboratory system, including all relevant sectors, particularly human and animal health, and effective modern point-of-care and laboratory-based diagnostics.

TIMOR-LESTE LEVEL OF CAPABILITIES

Timor-Leste has one NHL (a reference laboratory), six regional laboratories at referral hospitals, and 67 laboratories at CHC level. For animal health, there is only one national laboratory and no regional laboratories. NHL is not accredited to an international standard, but External Quality Assurance (EQA) programmes are available for some tests performed by NHL. Some EQA programmes offer assessment every three months for some tests.

The NHL is capable of conducting laboratory testing for five of the six core tests except for poliovirus. The national animal laboratory can test for four priority diseases. There is limited coordination between the human and animal health laboratories.

The NHL is in the process of implementing laboratory quality management in each department. It is also in the process of drafting the referral system and providing equipment for designated referral laboratories.

For human and animal laboratories, there are SOPs for collection, packing, and the transfer of specimens for all laboratory staff. All media and reagents are imported through the Serviço Autónomo de Medicamentos e Equipamentos de Saúde.

There are 23 top priority animal diseases (infectious), including five exotic diseases (foot and mouth disease, rabies, anthrax, bovine tuberculosis and highly pathogenic avian influenza). The country has seven veterinarians and four national diseases control programmes (hæmorrhagic septicæmia, brucellosis, Newcastle disease and classical swine fever).

There is only one national Veterinary Diagnostic Laboratory (VDL), which is in the process of developing guidelines and protocols for quality management. The VDL is based in Dili and can perform tests for hæmorrhagic septicæmia, brucellosis, Newcastle disease and classical swine fever. There is no national quality control laboratory or certification for livestock products.

A national guideline for priority diseases diagnostic algorithm is not available. The veterinary laboratory only uses standard operating procedures for priority diseases.

SOPs for the NHL comply with WHO and OIE standards.

Joint annual surveillance for priority diseases (exotic, zoonoses) is designed and carried out in collaboration with the Australia Department of Agriculture and Water Resources.

A system for specimen collection, packaging and transport to international reference laboratory networks is available and implemented according to WHO and OIE standards.

Indicators and scores

D.1.1 Laboratory testing for detection of priority diseases – Score 3

Strengths and best practices

- The NHL can conduct five of six core tests for priority diseases.
- CHC laboratories can conduct tests for three priority diseases.
- The VDL can perform four priority animal diseases tests and has SOPs in place.
- The VDL is able to coordinate the diagnosis of 23 infectious animal diseases (including referral of laboratory samples abroad).
- The VDL has four BSL2-rated rooms, each with limited space. It is equipped with a fluorescence microscope and Microbact™ software for bacterial identification.

Areas that need strengthening and challenges

- Laboratory policies and regulations on priority testing should be developed.
- Laboratory capacity needs strengthening, including infrastructure and facilities.
- SOPs should be established for each test.
- Veterinary pathology legislation should be developed and supported by guidelines and regulations.
- The national VDL should have a business plan.
- A field epidemiology training programme (FETP) for veterinarians should be developed to improve surveillance and sample flow to the laboratory.
- Sample collection and courier transportation is needed from the field to the VDL.
- Procurement of laboratory consumables should be streamlined.

D.1.2 Specimen referral and transport system – Score 2

Strengths and best practices

- The NHL is developing a quality laboratory management system.
- SOPs exist for specimen collection, packaging and transport.
- All staff are certified for International Air Transport Association (IATA) sample packaging in both human and animal health laboratories.
- There are official agreements with partners and WHO collaborating centres to send samples to regional or referral laboratories.
- The MoAF has the capacity to send specimens to the regional OIE reference laboratory using OIE guidelines and country import permits.

Areas that need strengthening and challenges

- A laboratory information management system should be developed for both the NHL and VDL.
- Specimen collection capability and capacity of laboratory technicians should be improved.
- Laboratory diagnostic capability and capacity at the NHL need to be strengthened.
- Basic diagnostic facilities are needed to support clinical treatment of animals at the district level.
- Additional veterinarians and laboratory technicians should be recruited and trained in the VDL and district animal health centres.
- An international technical expert for veterinary laboratory medicine is needed.

D.1.3 Effective national diagnostic network – Score 2

Strengths and best practices

- The NHL can perform limited advanced molecular and serological testing for confirmation of diagnoses.
- All human health laboratories in municipalities can perform basic diagnostic tests for malaria, tuberculosis, HIV, hepatitis B virus, syphilis, gonorrhoea and point of care urinalysis tests.
- Animal health staff at municipal level and animal health centres are able to perform basic diagnostic tests such as skin scrapings for ectoparasites, faecal helminth egg counts, sample collection and simple survey design.
- Animal health staff are trained to collect samples and transport them to the VDL.

Areas that need strengthening and challenges

- Reagents, consumables, test kits and media are expensive and can be difficult to procure across human and animal health as a result of limited budgets and bureaucratic delays.
- Workforce recruitment and training of laboratory staff is needed at both the regional and municipal levels.
- Workforce recruitment and training of animal health staff is needed at the municipal level.
- SOPs are needed for sample collection, handling and transportation from the field to the VDL.
- Because animal health is under the control of MoAF, whose priority is production, there is insufficient focus on the role of animal health in national health security objectives through diagnostic services.

D.1.4 Laboratory quality system – Score 1

Strengths and best practices

- The NHL is accredited for Japanese encephalitis, measles and rubella testing.
- EQA is conducted for some tests in the NHL and some of the referral laboratories.
- The VDL follows OIE standards and guidelines to improve the quality of its testing.

Areas that need strengthening and challenges

- Establish a national accreditation body in charge of laboratory assessment to quality management standards such as ISO 15189.
- Private laboratories in Timor-Leste should be encouraged to adopt quality management principles.
- An EQA proficiency testing system should be established for the VDL in collaboration with the regional and OIE referral laboratories.

- A Laboratory Information Management System (LIMS) is needed for both human and animal health laboratories.
- Equipment and reagents should be procured and training conducted to improve microorganism identification, characterization and antimicrobial susceptibility testing in both human and animal health laboratories.
- Technical expertise in the VDL should be improved.

Recommendations for priority actions

- Establish a legal framework for human and animal laboratory quality management that provides legislation, regulation and standards so that accreditation to ensure patient (human and animal) safety is assured.
- Across animal and human laboratory practices, embed a culture of continuous professional development in laboratory quality management, laboratory safety, as well as required laboratory techniques through regular certified training.
- Cooperate, if possible, on common components in human and animal health to strengthen the laboratory system, e.g. a laboratory information system, a specimen referral system for overseas testing, laboratory executive management and improved diagnosis in district settings.

SURVEILLANCE

INTRODUCTION

The purpose of real-time surveillance is to advance the safety, security and resilience of the nation by leading an integrated surveillance effort that facilitates early warning and situational awareness of all IHR hazard-related events.

Target

(1) Strengthened foundational indicator- and event-based surveillance that are able to detect events of significance for public health and health security; (2) improved communication and collaboration across sectors and between subnational (local and intermediate), national and international levels of authority regarding surveillance of events of public health significance; and (3) improved national and intermediate level regional capacity to analyse and link data from and between, strengthened, early-warning surveillance, including interoperable, interconnected electronic tools. This would include epidemiologic, clinical, laboratory, environmental testing, product safety and quality and bioinformatics data; and advancement in fulfilling the core capacity requirements for surveillance in accordance with the IHR and OIE guidelines.

TIMOR-LESTE LEVEL OF CAPABILITIES

The MoH has implemented IBS and EBS, in line with Decree No 41/2015 on Surveillance and Epidemiology. These are implemented at the central and intermediate levels, and receive immediate and weekly reporting from the local level on an ad hoc basis. The EBS captures rumours through various communication channels, including social media, in less than 24 hours. It also captures most initial reports for outbreak events.

The IBS includes a number of components, including an Early Warning Alert and Response System (EWARS) for 15 infectious diseases with potential for outbreak (weekly routine report); an Integrated Disease Surveillance and Response (IDSR) system for 22 diseases (monthly report); sentinel sites for several programmes, such as influenza-like illness (ILI) and severe acute respiratory infection (SARI) (weekly and monthly routine reporting); and an outbreak report system for all notifiable diseases in less than 24 hours.

The MoH and MoAF have initiated communication and collaboration between human and animal health through the One Health Engagement to strengthen cross-sectoral sharing of epidemiological and laboratory diagnostic data. However, there is no interoperable surveillance system between the MoH and MoAF.

Ad hoc electronic tools, such as Excel spreadsheets, have been developed to facilitate the collection, reporting and analysis of surveillance data. The country is also developing an integrated electronic real-time reporting system. Annual and monthly reporting of data are mostly regular, with a few delays, although a minimal analysis of data is also performed by an ad hoc team.

Both the animal and human surveillance systems have different roles and responsibilities within the One Health approach. Training has taken place for sample collection and transportation of human or animal samples. Doctors, nurses and national laboratory technicians are trained for outbreak investigation. Surveillance officers and multidisciplinary teams investigate and respond to outbreaks, with the team's composition based on the type of outbreak.

The private sector is involved in the surveillance network, and private clinics notify suspected cases to the MoH. Their reports are included in the monthly and weekly national surveillance reports.

Indicators and scores

D.2.1 Surveillance systems – Score 3

Strengths and best practices

- Guidelines, technical guidance and SOPs for diseases programmes are available.
- Trained staff collect weekly routine reports from health posts or CHCs, verify and share the information with relevant stakeholders.
- EWARS and RRTs for response and investigations are implemented.
- There is a high level of awareness of the importance of zoonotic and exotic animal diseases, with strong community participation.
- The Epidemiological Bulletin for Timor-Leste (launched in January 2018) is prepared and distributed to CHCs, municipalities, hospitals, relevant sectors and donors, and partners.
- PVS and PVS gap analyses have been completed.

Areas that need strengthening and challenges

- Existing regulations should be adjusted to new emerging diseases and challenges.
- Surveillance data should be reported in a more complete and timely manner.
- National and technical guidance, protocols for animal disease control and surveillance systems are needed.
- HR skills should be developed to take multitasking, unequal capabilities and differing education and backgrounds into account.
- Infrastructure should be improved, including access to geographically hard-to-reach areas, internet and telephone services.

D.2.2 Use of electronic tools – Score 2

Strengths and best practices

- IBS and EBS results are captured and analysed weekly.
- There is some routine manual data analysis, interpretation and feedback to municipality and village levels.
- The National Veterinary Directorate compiles vaccination and treatment data on a regular basis.
- Rapid communication exists with the Australian Animal Health Laboratory to share data and information on zoonotic diseases.

Areas that need strengthening and challenges

- An electronic system for surveillance reporting (including equipment and web-based surveillance) for animal and human health is needed.
- A mechanism to share human, animal and wildlife data is needed.
- An inter-ministerial One Health Committee and memorandum of understanding among ministries should be established, and the One Health Strategic Framework operationalized.
- There are insufficient human resources for electronic surveillance at a national level.

D.2.3 Analysis of surveillance data – Score 3

Strengths and best practices

- Timor-Leste has the capacity to analyse specific diseases using laboratory- and epidemiology-based surveillance, which can identify whether a disease agent is indigenous or imported. For example, laboratory diagnostic analysis in the 2011 measles outbreak in Dili revealed the virus was imported from Indonesia.
- An integrated system of laboratory-based surveillance for vaccine-preventable diseases is in place at the NHL.
- Laboratory surveillance for malaria, tuberculosis, HIV and dengue is part of the IDSR.
- Good collaboration exists with the Australian Department of Agriculture and Water Resources, Berrimah Veterinary Laboratories and Australian Animal Health Laboratory for data analysis and interpretation.
- Animal disease maping takes place in collaboration with the National Directorate of Research.

Areas that need strengthening and challenges

- Capability to analyse data at municipal level should be improved
- A database for animal diseases is needed.
- Human resource capacity in data analysis and geographic information systems (GIS) should be developed.
- Use of data analysis for programme planning and implementation should be optimized.

Recommendations for priority actions

- Train multidisciplinary multi-hazard emergency/rapid response teams for all 13 municipalities to investigate and respond to all public health events.
- Develop and strengthen web-based reporting system for both animal and human disease surveillance.
- Improve capacity to analyse data and respond at municipality/district and subdistrict level.
- Implement procedure for immediate sharing of information on suspected outbreaks of highly pathogenic avian influenza, rabies, brucellosis and anthrax in both humans and animals, and joint investigation and response.
- Strengthen collection, storage and transportation of samples from the subnational periphery to the national level.

REPORTING

INTRODUCTION

Health threats at the human–animal–ecosystem interface have increased over the past decades, as pathogens continue to evolve and adapt to new hosts and environments, imposing a burden on human and animal health systems. Collaborative multidisciplinary reporting on the health of humans, animals and ecosystems reduces the risk of diseases at the interfaces between them. The IHR NFPs, the OIE delegate, and World Animal Health Information System (WAHIS) NFP should have access to a toolkit of best practices, model procedures, reporting templates, and training materials to facilitate rapid (i.e. within 24 hours) notification of events that may constitute a PHEIC to WHO and listed diseases to OIE, and will be able to rapidly (i.e. within 24/48 hours) respond to communications from these organizations.

Target

Timely and accurate disease reporting according to WHO requirements and consistent reporting to/information of FAO and OIE.

TIMOR-LESTE LEVEL OF CAPABILITIES

Timor-Leste complies with the IHR reporting mechanisms for potential PHEIC events. The country has been a member of OIE since 2011 and has been reporting animal diseases to the OIE WAHIS on a regular basis. The MoH has appointed the Head of the Communicable Disease Control Department as the IHR NFP. The MoAF has designated the Director of Veterinary Services as the OIE delegate and eight OIE NFPs: animal disease notification; animal production and food safety; animal welfare; aquatic animals; communication; laboratory; veterinary products; and wildlife. Timor-Leste became member of the CAC in 2018. However, an INFOSAN emergency contact point has not been designated after an internal transfer of staff.

The exchange of information between the IHR NFP and OIE delegates is organized through ad hoc meetings in the event of special or new cases, such as the 2009 outbreak of pandemic influenza A(H1N1). A tiered reporting mechanism from the CHC level is in place and operational. Timor-Leste has not yet passed legislation or other policies related to procedures or approvals for reporting a potential PHEIC to WHO, and the MoH does not have SOPs for approving and reporting a potential PHEIC to WHO.

Indicators and scores

D.3.1 System for efficient reporting to FAO, OIE and WHO – Score 2

Strengths and best practices

- Timor-Leste has identified the IHR NFP, the OIE delegate and the WAHIS NFP, who have access to the learning package and best practices provided by FAO, OIE and WHO.
- A surveillance system for human and animal diseases is in place and feeds data and information for international reporting through appropriate communication channels.
- The reporting mechanism to WHO and OIE is implemented and operational.

Areas that need strengthening and challenges

- Greater coordination is needed across sectors for reporting.
- Improved capacity and coordination are needed for an effective and functional IHR NFP.
- Better information sharing is needed from the IHR NFP to multiple stakeholders such as the OIE delegate, INFOSAN emergency contact point and national Codex contact point.

D.3.2 Reporting network and protocols in country – Score 2

Strengths and best practices

- Timor-Leste is at an advanced stage of developing and establishing protocols, processes, regulations or legislation governing reporting.
- Reporting or flow of communication for specific pandemics and natural disasters is available, for example for the influenza pandemic.
- Communities are empowered to report extraordinary incidents.
- EBS reporting is implemented and functional.

Areas that need strengthening and challenges

- There are no SOPs or guidelines for public health emergency reporting.
- Reporting and information sharing across sectors and programmes should be improved.
- Human resources and capacity at municipal level for reporting outbreaks are uneven.

Recommendations for priority actions

- Develop protocols and processes using the One Health approach for public health emergency reporting.
- Build capacity and develop communication and coordination mechanism for information sharing among IHR NFP, OIE delegate, INFOSAN emergency contact point and national Codex contact point.

HUMAN RESOURCES

INTRODUCTION

Human resources are important in order to develop a sustainable public health system over time by developing and maintaining a highly qualified public health workforce with appropriate technical training, scientific skills and subject matter expertise. Human resources includes nurses and midwives, physicians, public health and environmental specialists, social scientists, communication professionals, occupational health specialists, laboratory scientists/technicians, biostatisticians, IT specialists and biomedical technicians and a corresponding workforce in the animal health sector: veterinarians, animal health professionals, laboratory scientists, para-veterinarians, epidemiologists, IT specialists etc.

The recommended density of doctors, nurses and midwives per 1000 population for operational routine services is 4.45 plus 30% surge capacity. The optimal target for surveillance is one trained (field) epidemiologist (or equivalent) per 200 000 population who can systematically cooperate to meet relevant IHR and PVS core competencies. One trained epidemiologist is needed per RRT.

Target

States Parties with skilled and competent health personnel for sustainable and functional public health surveillance and response at all levels of the health system and the effective implementation of the IHR (2005).

TIMOR-LESTE LEVEL OF CAPABILITIES

The issue of human resources affects all IHR domains in Timor-Leste. The country has a multidisciplinary workforce that includes physicians, nurses, laboratory technicians and others at all levels of the health-care system. These resources are available at the national level for appropriate epidemic preparedness and control.

Human resources development is conducted at the national level through in-service, cross-sectoral and overseas training, and continuing professional education. The National Health Sector Strategic Plan 2011–2030 includes a workforce plan but does not cover all relevant sectors of public health professions such as, for example, epidemiologists, social scientists, IT specialists, veterinarians, livestock specialists or community health workers. Only the MoAF has a separate workforce plan, which is derived from multiple evaluations and gap analyses. Basic data on human resources for health are available.

In order to improve HR competencies, the following activities are necessary: HR education; incentive programmes, awards and learning opportunities as compensation for health HR performance; and other programmes to maintain and improve competency. In addition, the government must be able to strengthen HR by developing functional positions and career levels, developing training modules for public health priority diseases, establishing technical competency standards and certification and fostering professional organizations.

There is no FETP or applied epidemiology training programme in the country at the national level, but all levels of staff participate in a programme hosted abroad through an existing agreement (at any level). The MoH uses the capital development fund to send epidemiologists and veterinarians to complete their higher education abroad. The MoH also trains field epidemiologists, while the MoAF trains veterinarians and para-veterinarians, using the FETP model. Ad hoc trainings are available for various professions or cadres through disease-specific programmes or targeted initiatives.

Indicators and scores

D.4.1 An up-to-date multi-sectoral workforce strategy is in place – Score 2

Strengths and best practices

- National plans for workforce development are in place, including the Timor-Leste Strategic Development Plan 2011–2030 and the National Health Sector Strategic Plan 2011–2030.
- Both the MoH and the MoAF have annual workplans, with the MoAF plan derived from an OIE gap analysis.
- The workforce is hired on contract, as part of the permanent civil service or under a special regime.
- Basic data on human resources for the health sector are available.

Areas that need strengthening and challenges

- Not all relevant public health sectors are included in the current workforce strategy.
- The MoH has yet to develop a workforce strategy.
- The capacity to analyse HR data requires strengthening.
- Frequent personnel changes in government and ministries undermine the efficiency of workforce development activities.

D.4.2 Human resources are available to effectively implement IHR – Score 2

Strengths and best practices

- HR are available in a range of disciplines at the national level.
- Appropriate HR are available at national level for epidemic preparedness and control.
- Data on all HR in national institutions of public administration are available.
- MoH workforce and capacity data are available down to the health post level.
- Regulations on HR deployed at the health facility and health post levels are available.

Areas that need strengthening and challenges

- Capacity building must be further strengthened through HR rotations in country and overseas.
- There is limited collaboration among health programmes to improve HR capacity.

D.4.3. In-service trainings are available – Score 2

Strengths and best practices

- Ad hoc trainings are available through disease-specific programmes or targeted initiatives.
- Two institutions provide in-service training: the Instituto Nacional de Saúde de Timor-Leste and the Instituto Nacional de Administração Publica for non-health training.
- Continuing professional education is available for all health workers.

Areas that need strengthening and challenges

- The in-service training plan for IHR-related areas should be developed and updated.
- Limited technical resources are available in-country.

D.4.4 FETP or other applied epidemiology training programme in place – Score 2

Strengths and best practices

- Field epidemiology training (short course) exists both in country and abroad.
- The MoH has trained 45 epidemiologists, while the MoAF has trained 63 para-veterinarians for limited field epidemiology.

Areas that need strengthening and challenges

- The FETP programme has been formalized and implemented.
- The number of field epidemiologists in the MoH should be increased.
- In-country technical resources are limited.

Recommendations for priority actions

- Expand existing strategies into a comprehensive workforce strategy for each sector, including initial training, government retention and career advancement.
- Implement and formalize to sustain the current FETP programme as part of a documented plan to increase the number of epidemiologists, and consider adding laboratory and veterinary components.
- Finalize the draft human resource workplan for the veterinary sector.
- Advocate for the capital development fund to offer more scholarships.

RESPOND

EMERGENCY PREPAREDNESS

INTRODUCTION

Emergency preparedness is defined as: "the knowledge and capacities and organizational systems developed by governments, response and recovery organizations, communities and individuals to effectively anticipate, respond to, and recover from the impacts of likely, imminent, emerging or current emergencies." A state of preparedness is the combination of planning, allocation of resources, training, exercising, and organizing to build, sustain and improve operational capabilities at national, intermediate and local or primary response levels based on strategic risk assessments. A strategic risk assessment identifies, analyses and evaluates the range of risks in a country and enables risks to be assigned a level of priority. Strategic risk assessments include analyses of potential hazards, exposures and vulnerabilities, identification and mapping of available resources, and analyses of capacities (routine and surge) at the national, intermediate and local or primary levels to manage the risks of outbreaks and other emergencies. Emergency preparedness applies to any hazard that may cause an emergency, including relevant biological, chemical, radiological and nuclear hazards, natural hazards, other technological hazards and societal hazards.

Target

(1) Existence of national strategic multi-hazard emergency risk assessments, risk profiles, and resource mapping; (2) Existence of multi-hazard emergency response plans; (3) Evidence, from after-action and other reviews, of effective and efficient multisectoral emergency response operations for outbreaks and other public health emergencies.

TIMOR-LESTE LEVEL OF CAPABILITIES

The government recognizes that disaster risk management is fundamental to the socioeconomic development of Timor-Leste and integrates disaster prevention into the country's planning.

Timor-Leste has demonstrated a level of emergency preparedness, particularly for natural disasters. It has a comprehensive national hazard assessment including mapping of resources for natural disasters, which was developed in 2012 and scheduled to be updated in 2019. Some risk assessments of communicable disease threats have also been conducted.

The National Disaster Risk Management Policy 2007-2012 covers many aspects of preparedness for natural hazards. It was released in 2008 and is currently under review. No multi-hazard, multisectoral emergency preparedness plan exists although some contingency plans include preparedness. A National Strategy on Disaster Risk Management for Health is planned.

Emergency response plans have been written but not for all hazards. A health cluster contingency plan (for natural disasters) has been drafted and contingency plans have been written for rabies, avian influenza, EVD, emerging infectious diseases, and for points of entry.

Health surveillance systems are operating and health RRTs are available at both the national and municipal levels. There is a disaster focal point in every municipality and coordination and communication systems at the national level and to the municipalities are established. All municipalities have a disaster district management centre including a warehouse with food and non-food essential items. Pharmaceuticals are not included.

There is no search and rescue capacity available for response, surge capacity is limited, and human resources capacity for preparedness and response could be improved. A budget is allocated every year to the Prime Minister's office for access during emergencies.

An authorized body, the Serviço Autónomo de Medicamentos e Equipamentos de Saúde, is used for procurement during an emergency. While there is no stockpile of medicines, a mechanism is in place, supported by international donors, to address medicine logistics during an emergency.

Public health preparedness and response simulation exercises are held in municipalities every year. Lack of knowledge of disasters at the community level limits community support for emergency preparedness.

Timor-Leste has made a good start on emergency preparedness. Further work is required to ensure risk assessments and resource mapping, preparedness plans and emergency response plans are developed for all hazards and relating to all sectors. Existing documents, particularly those focusing on natural hazards, should be adapted to ensure they cover all hazards and all sectors.

Indicators and scores

R.1.1 Strategic emergency risk assessments conducted and emergency resources identified and mapped – Score 1

Strengths and best practices

- A comprehensive national hazard assessment and mapping of natural disasters was conducted in 2012 and another is planned for 2019.
- A health surveillance system is in place.
- Coordination and communication at the national level and to the municipalities are in place.
- Mapping and risk analysis skills are present at the national level.

Areas that need strengthening and challenges

- Risk assessments have not been conducted on all hazards relevant to public health.
- Additional human resources and capacity are required on mapping techniques, risk analysis and risk communication.
- There is low awareness and knowledge of disasters, especially at the community level.
- There are inadequate equipment and facilities for emergency response and no national search and rescue is available.
- Greater political will and commitment are needed to improve emergency preparedness.

R.1.2 National multisectoral multi-hazard emergency preparedness measures, including emergency response plans, are developed, implemented and tested – Score 1

Strengths and best practices

- The National Disaster Risk Management Policy 2007–2012 was developed and is currently under revision, and a National Strategy on Disaster Risk Management for Health is planned.
- The MoH, in collaboration with WHO, has developed a health cluster contingency plan for natural disasters, which is expected to be integrated into the National Action Plan for Public Health Security after the JEE.
- There is a disaster district management centre in every municipality, each with a warehouse of food and non-food essential items.
- The MoAF has a National Rabies Contingency Plan and an SOP for rabies control and response. The MoH has contingency plans at PoE and for avian influenza, EVD and EIDs.
- Public health emergency preparedness and response simulation exercises are conducted at the municipal level for natural disaster preparedness.

Areas that need strengthening and challenges

- An emergency preparedness plan covering all hazards is needed.
- A national multisectoral emergency response plan is required for all public health hazards and a contingency plan should be finalized.
- Capacity to detect, assess, report and respond at local level should be increased.
- Coordination is needed among stakeholders.
- HR capacity and quantity are inadequate for emergency response.

Recommendations for priority actions

- Conduct and publish risk assessment and resource mapping for all public health hazards including natural, communicable disease, chemical, biological, radiation and food hazards; pre-position essential items for emergency/disaster response.
- Develop a comprehensive multisectoral multi-hazard preparedness plan.
- Ensure national multisectoral emergency response plans are developed for all public health hazards.
- Identify and document options for accessing surge capacity and conduct training and refresher training for rapid response teams in all the municipalities.

EMERGENCY RESPONSE OPERATIONS

INTRODUCTION

A public health emergency operations centre (EOC) is a central location for coordinating operational information and resources for strategic management of public health emergencies and emergency exercises. Emergency operations centres provide communication and information tools and services, and a management system during a response to an emergency or emergency exercise. They also provide other essential functions to support decision-making and implementation, coordination and collaboration.

Target

Countries will have a coordination mechanism, incident management systems, exercise management programmes and public health emergency operation centre (EOC) functioning according to minimum common standards; maintaining trained, functioning, multisectoral rapid response teams, and trained EOC staff capable of activating a coordinated emergency response within 120 minutes of the identification of an emergency.

TIMOR-LESTE LEVEL OF CAPABILITIES

Timor-Leste has various mechanisms for overseeing preparedness and coordinating responses to public health emergencies. Since 2015, the Ministry of the Interior has been responsible for disaster risk management in Timor-Leste. The MSS is responsible for coordinating the preparation and response to an emergency. The MSS has a National Disaster Management Directorate, responsible for providing disaster risk management coordination and technical support to the government and community in Timor-Leste.

Other emergency preparedness mechanisms include health cluster coordination group meetings, the Timor-Leste Humanitarian Country Team, collaboration between the government and the United Nations (UN), nongovernmental organizations (NGOs) and international organizations. This helps ensure sound coordination and communication on emergency preparedness, humanitarian and early recovery response. A disaster risk management network working group meets every three months at the national level.

The MoH has a command and coordination system that deals with medical emergencies such as natural, human-induced and communicable diseases emergencies. In the MoH, emergency and disaster risk management is led by the National Directorate of Hospital Services and Emergency, which collaborates with the National Directorate of Public Health. A National Committee for Outbreak Control is also available when required. Military and civil cooperation occurs during emergencies in Timor-Leste.

Timor-Leste has advanced plans to establish a functional health EOC, pending receiving legal authority, mandate and appropriate resourcing. Currently there is an informal coordination system with many of the functions of a public health EOC to support emergency responses. These will be formalized with systems, procedures and infrastructure in the new EOC, and will be supported by surge staff, training and exercises. The EOC will be appropriately located to allow collaboration and coordination across all directorates. Adequate resources will be important to ensure the function of an EOC is both effective and sustainable. Its establishment is currently being funded by WHO. A national disaster operations centre functions out of the MSS.

Regular emergency response exercises are carried out for different hazards at the national and municipal levels, including public health emergency preparedness and response simulations, natural disaster simulations and TTX. These include a simulation of the Indian Ocean Wave conducted every two years; a full simulation involving other sectors and representatives from the community conducted at a different location and for a different natural disaster every October on the International Day for Disaster Reduction; and a public health preparedness and response natural disaster simulation exercise held at municipal level every year.

Indicators and scores

R.2.1 Emergency Response Coordination – Score 2

Strengths and best practices

- The MoH has a command and coordination system that deals with natural, human-induced, and communicable diseases emergencies and pandemic influenza.
- A National Committee for Outbreak Control is available.
- Quarterly emergency health cluster coordination group meetings are held with the MoH, UN bodies, NGOs and the MSS.
- Military and civil cooperation has been implemented.

Areas that need strengthening and challenges

- The emergency coordination mechanism within the MoH and across ministries has not been clarified and formalized.
- Hospitals require assistance in developing hospital emergency plans.
- Changes in government structure and political issues make progress challenging.

R.2.2 Emergency Operations Centre Capacities, Procedures and Plans – Score 1

Strengths and best practices

- Timor-Leste is in the process of establishing a public health EOC.
- The MSS has a national disaster operation centre to coordinate natural disasters.

Areas that need strengthening and challenges

- Establishing the EOC still requires legal authority and mandate, as well as a budget allocation.
- EOC SOPs, structure and operations need to be developed once authority and budget are in place.
- Dedicated teams, including management capacity, are required at national and municipal levels to establish and sustain an EOC.
- No significant disaster has occurred in Timor-Leste, so an EOC is not considered a priority yet.

R.2.3 Emergency Exercise Management Programme – Score 2

Strengths and best practices

- A range of emergency response exercises is regularly carried out at all levels of government.
  - » Every two years, a simulation or TTX for Indian Ocean Wave is conducted. A TTX was held in 2018 and a full simulation in 2016, with the involvement of the community.
  - » Every October on the International Day for Disaster Reduction, a full simulation is conducted at a different location and for a different natural disaster, for example a strong wind at Aileu or a flash flood at Same. This simulation involves other sectors and representatives from the community.
  - » Every year, a public health preparedness and response simulation exercise is held at municipal level for natural disasters (10 municipalities have already conducted simulations, three of them in 2018–2019).

Areas that need strengthening and challenges

- Develop a national action plan for health security to guide strengthening of health security in Timor-Leste.
- An in-country budget is needed for the national action plan, which is currently fully supported by WHO.
- Human resource capacity is needed at the national level for emergency response.

Recommendations for priority actions

- Clarify, formalize and document the emergency response coordination mechanism within MoH and across ministries and for all hazards.
- Establish a functional and sustainable public health EOC.
- Develop a programme of exercises and after-action reviews across all hazards; include simulation exercises based on the scenario in the health cluster contingency plan.

LINKING PUBLIC HEALTH AND SECURITY AUTHORITIES

INTRODUCTION

Public health emergencies pose special challenges for law enforcement, whether the threat is manmade or naturally occurring. In a public health emergency, law enforcement will need to quickly coordinate its response with public health and medical officials.

Target

Country conducts a rapid, multi-sectoral response for any event of suspected or confirmed deliberate origin, including the capacity to link public health and law enforcement, and to provide timely international assistance.

TIMOR-LESTE LEVEL OF CAPABILITIES

The increasing flow of people, animals and goods in Timor-Leste has raised government awareness and preparation for the complex problems involved in protecting the country from international hazards and handling these emergencies in an integrated manner.

A contingency plan and SOPs support coordination between public health and security authorities at the PoE.

Timor-Leste has implemented military and civil cooperation for emergencies since 1999. However, no memorandum of understanding (MoU) exists with security authorities because it is the role of the Ministry of the Interior (MoI) to intervene in the event of a public security issue. Stakeholders for this core capacity include the armed forces, police, MoI, MoAF, MSS, MoH and donors and partners.

The security sector will be in charge of the response and will bring in the MoH as needed. Security consists of three 'layers': police intelligence, military intelligence and civilian intelligence.

Various trainings and simulations have been conducted with health and animal and security authorities around such issues as HIV, quarantine or rabies.

This core capacity is of low priority on the country's public health agenda. The overall risk of deliberate or accidental chemical, biological, radiological or nuclear (CBRN) hazard is considered very low.

No legislation, relationships, protocols, MoUs or other agreements exist between public health, animal health, radiological safety, chemical safety and security authorities to address all hazards.

Indicators and scores

R.3.1 Public health and security authorities (e.g. law enforcement, border control, customs) linked during a suspect or confirmed biological, chemical or radiological event – Score 1

Strengths and best practices

- National level cross-sector coordination exists within the administration and military-civilian cooperation in emergencies has been in place since 1999.
- In the animal and agricultural sectors, contingency plans have been set up at national and municipal levels.
- Several existing guidelines can be applied to security events such as EVD contingency plan, animal health contingency for avian influenza, rabies and natural disasters.
- Several simulations and training on public health emergencies countermeasures have taken place on HIV, rabies and natural disasters.

Areas that need strengthening and challenges

- Risk assessments are needed on a range of issues including potential toxic release of chemicals, deliberate or accidental release of chemical or biological agents from neighbouring countries, international nuclear risks and capacity of health-care facilities to deal with exposed individuals.
- Collaboration with other countries should be strengthened and CBRN training of civilian security staff in nearby countries promoted.
- Points of contact in the MoH for security events should be identified, their roles and responsibilities clarified and connections ensured with international counterparts such as Interpol for police or FAO for agriculture.
- The security of electronic information flows, especially through domain-controlled email platforms, should be strengthened.
- Policy, guidelines and SOPs that link public health and security during suspected or confirmed biological, chemical and radiological events should be developed.
- Capacity should be built through training and simulation exercises.
- Awareness of IHR-related hazards should be increased in the security sector and among policy-makers.

Recommendations for priority actions

- Identify and share points of contact with clear roles and responsibilities in each IHR risk area, as well as points of contact in the security sector.
- Conduct national risk assessment and identify potential risks.
- Conduct scenario-based dry run or TTX for the priority risks among the PoCs from stakeholders.
- Establish a secure communication mechanism e.g. domain-controlled email system.

MEDICAL COUNTERMEASURES AND PERSONNEL DEPLOYMENT

INTRODUCTION

Medical countermeasures are vital to national security and protect nations from potentially catastrophic infectious disease threats. Investments in medical countermeasures create opportunities to improve overall public health. In addition, it is important to have trained personnel who can be deployed in case of a public health emergency for response. Regional (international) collaboration will assist countries in overcoming the legal, logistical and regulatory challenges to deployment of public health and medical personnel from one country to another. Case management procedures should be available to all staff, and implemented across the system during health emergencies due to IHR related hazards.

Target

National framework for transferring (sending and receiving) medical countermeasures, and public health and medical personnel from international partners during public health emergencies and procedures for case management of events due to IHR related hazards.

TIMOR-LESTE LEVEL OF CAPABILITIES

Geographically, Timor-Leste is exposed to several types of natural hazard, including frequent events such as strong tropical windstorms, heavy rain, drought and landslides as well as rarer events such as earthquakes and tsunamis. The country has received and provided international humanitarian support and funds in the past.

The country has experienced several major dengue and dengue haemorrhagic fever outbreaks, some of which have required international assistance.

Agencies such as the UN Office for the Coordination of Humanitarian Affairs (OCHA) have conducted TTX on disaster management and recommended that Timor-Leste develop systems and regulations for medical countermeasures.

MoUs, regulations or guidelines with donors or partners are available for receiving medical countermeasures, provided that all information on medicines is translated into English. Timor-Leste also follows international guidelines.

Government regulations and guidelines exist to oversee humanitarian activities of foreign aid medical personnel in Timor-Leste. These personnel must have the appropriate certification and be registered professionals. They must be escorted by police and assisted by a local medical team.

The MoI has a risk management plan for natural disasters, with an associated reference handbook published in 2016. However, no plans exist for public health emergencies other than natural disasters such as infectious, chemical and radio-nuclear events.

Indicators and scores

R.4.1 System in place for activating and coordinating medical countermeasures during a public health emergency – Score 1

Strengths and best practices

- An MoU and guidelines with donors and partners for medical countermeasures are available and can be used provided all information on medicines is in English.
- General procedures for receiving international medical countermeasures are in place and the country has had experience with these in the past.
- Food and non-food stocks and pharmaceutical items are available at national and municipal levels.
- Medical camp kits are available and health professionals at national and municipal levels have been trained in their use.
- Interagency emergency health kits from WHO have been distributed to CHCs.

Areas that need strengthening and challenges

- There is currently no national drug regulatory authority system for emergency use authorization, monitoring and evaluation of medical countermeasures that are not licensed in the country.
- There is a lack of equipment for disaster response.
- There is currently no supply chain management for medicines and medical equipment in case of a public health emergency.
- Greater capacity should be built to manage logistics during an emergency.
- There is low awareness and understanding of disaster risks and insufficient disaster education and information to communities.

R.4.2 System in place for activating and coordinating health personnel during a public health emergency – Score 1

Strengths and best practices

- Government regulation for foreign medical personnel to conduct humanitarian activities in Timor-Leste is in place.
- The MoH is developing national emergency medical teams and a system for receiving and sending personnel countermeasures that includes the emergency medical teams.
- There is extensive sharing of skills and knowledge by foreign medical humanitarian teams.

Areas that need strengthening and challenges

- An emergency medical team aligned to global standards should be established and include personnel registration, certification and deployment.
- A health personnel database is needed for mobilization and deployment in case of emergency or outbreak.
- At present, no regulations govern institutions receiving personnel or personnel deployed during emergency.
- Due to their regular duties, health personnel can only rotate for short periods of time so there is frequent and irregular turnover.

R.4.3 Case management procedures implemented for IHR relevant hazards – Score 2

Strengths and best practices

- Every municipality has ambulance services.
- There is an emergency 110 hotline number but it is only available at national level.
- SOPs for ambulances are available.
- National and municipal ambulance staff, local NGOs and related institutions such as firefighters, police and military have been trained in basic and advanced life support.
- A simulation course on Major Incident Medical Management and Support (MIMMS) has been held with the Australia National Critical Care and Trauma Response Centre.

Areas that need strengthening and challenges

- Ambulance services should be established in every municipality with the same 110 hotline number.
- Case management guidelines for IHR-related hazards should be developed and implemented.
- The capacity of health workers in IHR-related hazard and disaster management should be improved.
- There is no ambulance for infectious disease nor is there trained personnel to deal with transportation in these cases.

Recommendations for priority actions

- Draft a national plan for sending and receiving medical countermeasures during public health emergencies, including threshold and authority for activation, customs clearance and logistics.
- Establish national and local Emergency Medical Team referring to global standard.
- Prepare the national medicines regulatory authority for rapid emergency use authorization of medicines not yet approved in the country.

RISK COMMUNICATION

INTRODUCTION

Risk communications should be a multilevel and multifaceted process which aims at helping stakeholders define risks, identify hazards, assess vulnerabilities and promote community resilience, thereby promoting the capacity to cope with an unfolding public health emergency. An essential part of risk communication is the dissemination of information to the public about health risks and events, such as disease outbreaks. For any communication about risk caused by a specific event to be effective, the social, religious, cultural, political and economic aspects associated with the event should be taken into account, including the voice of the affected population.

Target

State Parties use multi-level and multifaceted risk communication capacity. Real-time exchange of information, advice and opinions between experts and officials or people who face a threat or hazard (health or economic or social wellbeing) to their survival, so that informed decisions can be made to mitigate the effects of the threat or hazard and protective and preventive action can be taken. This includes a mix of communication and engagement strategies, such as media and social media communications, mass awareness campaigns, health promotion, social mobilization, stakeholder engagement and community engagement.

TIMOR-LESTE LEVEL OF CAPABILITIES

A formal mechanism exists among ministries for coordination and communication. Each ministry has its own media spokesperson, usually a high-ranking official.

The MoH has two main departments for communication: the Health Promotion Division (under the National Directorate of Public Health) and the Public Relations Division (under the National Directorate of Administration and Logistics). Both departments use a variety of popular media.

Timor-Leste has a national television (TVTL) and radio (RTL) network, which reaches village levels, while print media is only available at district level. There is wide internet access, and social media such as Facebook and WhatsApp are popular with the younger generation. Additional communication methods include below-the-line materials (posters, brochures, leaflets) and direct public announcements (to churches or mosques or via mobile unit). Proactive public outreach is locally adapted, using relevant local and national languages and appropriate technology, such as mobile phones. Community consultation mechanisms such as a hotline and surveys are in place.

So far, 13 people have been trained in risk communication at municipal level and the MoH organized a media awareness workshop for dengue and EVD. In the event of an outbreak, the MoH will issue press releases and organize interviews to avoid the spread of rumours in the community and encourage the dissemination of accurate information. Communication toolkits have been prepared and tested and are ready for use in case of an outbreak.

To manage rumours efficiently, community leaders must be involved from the beginning of an event. Informal community leaders, traditional healers and volunteer networks are already actively engaged at the 'suco' or village level. Stakeholder mapping has taken place at district and municipal levels and a decentralized system (including financial and human resources) is in place for community engagement and involves community and religious leaders, community-based organizations and other decentralized teams. While ad hoc systems for gathering information about perceptions, risk behaviours and misinformation are in place, they are not systematically used to guide the response.

The MSS and MoI are the lead sectors in disaster management and provide rapid and regularly updated information through their websites.

A national multi-hazard, multisectoral emergency risk communication plan (reviewed within the past 24 months) is in place with a dedicated core team responsible for this area of work.

However, there are significant gaps in capacity in human resources, communication platforms and resources to deal with a large-scale emergency. Additionally, there is limited partner and stakeholder involvement in communication coordination, especially among health-care workers, civil society organizations, the private sector and other non-state actors.

Indicators and scores

R.5.1 Risk communication systems for unusual/unexpected events and emergencies – Score 2

Strengths and best practices

- An MoH communication plan is available and reviewed annually, although not specific to emergency and risk communication.
- The MoH has a general communication budget that can be used for emergencies.
- Every ministry has a public relations unit and a communication group.
- The MSS has a National Emergency Response Plan with a contingency plan that includes risk communication for disasters

Areas that need strengthening and challenges

- Spokespersons should be trained regularly.
- A risk communication plan or guideline should be developed.
- Communication skills should be improved at national and local levels.
- Budget constraints exist.
- There is frequent staff rotation at national and local levels.

R.5.2 Internal and partner coordination for emergency risk communication – Score 3

Strengths and best practices

- In 2018, the MoH started coordination meetings with partners and NGOs to compile a programme communication plan.
- Cost-sharing takes places with partners and media.
- Partners always consult with the MoH on messages for both regular promotion and in emergencies.
- The health cluster emergency coordination group meets regularly to share information, update on developments and report on progress. This is organized by the MoH Department of Medical Emergencies with assistance from WHO.

Areas that need strengthening and challenges

- Partner coordination should be strengthened by maintaining coordination meetings and developing a risk communication plan.
- Lack of experience in emergencies has resulted in low awareness.

R.5.3 Public communication for emergencies – Score 3

Strengths and best practices

- All messages are tested with the target audience before they are made public and are produced in the national languages of Tetun and Portuguese.
- The communication plan includes a mix of media to reach wide audiences, including churches and mosques. It also includes a mobile unit.
- Relations are good with the media.
- A government spokesperson is trained when needed in every ministry and agency.
- The media group holds regular technical meetings in the MoH.
- Media training is provided at the local level.
- The MoH provides transportation for journalists to cover events.

Areas that need strengthening and challenges

- Refresher knowledge and training is needed on how to use new/social media for health promotion.
- Support is needed to maintain the MoH Facebook page and website.
- There is insufficient commitment in the media to write about health.
- There are not enough journalists for adequate news coverage.

R.5.4 Communication engagement with affected communities – Score 3

Strengths and best practices

- Training in behaviour change communication is provided to health officers at local level, hospitals or CHCs based on programme needs.
- Local leaders and communities in at-risk villages receive regular health promotion and education.
- A rapid response team is available across sectors to respond to certain diseases.
- Cadres, or local leaders, are available at village level at the CHC or health post. Municipalities are responsible for their training.
- The Ministry of Social Affairs (MoSA) manages community engagement at village level (volunteers, social mobilization, youth disaster preparedness and quick response, health promotion).
- Rapid response was deployed in the case of dengue by a multisectoral team (which included the dengue programme, environmental health and health promotion) to visit affected homes and areas.

Areas that need strengthening and challenges

- The MoSA should increase the number of local leaders available for disaster preparedness.
- Budget constraints exist.
- Trained personnel do not implement behaviour change communication in the field.

R.5.5 Addressing perceptions, risky behaviours and misinformation – Score 2

Strengths and best practices

- Rapid response helps counter misinformation and rumours in the media, usually within two days.
- The MoH undertakes media monitoring.
- Although there is no hotline, communities still report rumours to the MoH through their own network, which then channels these to the relevant programme.
- The MoH has a health show on national radio (free of charge) that can be used to counter rumours.

Areas that need strengthening and challenges

- SOPs are needed to address rumours.
- Media monitoring, rumour analysis and reporting need improvement.
- Media should be monitored before and after rumours management.
- Accelerate reporting on rumours, delayed due to lack of a hotline.
- Find ways to counter the fact that negative news spread faster than positive news.

Recommendations for priority actions

- Develop risk communication guidelines in the health sector and align them with the national health emergency communication plan/strategy.
- Conduct media awareness workshops and other interventions to strengthen risk communication capacity in the country.

IHR-RELATED HAZARDS AND POINTS OF ENTRY

POINTS OF ENTRY

INTRODUCTION

All core capacities and potential hazards apply to "points of entry" and thus enable the effective application of health measures to prevent international spread of diseases. States Parties are required to maintain core capacities at designated international airports and ports (and where justified for public health reasons, a State Party may designate ground crossings), which will implement specific public health measures required to manage a variety of public health risks.

Target

States Parties designate and maintain core capacities at international airports and ports (and where justified for public health reasons, a State Party may designate ground crossings) that implement specific public health measures required to manage a variety of public health risks.

TIMOR-LESTE LEVEL OF CAPABILITIES

Timor-Leste has a total of 12 points of entry: three airports, three seaports and six ground crossings. Of these 12, Timor-Leste has five designated PoE: one airport (Dili), one seaport (Dili) and three ground crossings (Batugade, Salele and Sakato). There are plans to add five designated PoE over the next five years: two airports, two seaports and one ground crossing.

While most people enter through the airport, the ground crossing border is porous and maintaining IHR core capacities there is a major challenge.

There are five Port Health Offices to handle the 12 PoE.

The Communicable Disease Control Department, through the Port Health Office, is responsible for health inspection of conveyances, travellers and goods at PoE. It is authorized to check ship sanitation and issue free pratique licences to vessels, but is not yet authorized to issue ship sanitation certificates.

Indicators and scores

PoE.1 Routine capacities established at points of entry – Score 2

Strengths and best practices

- The country has adequate regulations, effective communication and coordination among stakeholders to prevent, detect and respond to a PHEIC at the PoE.
- A guideline and SOP for health quarantine and port health management at the PoE was launched in 2017 and is implemented at designated airport, seaport and ground crossings.

- Referral hospitals are available for ill travellers (in municipalities close to designated PoE).
- Routine vector and rodent inspections (a responsibility shared with the quarantine department for plants, animals and fisheries) take place at the designated PoE.
- Airline crews have an obligation to report any deaths or illness immediately to air traffic control via the Health Part of the Aircraft General Declaration (HP-AGD). Maritime crews must similarly report to navigation control via the Maritime Declaration of Health (MDH).
- Monitoring possible contamination by CBRN in goods and human remains is coordinated with relevant parties.

Areas that need strengthening and challenges

- Trained personnel for ship sanitation inspections is still inadequate, with a single trained inspector at one designated seaport. Timor-Leste plans to recruit and train four ship sanitation officers within the next five years.
- Facilities should be improved to allow prompt assessment and care of ill travellers, including vehicles or ambulances and quarantine rooms at all designated PoE.
- More trained personnel are needed for routine inspection for vector and rodent, water and air quality.
- There are budget constraints due to political factors.
- Transportation and travel are expanding rapidly.
- Designated and non-designated PoE are understaffed.

PoE.2 Effective public health response at points of entry – Score 2

Strengths and best practices

- A public health emergency contingency plan is available for designated PoEs (airport, seaport and ground crossings).
- A TTX of the contingency plan has been conducted at Dili's airport.
- In the event of a PHEIC outside the country, the MoH will issue a circular letter and initiate meetings with relevant sectors to increase awareness and preparedness in PoEs.
- Case management for AI and EVD is available.

Areas that need strengthening and challenges

- PHEIC response exercises (simulation or TTX) should be conducted regularly at all designated PoEs based on updated SOPs.
- The contingency plan should be expanded to all non-designated PoEs.
- Enhanced skills are needed to implement IHR core capacities to prevent, detect and respond to PHEIC at all PoEs.
- Port authorities should provide adequate health facilities, such as a quarantine room.
- PoE should be prioritized in the National Health Strategic Plan 2011–2030.

Recommendations for priority actions

- Develop all routine core capacities (medical care for ill travellers, conveyances inspection, environmental sanitation and vector control) at designated points of entry as prescribed in the IHR Annex.
- Develop local public health emergency contingency plans at designated points of entry consistent with the national point of entry contingency plan and incorporated into the National Emergency Response Plan, and conduct regular simulation exercises.
- Develop procedures to coordinate public health activities with animal and food sectors at points of entry.

CHEMICAL EVENTS

INTRODUCTION

Timely detection and effective response of potential chemical risks and/or events requires collaboration with other sectors responsible for chemical safety, industries, transportation and safe disposal. This would entail that State Parties need to have surveillance and response capacity to manage chemical risk or events and effective communication and collaboration among the sectors responsible for chemical safety.

Target

States Parties with surveillance and response capacity for chemical risks or events. This requires effective communication and collaboration among the sectors responsible for chemical safety, industries, transportation and safe disposal, animal health and the environment.

TIMOR-LESTE LEVEL OF CAPABILITIES

Timor-Leste is a primarily agrarian society with no significant large industry and no large-scale chemical facilities. There is significant crude oil drilling and shipping but no processing, but automobile use creates some petro-chemical burden. Moderate manufacturing involves mainly cement. The extent of chemical use in boutique (cottage) industries is unknown, but soap manufacturing and fabric dying are two typical sources of low-level chemical waste.

The perception of the country as being non-industrialized creates a low priority on chemical risk assessment and intervention. As a result, Timor-Leste does not have a dedicated agency for dealing with chemicals and there are no regulations for chemical management or to address a chemical event. Timor-Leste has no dedicated institutions for chemical production; all chemicals are imported. Therefore there is very limited capacity and experience in dealing with chemicals and chemical emergencies. Consistent with the low risk assessment, there have been no chemical events registered or reported.

The perceived lack of risk creates an immediate challenge as public awareness and political will must be heightened to understand that even localized conditions of low-level chemical contamination, such as high lead and mercury levels, can create significant avoidable health effects. Effective chemical event management must start with a firm understanding of the current and potential sources of dangerous chemicals in Timor-Leste.

Indicators and scores

CE.1 Mechanisms established and functioning for detecting and responding to chemical events or emergencies – Score 1

Strengths and best practices

- Scarce government resources are currently appropriately focused on higher risk health concerns.

Areas that need strengthening and challenges

- Mechanisms and processes for detecting and responding to chemical events are not in place.
- Guidelines and references to document and support the detection and response mechanisms have not been created.

CE.2 Enabling environment in place for management of chemical events – Score 1

Strengths and best practices

- There has been no rush to prematurely adopt policies that are not tailored to Timor-Leste.

Areas that need strengthening and challenges

- No institution dedicated to chemical event and emergency response exists.
- Public awareness and political will are inadequate to support investment in chemical oversight.
- No policies or plans for chemical event and emergency response have been developed

Recommendations for priority actions

- Conduct and publish a risk assessment detailing chemical inventories and a situation analysis of the current state of chemical event response and the associated gaps in preparedness.
- Develop appropriate policy and legislation on chemical event surveillance, alert processes and response.
- Create or identify, fund and staff a government institution responsible for developing the national policies and mechanisms for managing chemical events, and increasing political will and public awareness of chemical risks.

RADIATION EMERGENCIES

INTRODUCTION

To counter radiological and nuclear emergencies, timely detection and an effective response towards potential radiological and nuclear hazards/events/emergencies are required in collaboration with sectors responsible for radiation emergency management.

Target

States Parties should have surveillance and response capacity for radiological emergencies and nuclear accidents. This requires effective coordination among all sectors involved in radiation emergencies preparedness and response.

TIMOR-LESTE LEVEL OF CAPABILITIES

Timor-Leste is a primarily agrarian society with no significant large industry and no complex health-care delivery such as radiotherapy. The country has no radiation devices (except X-ray machines in hospitals). Radiotherapy and nuclear medicine are not currently available. Additionally, there are no nuclear reactors or other commercial or research devices using radioisotopes for non-medical purposes.

The lack of radiation sources in the country places a low priority on radiation risk assessment and intervention. As a result, Timor-Leste does not have a dedicated agency for dealing with radiation and there are no regulations for radiation management or to address a radiation event. There is no capacity and experience in dealing with radiation and radiation emergencies. However, current government plans are to open an oncology programme, which creates a potential to move into radiotherapy delivery in the future. It is not improbable that at some point medical radioisotopes will be in use in some medical field, bringing with them a small but definite risk of a radiation event. This overlays other risks, such as environmental sources, unintended importation of contaminated objects or radioactive risks on visiting ships.

The current lack of risk creates an immediate challenge as public awareness and political will may need to be heightened if the government is to initiate some minimal preparedness planning for a future anticipated event or even an unexpected event, such as one involving materials on a docked freighter or other materials in transit.

Indicators and scores

RE.1 Mechanisms established and functioning for detecting and responding to radiological and nuclear emergencies – Score 1

Strengths and best practices

- There are currently no concentrated radiation sources in the country, no programmes and therefore no strengths.

Areas that need strengthening and challenges

- There is no regulation to address radiation management and radiation emergencies.
- No policies or plans for possible radiation events and emergency response have been developed.
- Public awareness and political will may be inadequate to support investment in radiation oversight.

RE.2 Enabling environment in place for management of radiation emergencies – Score 1

Strengths and best practices

- There are currently no concentrated radiation sources in-country, no programmes and therefore no strengths.

Areas that need strengthening and challenges

- There is no dedicated or identified institution or department for radiation event management or monitoring.
- A coordination and communication mechanism has not been prepared in the case of future radiation events.

Recommendations for priority actions

- Conduct and publish a risk assessment of potential events and a situation analysis of the current state of radiation event response and associated gaps in preparedness.
- Develop appropriate policy and legislation on radiation event surveillance, alert processes and response.
- Create or identify a government institution responsible for developing the national policies and mechanisms for managing radiation events, and for increasing political will and public awareness of radiation risks.

APPENDIX 1: JEE BACKGROUND

Mission place and dates

Dili, Democratic Republic of Timor-Leste, 19-23 November 2018

Mission team members:

1. Ms Rhonda Owen, Australia, Department of Health (team lead)
2. Dr Daniel Duvall, USA, CDC Global Health Protection (Global Health Security) program in Nigeria (co-lead)
3. Dr Gary David Lum, Australia, Department of Health (team member)
4. Dr Sithar Dorjee, Bhutan, Khesar Gyalpo University of Medical Science of Bhutan (team member)
5. Dr Sampath Krishnan, India, Independent consultant in Public Health (team member)
6. Dr Jim McGrane, Ireland, FAO Emergency Centre for Transboundary Animal Diseases in Indonesia (team member)
7. Dr Nahoko Shindo, WHO Department of Infectious Hazard Management, Geneva (team member)
8. Dr Bibek Kumar Lal, Nepal, Epidemiology and Disease Control Division, Ministry of Health and Population, Government of Nepal (team member)
9. Dr Gyanendra Gongal, WHO Regional Office for South East Asia, New Delhi (team member)
10. Dr Palitha Karunapema, Sri Lanka, Ministry of Health, Government of Sri Lanka (team member)
11. Dr Margherita Ghiselli, USA, Polio Nigeria team (team member)
12. Ms Leyla Alyanak, Switzerland, Report writer

WHO Team in Timor-Leste:

1. Dr Rajesh Pandav, WHO Representative to Timor-Leste
2. Dr Dongbao Yu, IHR and Communicable Diseases, WHO Country Office, Timor-Leste
3. Dr Maung Maung Htike, WHO Regional Office for South East Asia, New Delhi
4. Mr Miguel Guterres, WHO Country Office, Timor-Leste
5. Dr Rui Maria de Araujo, former health minister and prime minister, WHO Consultant
6. Dr Antonino do Karmo, former Director General of Veterinary Services, WHO Consultant

Objective

To assess Timor-Leste's capacities and capabilities relevant to the 19 technical areas of the JEE tool for providing baseline data to support Timor-Leste's efforts to reform and improve their public health security.

The JEE process

The JEE process is a peer-to-peer review. The entire external evaluation, including discussions around the priority actions, the strengths, the areas that need strengthening, best practices, challenges and the scores are collaborative, with JEE team members and host country experts seeking full agreement on all aspects of the final report findings and recommendations.

Should there be significant and irreconcilable disagreement between the external team members and the host country experts, or among the external experts, or among the host country experts, the JEE team lead will decide the outcome; this will be noted in the final report along with the justification for each party's position.

Limitations and assumptions

- The evaluation was limited to one week, which limited the amount and depth of information that could be managed.
- It is assumed that the results of this evaluation will be publically available.
- It was not easy to communicate and interact in a country where different languages are used for communication such as Tetun, Portuguese, English and Bahasa Indonesia. Translation of official documents was a challenge.
- The evaluation is not just an audit. Information provided by Timor-Leste will not be independently verified but will be discussed and the evaluation rating mutually agreed to by the host country and the evaluation team. This is a peer-to-peer review.

Key host country participants and institutions

1. His Excellency Mr Bonifacio Maukoli dos Reis, Vice Minister of Health, Timor-Leste
2. Dr Odete Da Silva Viegas, General Director of Health Services, Ministry of Health, Timor-Leste
3. Dr Domingos Gusmao, General Director of Livestock and Veterinary, Ministry of Agriculture and Fisheries, Timor-Leste
4. Dr Merita Monteiro, National IHR Focal Point, Communicable Disease Department, Ministry of Health, Timor-Leste
5. Dr Custodia B.F, Emergency and Management Response Programme, Ministry of Health, Timor-Leste
6. Mrs Agostinha Amaral, Ministry of Health, Timor-Leste
7. Dr Simplício Amaral, Department of Ambulance Services, Ministry of Health, Timor-Leste
8. Dr Aniceto, Executive Director, HNGV, Ministry of Health, Timor-Leste
9. Mr Ismail Barreto, Executive Director, National Laboratory, Ministry of Health, Timor-Leste
10. Dr Odete Pinto, Executive Director, Autonomous Health Services for Medicines and Equipment (SAMES), Ministry of Health, Timor-Leste
11. Mrs Agostinha da C.S.S., Director, Health Services of Dili Municipality
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14. Mrs Maria Angela Varela Niha, Head of Surveillance Department, Ministry of Health, Timor-Leste
15. Mrs Jasinta dos Santos Guterres, Surveillance Department, Ministry of Health, Timor-Leste
16. Mr Francisco Viana, Surveillance Department, Ministry of Health, Timor-Leste
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18. Mr José Moniz, Head of Environmental Health Department, Ministry of Health, Timor-Leste
19. Mrs Justina Pinto, Environmental Health Department, Ministry of Health, Timor-Leste
20. Mrs Misliza Vital, Head of Health Promotion Department, Ministry of Health, Timor-Leste
21. Mrs Agusta Lopes, Health Promotion Department, Ministry of Health, Timor-Leste
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23. Dr José Felix, Maternal and Child Health Department, Ministry of Health, Timor-Leste
24. Mr Raul Sarmento, Communication Department, Ministry of Health, Timor-Leste

25. Mrs Ofelia MO do Carmo, Point of Entry, IHR Unit, Ministry of Health, Timor-Leste
26. Mr Constantino Ferreira, President of APORTIL (Seaport Authority), Timor-Leste
27. Mr Mario Gomes de Jesus, ANATL.EP (Airport Authority), Timor-Leste
28. Mrs Adelaide, National Director of Immigration Services, Ministry of Interior, Timor-Leste
29. Mr Ernesto Maia, Immigration Point of Entry, Ministry of Interior, Timor-Leste
30. Mr Mario Francisco Amaral, National Director of Quarantine and Biosecurity, Ministry of Agriculture and Fisheries, Timor-Leste
31. Mr Feliciano da Conceição, National Director of Veterinary Services, Timor-Leste
32. Mr Valente A., National Director of Customs, Timor-Leste
33. Mr Ângelo E. Belo, Director of Inspection and Supervision Authority of Economic, Health and Food Activities (AIFAESA), Timor-Leste

Supporting documentation provided by host country

NATIONAL LEGISLATION, POLICY AND FINANCING

- National Strategic Development Plan 2011–2030
- National Health Sector Strategy Plan 2011–2030
- OIE Performance of Veterinary Services (PVS) Evaluation Report Timor-Leste August 2011
- OIE Performance of Veterinary Services (PVS) Gap Analysis Report Timor-Leste September 2014
- OIE diseases list
- Decree Law no. 1/2006 20 Sept – General Regulation on Quarantine
- Decree Law no. 21/2003 on Quarantine and Sanitary Control on Goods Imported and Exported
- Health financing country profile 2017
- National Action Plan on Antimicrobial Resistance 2017–2020
- Government Decree Law 2005 on Epidemiological Surveillance System
- Law of Health System no. 10/2004 24 Nov Health policy
- Decree Law No. 26/2016 to establish Inspection Authority for Food, Health and Economic Activities (AIFAESA)
- Decree Law no. 14/2004 01 Sept. Practice of Health Professions – requirements of professionals on public and individual health both in public and private sectors
- Decree Law no. 2/2005 31 May Institute of Health Sciences
- Decree Law no. 1/2005 31 May Statutes for Hospitals
- Decree Law no. 18/2004 1 Dec Private Health Units
- Decree Law no. 34/2008 27 Aug Regime for selection processes for recruitment, appointment and promotion of staff in the Civil Service
- National Disaster Risk Management Plan – Oct 2005
- TLS disaster management reference handbook, 2016

IHR COORDINATION, COMMUNICATION AND ADVOCACY

- MoH Decree to appoint National IHR Focal Point
- IHR legislation (draft awaiting approval)
- National contingency plans for EVD, avian influenza

ANTIMICROBIAL RESISTANCE

- Timor-Leste One Health Strategic Framework
- Action Plan for Timor-Leste One Health Strategic Framework 2018–2022
- National Action Plan on Antimicrobial Resistance: Timor-Leste 2017–2020
- FAO-OIE-WHO Global Monitoring of Country Progress on Antimicrobial Resistance (AMR): Country (Timor-Leste) self-assessment questionnaire Version 2, 9 October 2017
- RUSTLE: Resistance to Urine and Skin Isolates in Timor-Leste (RUSTLE) FINAL REPORT – 26th June 2017
- Antibiotic Guidelines Hospital Nacional Guido Valadares
- OIE Performance of Veterinary Services (PVS) Evaluation Report Timor-Leste August 2011
- OIE Performance of Veterinary Services (PVS) Gap Analysis Report Timor-Leste September 2014

ZOONOTIC DISEASES

- Decree Law no. 21/2003 on Quarantine and Sanitary Control on Goods Imported and Exported
- Decree Law no. 1/2006 20 Sept – General Regulation on Quarantine
- Decree Law on Animal Health – recommendations May 2017
- Timor-Leste One Health Strategic Framework
- Action Plan for Timor-Leste One Health Strategic Framework 2018–2022
- OIE Performance of Veterinary Services (PVS) Evaluation Report Timor-Leste August 2011
- OIE Performance of Veterinary Services (PVS) Gap Analysis Report Timor-Leste September 2014

FOOD SAFETY

- Decree Law on Authority for Sanitation Surveillance 2005
- Decree Law no. 26/2016 to establish Inspection Authority for Food, Health and Economic Activities (AIFAESA)
- Decree Law no. 23/2009 5 August Regime of Administrative Infractions against Economy and Food Safety
- Decree Law no. 5/2009 15 January Regulation of Licensing, Commercialization and Quality of Drinking Water
- Decree Law no. 28/2011 20 July Regulation of Industry and Commercialization of Foodstuffs
- Environmental Health Strategy 2015
- National Food Safety Strategy 2018–2022
- 5-Key Food Safety Guidelines 2009
- Food Safety Monitoring Guideline 2005
- WHO Evaluation of Foodborne Disease Surveillance Report – 2018
- SOPs for Food Inspectors (AIFAESA)

BIOSAFETY AND BIOSECURITY

- During the site visits, It was not possible to verify by sight complete versions of a laboratory quality manual, biosafety manual, or biosecurity manual. Some external quality assurance results were sighted, however, there was not a cohesive filing and archiving of quality assurance material. Back up of results was also not documented.

IMMUNIZATION

- National Strategic Development Plan 2011–2030
- National Health Sector Development Plan 2011–2030
- SEAR EPI Strategy
- EPI policy
- Cold chain policy
- Technical guidelines and relevant SOPs
- Certification of polio eradication, measles elimination and rubella control

NATIONAL LABORATORY SYSTEM

- Technical guidelines and relevant SOPs

SURVEILLANCE

- Integrated Disease Surveillance and Response (IDSR) Guidelines
- Epidemiological Bulletin (8 volumes since January 2018)
- Weekly surveillance forms
- Monthly surveillance forms
- MOAF Regulations

REPORTING

- Integrated diseases surveillance and response protocol
- MOH Decree to appoint National IHR Focal Point
- Ratification of the OIE membership in Government gazette

HUMAN RESOURCES

- National Health Sector Strategy Plan 2011–2030
- Workforce development strategic review 2014–2018
- OIE Performance of Veterinary Services (PVS) Evaluation Report Timor-Leste August 2011
- OIE Performance of Veterinary Services (PVS) Gap Analysis Report Timor-Leste September 2014
- Regulation for human resources at CHC and health post

EMERGENCY PREPAREDNESS

- Timor-Leste Disaster Risk Management (DRM) regulation
- MOAF National Rabies Contingency Plan and SOPs
- MOH Contingency Plan at PoE
- Health Sector Contingency Plan (draft)
- Comprehensive national hazard assessment and mapping report
- Timor-Leste Humanitarian Country Team (HCT): Reports and other documents

EMERGENCY RESPONSE

- National Disaster Risk Management Policy 2007–2012

LINKING PUBLIC HEALTH AND SECURITY AUTHORITIES

- National disaster management plan
- TLS disaster management reference handbook
- TLS-AI Preparedness Plan_final draft18Nov05

MEDICAL COUNTERMEASURES AND PERSONNEL DEPLOYMENT

- National disaster management plan
- TLS disaster management reference handbook
- National Preparedness Plan Rabies TL V1.2 maV5
- Decree-Law-2004-14_Practice of health profession
- Decree-Law-2004-12_pharmacy

POINTS OF ENTRY

- Decree Law no. 10/2004 on health system
- Decree Law no. 5/2003 on Organic Structure of Ministry of Health
- Decree Law no. 3/2003 on the Establishment of the Port Authority and on the Approval of the by law
- Decree Law no. 21/2003 on Quarantine and Sanitary Control on Goods Imported and Exported
- Decree Law no. 14/2005 on authority of food safety
- Decree Law no. 9/200 on authority of epidemiology surveillance
- SOPs for PoE

World Health Organization

JOINT EXTERNAL EVALUATION
OF IHR CORE CAPACITIES
of the

DEMOCRATIC REPUBLIC OF TIMOR-LESTE

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