Joint external evaluation of the International Health Regulations (2005) core capacities of

Sri Lanka

Mission report:
4–8 September 2023

World Health Organization

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Abbreviations

AAPs	annual action plans
AMR	antimicrobial resistance
AMSP	antimicrobial stewardship programme
CBRN	chemical, biological, radiological, and nuclear
DAPH	Department of Animal Production and Health
DGHS	Director General of Health Services
DHQS	Directorate of Healthcare Quality and Safety
DPRD	Disaster Preparedness and Response Division
EHS	essential health services
EMP	emergency management plan
EQA	external quality assessment
FAO	Food and Agriculture Organization of the United Nations
FMD	foot and mouth disease
HCAI	healthcare-associated infection
HEOC	Health Emergency Operations Centre
HPB	Health Promotion Bureau
IAEA	International Atomic Energy Agency
IHR (2005)	International Health Regulations (2005)
IPC	infection prevention and control
LSD	lumpy skin disease
MDROs	multidrug-resistant organisms
MRI	Medical Research Institute
NAC-AMR	National Advisory Committee on Antimicrobial Resistance
NAPHS	National Action Plan for Health Security
NFP	National IHR Focal Point
NHEOC	National Health Emergency Operations Centre
NRL	national reference laboratory
PHECPs	public health emergency contingency plans
PoE	points of entry
PPE	personal protective equipment
PPR	peste des petits ruminants
PVS	performance of veterinary services
QPD Ordinance	Quarantine and Prevention of Diseases Ordinance
RCCE	risk communication and community engagement
SLAEB	Sri Lanka Atomic Energy Board
SLAERC	Sri Lanka Atomic Energy Regulatory Council
SOPs	standard operating procedures
VICs	veterinary investigation centres
VPDs	vaccine-preventable diseases
VRI	Veterinary Research Institute
WOAH	World Organisation for Animal Health

Executive summary

Sri Lanka has a long and impressive history of strong leadership and commitment to International Health Regulations (IHR) (2005) compliance and health security. Health security in Sri Lanka dates back to 1897 when the Quarantine and Prevention of Diseases (QPD) Ordinance was enacted. Since the implementation of the IHR (2005) in 2007, Sri Lanka has made steady progress in implementing and developing IHR core capacities. In June 2017, Sri Lanka became one of the first countries in South-East Asia to conduct a Joint External Evaluation for IHR (JEE-IHR), using JEE Tool version 1, and prepare a National Action Plan for Health Security (NAPHS) for the five-year period of 2019–2023. In addition, Sri Lanka completed an IHR-Performance of Veterinary Services (PVS) National Bridging Workshop in February 2023, where the country's human and animal health services reviewed their current collaboration strengths and gaps in key technical areas and developed a joint road map to improve work and coordination at the animal–human interface in the prevention, detection and control of zoonotic diseases. Sri Lanka also conducted a national workshop on strategic assessment of emergency risks using the Strategic Tool to Assess Risk in May 2023 to derive a national emergency risk profile, annual risk calendar, and recommendations to select and order the capacity-building interventions to be included in the next NAPHS, based on the priority actions stemming from this second JEE exercise.

Since the 2017 JEE, Sri Lanka has made significant progress despite several significant challenges to IHR (2005) and NAPHS implementation. These include the COVID-19 pandemic, which resulted in significant challenges and pauses in implementing the planned activities under NAPHS for almost two years. The COVID-19 pandemic was followed by a national economic crisis, which had an additional negative impact and resulted in Sri Lanka being unable to implement the extensive monitoring and evaluation of the IHR (2005) activities as planned. An additional complicating factor was the challenge of raising awareness about the IHR (2005) with key officials of non-health stakeholder ministries. The result was that certain sectors did not consider the IHR (2005) as one of their priority areas for action. Regular turnover of key officials also aggravated the issue. The fact that solid progress was made in every technical area despite these very significant challenges makes these accomplishments all the more noteworthy.

The JEE tool is currently in its third iteration (Version 3.0) and was updated most recently with the lessons and experiences, especially from COVID-19, shared by countries and technical partners in 2022 (in line with the IHR Review Committee and the Independent Oversight and Advisory Committee recommendations). Sri Lanka last completed the JEE exercise in 2017 using Version 1 of the tool. The significant improvements to the tool over the past five years mean that comparison of progress using the scores alone is both invalid and a case of contraindication.

The Sri Lanka JEE 2023 mission identified five cross-cutting recommendations:

1. **Strengthening capacities and addressing gaps by leveraging needed advancements in the cross-cutting enabling functions of legislation, financing and human resources.**

   There should be emphasis on a multi-pronged approach to holistically strengthen and resolve discrepancies in the intertwined technical areas of legislation, financing and human resources. The nuanced nature of these cross-cutting technicalities demands deep transformations. Every facet, from legislative intricacies to human resources dynamics, should be addressed from both a narrow technical and a broader strategic perspective.

   It is important to recognize the large number of low-hanging fruits that present themselves as immediate opportunities for improvement. A rigorous and comprehensive analysis of these opportunities, based on current recommendations, will pave the way for actionable strategies that can be rapidly implemented.

Reflecting upon the lessons related to the efficiency of emergency response mechanisms in managing previous events, notably the COVID-19 pandemic, insights can be gathered on how well the available functions that enabled cross-cutting worked. Established instruments, while crucial, should not be merely reactive. The essence of their effectiveness lies in their ability to enable prevention, risk reduction, and mitigation. Ensuring preparedness and maintaining readiness is fundamental. While certain emergency measures have proven effective in specific scenarios like the pandemic, it is vital to continuously assess their applicability and robustness against an array of potential threats. Consequently, a thorough, forward-looking analysis is imperative to determine the versatility and adaptability of these enabling instruments when it comes to other potential health crises.

2. **Coordinating multisectoral collaboration across public health functions and services such as surveillance, laboratories and risk communication and community engagement (RCCE).**

   At the heart of a resilient health system lies the ability to seamlessly integrate various core public health functions across sectors. Such a coordinated way of integration is paramount, especially when addressing complex functions and services such as surveillance, lab capacities, health emergency management and RCCE. As the public health security landscape becomes more interconnected and the challenges more multifaceted, it is essential for all sectors to communicate, collaborate and collectively strategize to optimize the outcomes that these functions are geared for.

   Observations and analyses reveal that certain sectors within the health domain showcase impressive performance or even an advanced level of capacity. However, excellence in one sector does not mask the need for enhancement in others. It is important to recognize that while the health sector may have certain strengths, other sectors, which are equally pivotal in managing health emergency risks, may require bolstering.

   With the needs identified in these sectors, there is a compelling requirement to allocate resources strategically. More than just resources for development of infrastructure and maintenance, there is a need to facilitate knowledge transfer, technological upgrades and skill development. These efforts will ensure that all sectors, irrespective of their current proficiency level, are equipped and prepared.

   This holistic enhancement is pivotal in ensuring that every sector is able to play its due role in multi-hazard emergency risk management by leveraging the strengths of broad cross-cutting functions and services.

3. **Enhancing intersectoral actions for addressing the risks related to antimicrobial resistance (AMR), zoonosis, food safety, and chemical, biological, radiological, and nuclear (CBRN) emergencies spanning multiple sectors.**

   When addressing risks that transcend traditional sectoral boundaries, such as AMR, zoonosis, food safety, and CBRN emergencies, it is imperative to adopt an intersectoral approach. As these challenges do not confine themselves to a singular domain, a unitary approach is insufficient. These hazards are not only diverse but also interconnected, making it essential to combat them through a collective and integrated strategy.

   One of the foundational steps in managing these hazards is in understanding them. This entails mapping out the risks, understanding from where they originate, and recognizing the pathways through which they spread across sectors. By doing so, a clear visual representation of the problem can be developed, providing clarity on where to focus and how to strategize.

   With a clear risk map in place, the next crucial step is to delineate the roles and responsibilities of each sector. By understanding which sector is best suited to manage particular risks, the resources, efforts and strategies for the same can be deployed more effectively. This clarity not only optimizes outcomes but also ensures accountability.

No sector operates in isolation. The identification of key joint and intersectoral actions is pivotal. Equally essential is recognizing both the impediments that might hinder these actions and the catalysts that can expedite them. By understanding these elements, a road map that is both realistic and effective can be created.

Therefore, as with any strategy, consistent monitoring and review are key. This will not only ensure that the agreed-upon actions across sectors are being implemented but will also provide a feedback mechanism to iterate and improve. A robust review mechanism will ensure that the strategy remains dynamic, adapting to changing circumstances and continuously optimizing for better results.

4. **Ensuring macro-level actions at the national and provincial levels are intrinsically linked to implementation at the service facilities and personnel at the interface with the community and the community itself.**

   Macro-level actions, primarily established at the national and provincial tiers, provide the overarching direction and policy framework. However, without the tangible efforts of service facilities, personnel and communities, these broad strategies cannot achieve the envisioned change. Therefore, a holistic transformation requires these macro strategies to be deeply interconnected with micro-level implementation.

   It is pivotal to discern that not every action is apt for every level. Certain strategies are most effectively formulated at the national level, while others find their best expression when implemented locally. To tap into the full potential of interventions, there needs to be a clear delineation of these actions. This involves understanding which actions are best decided and undertaken at specific levels, thereby ensuring an optimal distribution of responsibilities and resources in the vertical administrative dimension from the capital to the community.

   Central to any public health or development initiative is the community. Its needs, feedback and active involvement are integral to the success of any programme. A community not only offers insights into the distinct challenges of its local context but is also instrumental in the practical application and adaptation of strategies. Consequently, engaging with communities, comprehending their views, and involving them in decision-making and implementation is indispensable.

   A feedback mechanism bridging the macro and micro levels is also vital. This cyclical process ensures that strategies incorporate both top-down directives and bottom-up insights. Feedback from service facilities, personnel and communities can guide and fine-tune macro-level strategies, thus ensuring their continued relevance and efficacy.

5. **Expanding and deepening the use of digital technology, innovations and public–private partnerships.**

   In today's fast-paced world, the adept use of digital technology is no longer a luxury but a necessity. Digital tools offer unparalleled benefits in streamlining operations, enhancing efficiency and enabling real-time decision-making. By harnessing innovations in planning, implementation and monitoring and evaluation of the expected outcomes enabled by digital technology, health systems can facilitate more efficient implementation of policies and strategies, thereby ensuring that resources are optimally utilized and services are delivered promptly and effectively.

   One of the most significant advantages of digital technology is the power to collect, analyse and share data and information seamlessly. With better data, knowledge management and analytics systems in place, professionals and policymakers across sectors can have access to invaluable learnings and insights for consideration, adaptation and rapid adoption. This not only ensures that decisions are based on tangible evidence but also enables more rapid and informed decision-making processes where strategies are adjusted in real-time as situations evolve.

The digital platforms that are currently functioning in the country are already greatly enhancing the sharing of information between different stakeholders, both within and outside the health sector. More transparent and streamlined data and information-sharing mechanisms aided by the current digital transformation initiative, but extending beyond the health sector, can foster collaboration, ensure all relevant parties are on the same page, and reduce duplication of efforts. This will be particularly crucial in emergencies where swift and coordinated responses are essential.

As reliance on digital technology is increasing exponentially, it is crucial to ensure that these innovations are accessible to all, regardless of their socioeconomic status or geographical location. Strategies should be in place to bridge the digital divide, ensuring that every level of institution and individual benefits from these advancements.

While the government plays an undeniable role in health care, the private sector, with its resources, innovations and expertise, can be a pivotal partner. Embracing public–private partnerships, especially in the area of digital innovations, can accelerate the adoption of cutting-edge solutions, enhance service delivery and promote sustainable practices. This synergy can be instrumental in bringing transformative changes to the health sector.

Sri Lanka's scores and priority actions

This evaluation was conducted using Version 3 of the JEE tool. It is essential to emphasize that the third edition of the tool incorporates the key lessons learned from the COVID-19 pandemic. Experiences from around the globe raised the bar for what is deemed adequate capacity to prevent, detect and respond to public health threats. Consequently, a capacity score derived using the third edition of the JEE tool cannot be directly compared to scores from other versions. Furthermore, if a country, while undergoing a subsequent JEE, secures a lower score in a specific technical area than in its previous evaluation, it does not necessarily indicate a reduction in that country's capacity.

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

Technical areas	Indicator number	Indicator	Score	Priority Actions
Prevent				
P1. Legal instruments	**P1.1**	Legal instruments	**2**	• Conduct a mapping and analysis of legal frameworks relevant to the IHR (2005) across all sectors at national and subnational levels and, based on the findings, identify priority actions for responsible sectors and legal strengthening, which are to be facilitated by the National IHR Steering Committee. • Enhance the use of gender equity as an entry point for strengthening preparedness and response in the following manner: » after consultations with the relevant stakeholders, undertake a systematic assessment of gender gaps in a selected IHR core capacity and develop and begin implementing an action plan to address priority gender gaps, and plan for similar analyses in other areas; and » accelerate the collection and use of disaggregated data across health platforms through the realization of a national digital health blueprint and a related health information system by the Health Information Unit. • Seek approval of the parliament for the amendment of the QPD Ordinance approved by the Cabinet; this will help the country to implement its obligations under the IHR (2005).
	P1.2	Gender equity and equality in health emergencies	**3**	

Technical areas	Indicator number	Indicator	Score	Priority Actions
P2. Financing	**P2.1**	Financial resources for IHR implementation	**3**	• Conduct a comprehensive analysis to determine the specific proportion of the budget allocated to IHR-related activities across sectors. Following the analysis: » prioritize the financial distribution of resources aligned with national priorities among various levels of the health sector and other contributing sectors to ensure the consistent strengthening of IHR core capacities across the country; » establish an expenditure-tracking mechanism specifically for IHR-related activities; and » allocate additional resources and staff to expedite the updating of the National Health Account incorporating the estimated finances related to IHR core capacities. • Implement a system of timely budgetary release and regular budget reviews to support the efficient implementation of priority IHR-related actions. This involves: » creating a well-defined and structured schedule with deadlines for releasing budget allocations to IHR-related activities across sectors; and » conducting periodic reviews of the IHR-related activities' budget to identify areas where funds are underutilized or where surpluses exist. • Explore the establishment of an emergency funding mechanism in collaboration with policymakers to ensure swift response to public health emergencies across sectors.
	P2.2	Financial resources for public health emergency response	**3**	
P3. IHR coordination, National IHR Focal Point functions and advocacy	**P3.1**	National IHR Focal Point functions	**3**	• Conduct regular advocacy on the strengthening of IHR core capacities by involving the highest-level authorities at national and subnational levels – including on financing and human resources – along with key stakeholders across all the technical areas. • Revise and endorse the terms of reference and standard operating protocols for the National IHR Steering Committee in collaboration with the relevant sectors, including those with the mandate for the newly added technical areas. • Plan a review of the functionality of the national IHR (2005) coordination mechanisms and update as required; establish the IHR (2005) coordination mechanisms at subnational levels. • Establish an enhanced mechanism for regular coordination between the relevant One Health stakeholders during non-emergency periods, particularly for priority infectious hazards, including zoonoses; vector-borne, waterborne and foodborne diseases; and vaccine-preventable diseases (VPDs). • Establish an institutional mechanism to monitor and review the implementation of NAPHS and undertake revision and re-prioritization of actions as required.
	P3.2	Multisectoral coordination mechanisms	**4**	
	P3.3	Strategic planning for IHR, preparedness or health security	**3**	

Technical areas	Indicator number	Indicator	Score	Priority Actions
P4. Antimicrobial resistance (AMR)	**P4.1**	Multisectoral coordination on AMR	**3**	• Devise a policy and a cost-updated Multisectoral National Action Plan for AMR, and ensure adequate, sustainable allocation of resources, with oversight from the Multisectoral National Advisory Committee for combating AMR. This should be accompanied by a list of prioritized MDRO pathogens. • Expand AMR surveillance sites up to the provincial and community levels across all sectors, including the private sector, and ensure appropriate geographical representation. • Strengthen laboratory capacity in a stepwise manner at all tiers and across all sectors, including the private sector, for: » harmonized, timely AMR diagnosis and MDRO detection; and » training of personnel. • Ensure the availability of sufficient human resources, infrastructure, equipment and consumables. • Develop the National Antimicrobial Stewardship Programme (AMSP) involving community and health care setting by incorporating "AWaRe classification"; this entails: » deploying multidisciplinary teams to improve coordinated action to mitigate AMR in health care facilities in the public and private sectors; as well as » training relevant personnel in the public and private sectors, thereby ensuring the availability of sufficient human and other resources for infection prevention and control (IPC), laboratory diagnostics, AMR, health care-associated infection (HAI) surveillance, and for AMSP in the public and private sectors. • Update the existing legislations and implement them to cover all aspects of manufacturing, importation, marketing and quality of antimicrobials and pesticides related to animal health and agriculture; this entails the incorporation of "critically important antimicrobials for human medicine".
	P4.2	Surveillance of AMR	**3**	
	P4.3	Prevention of MDRO	**1**	
	P4.4	Optimal use of antimicrobial medicines in human health	**2**	
	P4.5	Optimal use of antimicrobial medicines in animal health and agriculture	**2**	

Technical areas	Indicator number	Indicator	Score	Priority Actions
P5. Zoonotic disease	P5.1	Surveillance of zoonotic diseases	2	• Development of a multisectoral zoonotic disease surveillance system and a control plan by the Ministry of Agriculture and the Ministry of Health. • Upgrade central and regional laboratory capacities for surveillance and support of diagnosis of zoonotic diseases – in the animal and human health sectors. • Establish a working group with members of the Ministry of Agriculture, the Ministry of Health and the Ministry of Environment, as well as with the wildlife authorities to coordinate and monitor progress in zoonotic disease surveillance and control. • Development of biosecurity guidelines and checklists to monitor good animal husbandry/ biosecurity practices in livestock/poultry farms by the Ministry of Agriculture.
	P5.2	Response to zoonotic diseases	1	
	P5.3	Sanitary animal production practices	3	
P6. Food safety	P6.1	Surveillance of foodborne diseases and contamination	3	• Strengthen the collaboration between Sri Lanka's various agencies and ministries to adopt the "farm-to-fork" approach. • Develop laboratory capacity in areas such as on-site testing and testing of residues. • Develop a national food safety emergency plan.
	P6.2	Response and management of food safety emergencies	1	
P7. Biosafety and biosecurity	P7.1	Whole-of-government biosafety and biosecurity system is in place for human, animal and agriculture facilities	2	• Develop a national strategic and costed action plan for multisectoral biosafety and biosecurity policy implementation, and ensure sustainable funding through the national budget. • Develop a One Health national guideline for laboratory biosafety and biosecurity. • Establish a regime of national laboratory licensing for biosafety and biosecurity as per the national guidelines/standards for public- and private-sector institutions. • Facilitate the issuance of a regulation to enable monitoring of the immunization services delivered through the private sector. • Design and implement a communication and community engagement programme at the field level to overcome vaccine hesitancy among specific groups.
	P7.2	Biosafety and biosecurity training and practices in all relevant sectors (including human, animal and agriculture)	2	

Technical areas	Indicator number	Indicator	Score	Priority Actions
P8. Immuniza-tion	P8.1	Vaccine coverage (measles) as part of national programme	5	• Introduce a web-based, individual-level real-time immunization tracking system after carefully assessing feasibility and cost benefit. • Ensure interoperability of the surveillance system, immunization coverage and vaccine safety databases through the national digital health blueprint initiative. • Draft the Immunization Act and facilitate discussion and endorsement in order to provide legal backing for the full implementation of the National Immunization Policy. • Improve knowledge of the general population and healthcare workers in immunization; also improve awareness in schools. • Update and consolidate legislation on immunization.
	P8.2	National vaccine access and delivery	5	
	P8.3	Mass vaccination for epidemics of VPDs	5	
Detect				
D1. National laboratory systems	D1.1	Specimen referral and transport system	3	• Implement national guidelines for specimen referral and transport between different tiers of laboratories for all priority diseases with real-time tracking systems in human and veterinary health sectors, ensuring public and private participation to reach all levels with adequate monitoring and evaluation mechanisms. • Expand diagnostic testing capacity for priority diseases in both human and veterinary health sectors to subnational/regional laboratories, and ensure adequate and sustainable resources, including trained human resources, essential equipment that are annually maintained and calibrated, and quality-assured consumables/ supplies. • Develop a national essential diagnostics list for the human health sector, national laboratory quality standards and licensing protocols for veterinary laboratories, as well as a tiered diagnostic testing plan for the veterinary sector. • Conduct a national laboratory mapping exercise using a multisectoral approach with the involvement of the private sector; develop a national laboratory strategy; and ensure that all the recommended priority actions are included in the relevant sectors' annual workplans and annual budget plans. • Develop, implement and test a formal mechanism for coordination and information/data sharing between laboratories, and epidemiology and other relevant stakeholders, including a real-time traceable Laboratory Information Management System in the One Health framework leveraging the existing multisectoral committee.
	D1.2	Laboratory quality system	1	
	D1.3	Laboratory testing capacity modalities	3	
	D1.4	Effective national diagnostic network	3	

Technical areas	Indicator number	Indicator	Score	Priority Actions
D2. Surveillance	D2.1	Early warning surveillance function	4	• Extend the current digital web-based surveillance system to health facilities and other primary reporting units. • Assess the gaps in the surveillance system and barriers to reporting by private health facilities from outpatient and inpatient services; and develop and deploy mechanisms to enable optimal engagement of the private health service sector to close and address the identified gaps and barriers. • Systematically expand the scope of the surveillance system to enable multi-hazard public health events surveillance for priority risks by effectively leveraging the national digital health blueprint. • Designate and train teams at national and subnational levels to conduct sectoral and joint rapid and comprehensive risk assessments of potential and emerging multi-hazard threats as an integral part of the surveillance system. • Conduct a comprehensive review to identify the monitoring and surveillance mechanisms available or planned by all the One Health sectors/ stakeholders, and collaboratively develop policies; and establish operational mechanisms that are digitally enabled for efficient data sharing across sectors.
	D2.2	Event verification and investigation	3	
	D2.3	Analysis and information sharing	4	

Technical areas	Indicator number	Indicator	Score	Priority Actions
D3. Human resources	D3.1	Multisectoral workforce strategy	1	• Finalize the draft Human Resource Strategic Master Plan, to be coordinated by the Human Resource Unit of the Ministry of Health, and recommend other relevant ministries related to the One Health approach to develop similar strategies. Assess the needed budget and technical needs; map existing financial resources; and involve countries, World Health Organization (WHO), the Food and Agriculture Organization (FAO), the World Organisation for Animal Health (WOAH), the United Nations Environment Programme (UNEP), the World Bank and other partner agencies to provide technical support and external resources. Ensure coordination in the One Health approach involving all the relevant sectors and cadres in the public and private sectors. • Create a Human Resource Database as a source for the Human Resource Unit of the Ministry of Health to support decision-making. Other relevant ministries related to the One Health approach can use this model to develop similar databases. Assess existing budgets and involve external partners to provide assistance. • Organize at least once a year a One Health multisectoral simulation exercise, coordinated by the Education, Training and Research Unit of the Ministry of Health, based on the identified priorities and use the outcomes to develop joint training programmes, to improve coordination among all the sectors relevant to prevent, detect and respond to public health emergencies. • Conduct a gap analysis of the required health workforce surge for public health emergencies and develop a multisectoral workforce surge strategy involving all the relevant public and private sectors, coordinated by the Ministry of Health. The surge strategy needs to address staffing, organizing, mobilizing and training in order to be always ready to respond appropriately to public health emergencies. Request WHO, FAO, WOAH and UNEP for technical assistance.
	D3.2	Human resources for implementation of IHR	3	
	D3.3	Workforce training	2	
	D3.4	Workforce surge during a public health event	1	

Technical areas	Indicator number	Indicator	Score	Priority Actions
Respond				
R1. Health emergency manage-ment	**R1.1**	Emergency risk assessment and readiness	**2**	• Establish standard operating procedures (SOPs) and develop standard formats to be used by different agencies for data management to inform the conduct and use of risk and readiness assessment at all levels. • Extend the subnational Health Emergency Operations Centre (HEOC) coverage, capacity and auditing to all the health districts in a phased manner based on risk. • Document, disseminate and test institutional emergency preparedness and response plans for the central Medical Supplies Division and regional medical supplies divisions. • Develop and implement training programmes for the following: » HEOC management, including the Incident Command System; » emergency medical teams; and » One Health rapid response teams (to move to surveillance if not already there). • Develop and implement a national strategic framework and a small grant system for research in health emergencies.
	R1.2	Health emergency operations centre (HEOC)	**3**	
	R1.3	Management of health emergency response	**4**	
	R1.4	Activation and coordination of health personnel and teams in a public health emergency	**2**	
	R1.5	Emergency logistic and supply chain management	**4**	
	R1.6	Research, development and innovation	**2**	

Technical areas	Indicator number	Indicator	Score	Priority Actions
R2. Linking public health and security authorities	**R2.1**	Public health and security authorities (e.g. law enforcement, border control, customs) are involved during a suspect or confirmed biological event	**4**	• Through a multisectoral approach, the Disaster Preparedness and Response Division (DPRD) should work with all the relevant ministries, departments and agencies (MDAs) to advocate for the finalization and endorsement of the national security policy. • Aim to expand the joint simulation exercises (SimExs) and tabletop exercises for suspected or confirmed deliberate events to cover all chemical, biological, radio-nuclear and cyber hazards. • Plan to review and conduct joint CBRN and cybersecurity training programmes for personnel across the sectors of public health, border control and security; the trainings involve: » surveillance and identification of suspected chemical, biological, radio-nuclear and deliberate cyber events; and » frontline responders for suspected chemical and deliberate biological events. • Work with WHO country office on training the personnel of public health, security and border control, and use the National Self-Assessment Tool (NSAT) to generate a CBRN profile for Sri Lanka on hazard, vulnerability and risk in order to inform planning and response.
R3. Health services provision	**R3.1**	Case management	**4**	• National clinical case management guidelines for entities related to priority health emergency events should be exercised, reviewed and regularly updated. Additionally, efforts should be made to enhance the capacity of the health staff in following clinical guidelines, and a regular mechanism to monitor adherence should be developed. • Further expand public health care reporting systems and explore feasible options to establish parallel reporting systems for private health facilities to share service utilization and other essential data with the government health authority for planning and quality assurance; this entails: » optimization of service utilization at primary health care facilities; » identifying and ensuring necessary resources and arrangements; » providing information on the services available at the primary care facilities; and » instituting a functional referral system between primary, secondary and tertiary care facilities. • The available EHS package and plans/guidelines on continuity of EHS in emergencies should be reviewed, evaluated and regularly updated.
	R3.2	Utilization of health services	**3**	
	R3.3	Continuity of essential health services (EHS)	**4**	

Technical areas	Indicator number	Indicator	Score	Priority Actions
R4. IPC	R4.1	IPC programmes	3	• Launch and implement the IPC policy in the following manner: » launch the IPC policy after obtaining Cabinet approval; » implement the IPC policy across all health care institutions, including private health care facilities; » ensure the availability of necessary human and financial resources, facilities and equipment to facilitate the implementation of the policy; and » develop a costed strategic plan to enable the implementation of the policy. • Develop and implement the national IPC guidelines in the following manner: » develop and implement the IPC guidelines in alignment with the IPC policy, encompassing multimodal strategies. • Enhance the HCAI surveillance system by: » expanding coverage – include all base hospitals and tertiary care hospitals within the surveillance system; » extending surveillance efforts to encompass the private health care sector as well; » strengthening the quality control and evaluation procedures of the HCAI surveillance programme at both institutional and national levels; and » strengthening feedback with periodic review of the IPC measures. • Intensify efforts to monitor the indicators associated with a safe hospital environment and address the identified problems.
	R4.2	HCAI surveillance	3	
	R4.3	Safe environment in health facilities	3	

Technical areas	Indicator number	Indicator	Score	Priority Actions
R5. Risk communication and community engagement (RCCE)	R5.1	RCCE systems for emergencies	3	• Conduct a self-reflection exercise and external evaluation of the effectiveness of the national RCCE during the COVID-19 pandemic to document the lessons learned and best practices; use the findings to update the existing RCCE plan for 2023–2025; and determine the resource and capacity gaps so as to establish sustainable systems and build the capacity for the plan's strategic implementation after mapping the resources and capacities currently available in the public sector and among partners. • Assess and advocate for necessary resources and mechanisms to establish an integrated framework that harmonizes the collection, analysis and strategic utilization of community feedback, socio-behavioural insights, and risk assessments across all tiers. Leverage these insights systematically to drive informed decision-making in RCCE and infodemic management planning and interventions. • Review and adapt existing structures and processes to integrate RCCE and infodemic management into provincial, district and divisional annual action plans (AAPs). Ensure the allocation of dedicated resources and establish robust mechanisms for continuous monitoring and adaptive enhancements, thereby elevating the overall effectiveness and impact of RCCE and infodemic management interventions.
	R5.2	Risk communication	3	
	R5.3	Community engagement	3	

Technical areas	Indicator number	Indicator	Score	Priority Actions
IHR-related hazards, points of entry and border health				
PoE: Points of entry and border health	**PoE.1**	Core capacity requirements at all times for PoEs (airports, ports and ground crossings)	**4**	• The standard operating protocols for the public health measures that are required during routine times (24/7) and during a public health emergency to be reviewed and updated regularly at predetermined intervals. • Conduct regular simulation exercises to test the public health emergency contingency plans (PHECPs), preferably as part of the overall drills at airports and seaports. • Develop/update the PHECPs for non-designated PoEs. • Enhance facilities at PoE health units to effectively undertake routine surveillance activities for water and food safety, yellow fever and malaria, and safe transportation of dead bodies. • Develop and implement an e-health information system for airport and port health units covering all public health measures required for IHR (2005) compliance. • Develop and implement a standard capacity-building programme for health officials on how to carry out conveyance inspection and quarantine procedures.
	PoE.2	Public health response at PoEs	**3**	
	PoE.3	Risk-based approach to international travel-related measures	**4**	
CE. Chemical events	**CE.1**	Mechanisms established and functioning for detecting and responding to chemical events or emergencies	**2**	• Establish an apex body for management of chemical events throughout their life cycle. • Establish regulations for chemical storage facilities. • Develop a plan for prevention and preparedness for chemical events, including major maritime chemical events. • Develop a database on chemical-handling places of concern and also develop a comprehensive plan for emergency response, including for off-site and on-site management of chemical events. • Strengthen surveillance related to chemical events, especially for notification and dissemination of information for action.
	CE.2	Enabling environment in place for management of chemical event	**2**	

Technical areas	Indicator number	Indicator	Score	Priority Actions
RE. Radiation emergencies	RE.1	Mechanisms established and functioning for detecting and responding to radiological and nuclear emergencies	2	• Pursue the development of SOPs and technical guidelines for all the stakeholders involved in emergency management plans (EMPs) and test them accordingly through operational/ tactical exercises. • Conduct specialized training for selected medical staff and make arrangements to equip selected medical facilities across the country to handle radiation emergencies involving irradiated and/or contaminated patients. • Build human resources at the Sri Lanka Atomic Energy Regulatory Council (SLAERC) – by establishing a dedicated emergency preparedness and response division – and at the Sri Lanka Atomic Energy Board (SLAEB) in a phased manner for the purpose of developing and maintaining competencies in radiation and nuclear emergency preparedness and response. • Develop and implement internal dosimetry techniques using the capacities already existing in-country in order to reinforce compliance with the Regulations on Ionizing Radiation Protection of the Atomic Energy Safety Regulations No. 1 of 1999; and increase preparedness for radiation emergencies. • Restore and improve the operability of the monitoring devices/systems used for characterization and international events (NDEWS).
	RE.2	Enabling environment in place for management of radiological and nuclear emergencies	4	

Prevent

P1. Legal instruments

Introduction

The International Health Regulations (IHR) (2005) provide obligations and rights for States Parties. In some States Parties, implementation of the IHR (2005) 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 (2005) and operations within the State Party. It can also facilitate coordination among the different entities involved in their implementation. See detailed guidance on IHR (2005) implementation in national legislation. In addition, policies that identify national structures and responsibilities as well as the allocation of adequate financial resources are also important.

Target

Adequate legal instruments for States Parties to support and enable the implementation of all their obligations and rights created by the IHR. The development of new or modified legal instruments in some States Parties for the implementation of the Regulations. Where new or revised legal instruments may not be specifically required under a State Party's legal system, the State may revise some laws, regulations or other legal instruments in order to facilitate their implementation in a more efficient, effective or beneficial manner.

Level of capabilities

Sri Lanka has formulated various legal instruments at both national and subnational levels to fulfil its obligations and implementation of core capacities under the IHR (2005). These legal instruments encompass both those established before the country's independence and its current Constitution, as well as newer ones. Together, they equip the country with the legal foundation to prepare for, detect, and respond to various hazards.

The Constitution of Sri Lanka, promulgated in 1978, defines Sri Lanka as a unitary state. Later amendments introduced a system of provincial government, devolving certain powers and functions to provincial governments. Both the national and provincial levels have the authority to make laws relating to public health. Provincial authorities can enact statutes on selected public health issues, including the provision of services for both public and environmental health. The Constitution recognizes several fundamental rights and freedoms. These include the rights to equality; non-discrimination based on race, religion, sex, or other such factors; freedom of speech, assembly, association, movement, occupation; and the right to access to information. Some rights may be restricted for reasons related to public health protection. The Constitution also permits the President to enact emergency regulations where a state of emergency has been declared under public security laws.

The QPD Ordinance and the instruments made under it form the primary framework for addressing communicable disease risks. Enacted in 1897, the QPD Ordinance allows the Minister of Health to enact regulations to prevent disease introduction or spread within and outside the country. Current regulations grant authorities extensive powers related to quarantine, border health measures, mosquito-borne disease prevention, and infectious disease transmission suppression. The QPD Ordinance's broad legal powers were utilized to authorize COVID-19 pandemic response measures.

The Disaster Management Act 2005, overseen by the Ministry of Disaster Management, lays the foundation for a whole-of-government response to natural and man-made disasters, including health hazards. Under

the Disaster Management Act, the National Council for Disaster Management, chaired by the President and comprising various government ministers, including the health minister, formulates national disaster management policies and programmes. Upon declaring a state of disaster, the President can direct organizations to mobilize resources and execute disaster management plans.

There are specific legal frameworks in place that address risks arising from various areas such as food safety, environmental factors, animal-related issues, and radiological sources. A study of legal instruments related to the IHR (2005) was reportedly conducted in 2014, but the findings or documentation are not readily available. Another mapping and analysis, planned after the 2017 Joint External Evaluation process, was hindered by shortages in experts, coupled with disruptions from the COVID-19 pandemic.

The Sri Lankan Constitution enshrines legal equality and equal protection for all individuals, regardless of gender. It also permits special provisions for women, children and persons with disabilities. The country recently launched legal and policy frameworks promoting gender equity during health emergencies. The National Policy on Gender Equality and Women's Empowerment (2023–2033) encompasses health and disaster management strategies. Significant measures have also been taken to address gender-based violence. One such initiative is the development and promotion of the *Handbook on gender, sexual, and gender-based violence in disasters* for policy-makers, response staff and community members. While the country's position in the health and survival subindex in the Global Gender Gap Report 2023 is commendable, its overall index ranking dropped to 115th from 110th in 2022.

Indicators and scores

P1.1 Legal instruments: Score 2

Strengths

- The country demonstrates capacity to swiftly develop subordinate legal instruments, as illustrated by the rapid formulation and enactment of several regulations during the COVID-19 pandemic.
- Existing legal instruments grant sufficient authority for detection and response to public health risks across various sources and levels.
- Officials at both national and subnational levels are designated to enforce legal measures against public health threats.
- Legal provisions mandate the notification of disease risks originating from human, animal and food sources.
- Many instruments, such as the QPD Ordinance, offer broad authority, thereby enabling responses to emerging and unpredictable risks.
- The Disaster Management Act establishes a whole-of-government framework, steered by high-level leadership, to prepare for, address and recover from a wide range of natural and man-made disasters. Additionally, this act empowers authorities to collaborate with nongovernmental entities during responses. The National Disaster Management Council, established under the act, is responsible for formulating policies and programmes, and for coordinating emergency response efforts. It operates under the President's leadership and includes ministers from relevant sectors. To address the challenges of COVID-19, however, the government set up a specialized national task force and operations centre.
- Government procurement guidelines incorporate flexibilities, thereby ensuring efficient procurement while maintaining accountability during crises.
- The Right to Information Act, No. 12, of 2016, entitles citizens to access the data held, maintained or overseen by a public authority.
- Provincial-level legal instruments facilitate the management of environmental and minor public health threats in order to prevent their escalation.
- The *Manual for the Sri Lanka public health inspector* (2010) offers comprehensive practical guidance for public health officials in executing public health legislation.

- Outside the health sector, legal frameworks like the Animal Diseases Act (1992), National Environment Act (1980) and the Sri Lanka Atomic Energy Act (2014) manage public health risks in their respective domains.

Challenges

- The legal mapping documentation, reportedly conducted in 2014, remains untraceable.
- Key legal instruments, like the QPD Ordinance, were formulated before Sri Lanka's independence and its current Constitution. As a result, they exhibit inconsistencies when compared to newer laws. While these instruments grant broad powers, offering flexibility to authorities, they often lack clear guidelines for application. Furthermore, they do not always consider less restrictive measures proportionate to the public health risks at hand.
- Legal instruments empower multiple actors across various levels but offer limited guidance on roles and responsibilities if risks emerge and intensify.
- Instruments addressing risks across sectors have limited provisions for intersectoral coordination, including for One Health initiatives.
- Legal frameworks concerning food safety and animal health are under review to bolster control and enhance One Health sectoral coordination.
- While the health sector has efficiently advanced legislative changes, developing new primary laws has proven more complex.
- Functional links between legal units in the relevant government sectors are lacking, and their heavy workloads impede timely legislative reviews and reforms.
- A demand exists for legal experts familiar with the IHR (2005) and health security-related legal frameworks across sectors.

P1.2 Gender equity and equality in health emergencies: Score 3

Strengths

- The Constitution enshrines rights promoting gender equality, including legal equality, equal protection, and non-discrimination based on sex, religion, political opinion or on other such grounds.
- The Constitution permits special provisions for the betterment of women, children and individuals with disabilities. The directive principles guide governmental actions towards a society that upholds everyone's fundamental rights, thus ensuring equal opportunities and eradicating socioeconomic privileges.
- Essential health services encompass reproductive, maternal, neonatal, child, adolescent and elderly care.
- The National Policy on Gender Equality and Women's Empowerment (2023–2033) underscores the government's dedication to gender equity, spanning health and disaster management.
- The National Policy on Disaster Management mandates gender equality and the empowerment of girls and women in disaster management.
- Emphasis has been placed on addressing sexual and gender-based violence (SGBV), even in emergencies. The National Plan of Action to Address SGBV (2016–2020) led to the creation of SOPs for first-contact health care providers and a handbook on gender and SGBV in times of disaster, which were developed after thorough stakeholder consultations.
- Amid the COVID-19 pandemic, the health ministry released guidelines to maintain safe shelters and hospital services for the survivors, anticipating a surge in SGBV cases.
- Data, disaggregated by sex and other attributes, are collected and reported in some areas by leveraging datasets from health and other sectors.
- The Ministry of Health has instituted a gender unit to champion gender equity in health, liaising with focal points across sectors.

Challenges

- Data relating to surveillance and disaster management during health emergencies are not consistently gathered or disaggregated by variable types, including sex, age, economic status, ethnicity, location or disability.
- The National Action Plan on Health Security 2019–2023 adopts gender equity and human rights as one of its four guiding principles and core values. However, it lacks specific activities directly aimed at this objective.
- At the national level, there is no dedicated budget line for gender equity activities within the health sector.
- There is no established method or practice for conducting gender gap analyses in relation to IHR core capacities.

Recommendations for priority actions

- Conduct a mapping and analysis of legal frameworks relevant to the IHR (2005) across all sectors at national and subnational levels and, based on the findings, identify priority actions for responsible sectors and legal strengthening, which are to be facilitated by the National IHR Steering Committee.
- Enhance the use of gender equity as an entry point for strengthening preparedness and response in the following manner:
  - » after consultations with the relevant stakeholders, undertake a systematic assessment of gender gaps in a selected IHR core capacity and develop and begin implementing an action plan to address priority gender gaps, and plan for similar analyses in other areas; and
  - » accelerate the collection and use of disaggregated data across health platforms through the realization of a national digital health blueprint and a related health information system by the Health Information Unit.
- Seek approval of the Parliament for the amendment of the QPD Ordinance approved by the Cabinet; this will help the country to implement its obligations under the IHR (2005).

P2. Financing

Introduction

The implementation of the IHR, including development of the core capacities, requires adequate financing. State Parties should ensure sufficient allocation of funds for IHR implementation.

Target

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 routine implementation of IHR capacities and financial resources that can be accessed on time and distributed for readiness and response to public health emergencies, is available.

Level of capabilities

Sri Lanka has demonstrated a robust commitment to health security by adopting a comprehensive approach to strengthen its IHR core capacities. The country has structured its strategies into distinct long-term, medium-term and short-term plans, clearly illustrating its vision for health security across different time frames.

In the long term, the country has set out its preventive services in the National Health Strategic Master Plan 2016–2025. This plan serves as a foundation for ongoing health security efforts, focusing on preventive measures. For the medium term, the National Action Plan for Health Security of Sri Lanka 2019–2023 has been developed. This plan identifies key actions and specifies the authorities responsible for the IHR (2005) activities, ensuring clear accountability – a vital aspect of health security. For short-term needs, various units have developed annual action plans (AAPs). These AAPs are designed to be adaptable and reflect current health security priorities, with plans in place through 2023. However, the financing of these plans through a combination of domestic budget allocation and donor contributions is not guaranteed. This highlights the importance of sustainable financial solutions to address such shortfalls.

A notable strength of the country lies in its commitment to a multisectoral approach. Partnerships have expanded beyond the health sector to encompass various ministries and departments, including the Central Environmental Authority and the Department of Animal Production and Health (DAPH). While such intersectoral collaborations are invaluable, it also introduces challenges, particularly in the allocation of budgetary resources among the various sectors .

The country's annual budget cycle is methodically structured, adhering to a distinct progression: formulation, endorsement, implementation and supervision. The National Budget Department, operating under the Ministry of Finance, has been instrumental in establishing fiscal goals spanning three years. Ministries and departments consistently report expenditures via the Integrated Treasury Management Information System. The budget's execution phase runs annually from January to December, with fund disbursements based on warrants sanctioned by the Finance Minister .

In terms of funding, the country primarily relies on domestic resources for its health security initiatives. Notably, the national health budget saw a marked rise from 2018 to 2023, reflecting a resolute commitment to health security investments. Yet, the nation has been grappling with enduring challenges tied to budget implementation that includes inconsistent financial inflows, an absence of budgetary reviews, underspending, and restricted budgetary adaptability.

The proportion of domestic funds allocated for the IHR (2005) initiatives is not examined separately since they are integrated into wider health strategies. While the country's stringent line-item budgeting approach offers precision, it curtails adaptability . Nonetheless, additional budgetary provisions can be accessed when requested, particularly during public health crises. Moreover, extrabudgetary provisions have been accessible upon requisition, especially during public health emergencies. The Ministry of Health has issued guidelines and directives to steer the IHR (2005) initiatives across all tiers, but underspending persists due to factors like budgetary limitations and staffing deficits.

Nevertheless, stringent budgetary rules hamper discretionary spending decisions that are occasionally needed and staffing shortfalls result in implementation bottlenecks, both leading to underutilization of the scarce resources allotted for IHR core capacity enhancement.

During public health emergencies, the country has effectively mobilized resources, actively identifying and supporting at-risk and vulnerable populations. Disaster response blueprints and emergency reserves in health care institutions guarantee prompt interventions. Resources are reallocated efficiently, backed by unambiguous authority lines. During significant emergencies, such as that of COVID-19, external funds supplemented routine budgets, thereby facilitating a better response.

Financing challenges for health security in Sri Lanka revolve around limited fiscal capacity, exacerbated by economic challenges and other competing financial demands. Moreover, lack of data and the intricacies of cross-sector coordination present distinct hurdles. Nonetheless, Sri Lanka's steadfast dedication to a comprehensive health security approach, clear planning methods, and intersectoral collaboration stand as exemplary practices for other countries to follow. To bolster its health security capabilities, Sri Lanka should focus on long-term financial strategies and address challenges in budget implementation and interdepartmental collaboration.

Indicators and scores

P2.1 Financial resources for IHR implementation: Score 3

Strengths

- Sri Lanka has adopted a comprehensive strategy for maintaining IHR core capacities. This strategy includes long-term plans like the National Health Strategic Master Plan 2016–2025, medium-term plans such as the National Action Plan for Health Security of Sri Lanka 2019–2023, and short-term AAPs from various institutions. Together, these ensure alignment with both national and global IHR (2005) priorities.
- The country has robust budget and financial management processes in place. This includes a well-defined annual budget cycle, the ability to allocate extrabudgetary funds during emergencies, and clear mechanisms for accountability. These mechanisms encompass expenditure reporting, both internal and external auditing, and transparency to the public.
- Coordination across health institutions and stakeholders is a notable strength. This facilitates collaborations across sectors in IHR-related activities, thereby ensuring a comprehensive approach to public health emergencies. Additionally, Sri Lanka actively collaborates with international partners such as WHO, the World Bank and the Asian Development Bank.
- The Ministry of Health is actively promoting sustainable financing in the health sector. This is evident from the development of the National Health Financing Policy and sustainable health financing strategies, which highlight a commitment to consistent funding for health care.

Challenges

- The AAPs related to the IHR (2005) often face funding challenges due to budgetary constraints. This can hinder the implementation of essential health security initiatives.
- Different stakeholder ministries and departments sometimes have varied priorities. This can pose challenges when trying to integrate the IHR (2005) activities into their individual plans and budgets.
- There is a concern about underspending within health institutions. This can result in not fully utilizing the resources needed for the IHR (2005) activities, thereby potentially impacting the quality and breadth of health care services.

- Delays in receiving funds from the treasury can hinder the execution of IHR-related activities.
- Sri Lanka currently lacks a dedicated emergency fund for public health crises and often relies on ad hoc funding.
- The National Health Account has not been updated since 2018, mainly due to staffing challenges. This limits data-driven decision-making and effective resource allocation for health care, including for the IHR (2005) activities.

P2.2 Financial resources for public health emergency response: Score 3

Strengths

- Clear lines of authority and communication exist, ensuring effective coordination across national, regional and institutional levels. This also includes coordination with non-health focal points for disaster management.
- Hospitals and health institutions have disaster response plans in place, maintain emergency stocks and have designated focal points. The Ministry of Health allocates budgetary and human resources from the central level to ensure that selected hospitals are assisted to assess emergency risks; and every year, their preparedness and response plans are reviewed, updated and tested. This demonstrates a strong emphasis on financing emergency preparedness.
- The system efficiently mobilizes resources, such as funds, medical supplies and equipment, from various sources, including the National Health Development Fund and external financing.
- During emergencies, as per the Procurement Guidelines 2006 – 3.8, the system allows for emergency procurement, thereby adding flexibility to the response capabilities.
- The system proactively identifies and addresses the needs of vulnerable populations during public health emergencies. This ensures that priority services are available for groups like pregnant women, children and those with chronic health conditions.

Challenges

- The current system does not have standard procedures for redistributing funds between sectors during public health emergencies. This can slow down the process of allocation of resources where they are most needed.
- While the Ministry of Health coordinates funding during public health crises, it lacks the authority to oversee the funds of other ministries and departments involved in the response actions. This can lead to inefficiencies in resource allocation and use.

Recommendations for priority actions

- Conduct a comprehensive analysis to determine the specific proportion of the budget allocated to IHR-related activities across sectors. Following the analysis:
  - » prioritize the financial distribution of resources aligned with national priorities among various levels of the health sector and other contributing sectors to ensure the consistent strengthening of IHR core capacities across the country;
  - » establish an expenditure-tracking mechanism specifically for IHR-related activities; and
  - » allocate additional resources and staff to expedite the updating of the National Health Account incorporating the estimated finances related to IHR core capacities.
- Implement a system of timely budgetary release and regular budget reviews to support the efficient implementation of priority IHR-related actions. This involves:
  - » creating a well-defined and structured schedule with deadlines for releasing budget allocations to IHR-related activities across sectors; and
  - » conducting periodic reviews of the IHR-related activities' budget to identify areas where funds are underutilized or where surpluses exist.
- Explore the establishment of an emergency funding mechanism in collaboration with policymakers to ensure swift response to public health emergencies across sectors.

P3. IHR coordination, national IHR focal point functions 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 a national IHR focal point (NFP), and adequate resources for IHR implementation and communication, is a key requisite for a functioning IHR mechanism at country level.

Target

Multisectoral/multidisciplinary approaches through national partnerships that allow efficient, alert and response systems for effective implementation of the IHR Coordinate nation-wide resources, including sustainable functioning of a National IHR Focal Point – a national centre for IHR communications which is a key obligation of the IHR – that is accessible at all times. States Parties provide WHO with contact details of National IHR Focal Points, continuously update and annually confirm them. Timely and accurate reporting of notifiable diseases, including the reporting of any events of potential public health significance according to WHO requirements and consistent relay of information to FAO and WOAH. Planning and capacity development are undertaken and supported through advocacy measures to ensure high-level support for implementation of IHR.

Level of capabilities

The QPD Ordinance, initially enacted in 1897 and revised in 1962, serves as Sri Lanka's principal law governing disease prevention. Section two of the ordinance authorizes the Minister of Health to introduce regulations to prevent the entry of diseases into Sri Lanka and their spread internationally.

In 2008, the Ministry of Health designated the Quarantine Unit and the Epidemiology Unit as joint IHR NFPs. Additionally, a National IHR Steering Committee, chaired by the Director General of Health Services (DGHS) and including over 21 stakeholders, was established, and operates regularly.

After the first JEE-IHR in 2017, the terms of reference for the IHR NFPs were finalized and approved by the National IHR Steering Committee. The committee holds annual meetings chaired by the DGHS.

National stakeholders receive the relevant sections of the States Parties self-assessment annual reporting (SPAR) questionnaire, aligned with their IHR core capacity responsibilities. These sections are then discussed and finalized in a coordination meeting with all stakeholders.

Indicators and scores

P3.1 National IHR Focal Point functions: Score 3

A functional mechanism for coordinating and integrating the relevant sectors for IHR (2005) implementation has been established. This responsibility is jointly shared between two designated entities within the Ministry of Health, constituting the IHR NFP. Institutional arrangements are in place for the IHR NFP to access the necessary information sources and decision-making levels. However, these arrangements need further streamlining with national surveillance and response systems across sectors to ensure timely, efficient and One Health-enabled decision-making.

Strengths

- Sri Lanka established a National Advisory Committee on Communicable Diseases in the 1960s; it currently comprises 52 members, including independent experts. This committee provides essential technical review and strategic guidance on communicable diseases and other public health events. The DGHS convenes this committee bimonthly to facilitate high-level policy decisions related to communicable diseases.
- A National IHR Steering Committee was established in 2016 to enhance the coordination of IHR-related activities. During a public health emergency of international concern, the DGHS coordinates activities with all the relevant stakeholders.

Challenges

- There is a need for the review, revision and endorsement of the terms of reference and standard operating protocols of the National IHR Steering Committee. This should be done in collaboration with relevant sectors, including those responsible for the newly added technical areas. Additionally, the functionality of the IHR (2005) coordination mechanisms should be reviewed and updated as required.

P3.2. Multisectoral coordination mechanisms: Score 4

An established multisectoral coordination mechanism exists at the national level, facilitated through regular meetings of the National IHR Steering Committee and an annual interactive meeting during the completion of SPAR. To bolster the One Health approach, there is a pressing need for efficient and regular coordination between various stakeholders at the intermediate level. This is essential for the timely detection of public health dangers and potential events across sectors, as well as for planning a coordinated response.

Strengths

- An Avian Influenza Multisectoral Committee was established in 2009 under the DGHS.
- A mechanism exists for referral by the Immigration Controller to the Airport/Port Health Office regarding all travellers arriving from countries endemic to yellow fever.
- The IHR-PVS National Bridging Workshop and the Strategic Tool for Assessing Risks of Multi-hazard Emergencies workshop was conducted in 2023, facilitated by the IHR NFP.
- Senior officials from the Ministry of Health participated in the Presidential Task Force established for coordinating the COVID-19 pandemic response.
- The National Operation Centre for Prevention of COVID-19 Outbreak was established, involving both health and non-health partners. The lessons learned from this are valuable for future pandemic preparedness.

Challenges

- The IHR (2005) coordination mechanisms need to be established at subnational levels.
- Enhanced coordination mechanisms between the relevant stakeholders need to be established for routine times, particularly for priority infectious hazards, including zoonoses, vector-borne and waterborne diseases, as well as VPDs.

P3.3. Strategic planning for IHR, preparedness or health security: Score 3

Sri Lanka has an NAPHS, involving multisectoral actions, which is set to conclude in 2023. However, the stakeholders have encountered challenges in securing budgets for the plan activities and in the routine monitoring and revision of activities during implementation. There is a need to sensitize decision-makers in legislative and administrative bodies about the importance of committing resources and ensuring multisectoral accountability for strengthening IHR core capacities for national health security. Additionally, mechanisms for revising and reprioritizing actions in the NAPHS biennially, using evidence generated through SPAR and other IHR (2005) monitoring and evaluation tools, need to be developed and implemented.

Strengths

- The National Council for Disaster Management includes representation from all key ministries, including the Ministry of Health, and uses a multi-hazard and whole-of-society approach.
- The Strategic Framework for Health Sector Emergency/Disaster Preparedness for 2022–2025 is available, as is the NAPHS.
- Influenza pandemic preparedness plans are in place.
- Midterm progress following the first JEE-IHR and NAPHS implementation was documented in 2019.

Challenges

- There is a need to establish an institutional mechanism that enables resource commitment, monitors and reviews actions, and ensures accountability for the implementation of NAPHS by all stakeholders.

Recommendations for priority actions

- Conduct regular advocacy on the strengthening of IHR core capacities by involving the highest-level authorities at national and subnational levels – including on financing and human resources – along with key stakeholders across all the technical areas.
- Revise and endorse the terms of reference and standard operating protocols for the National IHR Steering Committee in collaboration with the relevant sectors, including those with the mandate for the newly added technical areas.
- Plan a review of the functionality of the national IHR (2005) coordination mechanisms and update as required; establish the IHR (2005) coordination mechanisms at subnational levels.
- Establish an enhanced mechanism for regular coordination between the relevant One Health stakeholders during non-emergency periods, particularly for priority infectious hazards, including zoonoses; vector-borne, waterborne and foodborne diseases; and vaccine-preventable diseases (VPDs).
- Establish an institutional mechanism to monitor and review the implementation of NAPHS and undertake revision and re-prioritization of actions as required.

P4. Antimicrobial resistance (AMR)

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 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 antimicrobial resistance (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.

Level of capabilities

The Government of Sri Lanka has actively addressed the challenges of AMR. In 2016, two multisector committees were established:

- The National Advisory Committee on AMR (NAC-AMR)
- The National Action Plan Implementation Strengthening Team

By 2017, the National Action Plan on AMR 2017–2022 had been developed, highlighting the recognition of AMR as a significant public health issue that needs a collaborative, multisectoral approach. A comprehensive and costed National AMR Action Plan (the NAP-AMR) was developed alongside an AMR policy. As of JEE 2023, this plan awaits approval from all sectors for its implementation. The multisectoral coordination mechanism is actively functioning, with the NAC-AMR and the National Action Plan Implementation Strengthening Team operating under clear terms of reference and holding regular meetings with representatives from various ministries.

The country has also established a standardized national AMR surveillance system, which gathers data on common pathogens in hospitalized patients. This system is supported by a network of 25 surveillance sites across all nine provinces. The bacteriology laboratory of the Medical Research Institute (MRI) serves as the reference laboratory for most bacterial pathogens; it aids in the confirmation of identification and in the minimum inhibitory concentration (MIC) testing of the pathogens under surveillance. An external quality assurance programme for bacteriology, managed by the MRI, is available for all sentinel site laboratories. Notably, the country has been contributing data on selected MDROs to WHO Global Antimicrobial Resistance Surveillance System since 2017.

In the animal health sector, the food and water laboratory of the DAPH oversees the surveillance of the Salmonella and Campylobacter species in poultry. The bacteriology lab at the Veterinary Research Institute (VRI) functions as the reference laboratory for AMR in animal health. Some surveillance sites possess laboratory capacity for routine cultural isolation, identification and AMR testing by disc diffusion from specimens. They also carry out AMR surveillance in poultry. Active farm-based surveillance for AMR pathogens is operational for poultry farms.

The number of isolation facilities in hospitals is limited. Standard and contact precautions are employed, along with cohort isolation, depending on the pathogen. While a national IPC plan has been drafted, it awaits Cabinet approval. Specific IPC guidelines, set by the Sri Lanka College of Microbiologists, are in place, with hospital microbiologists overseeing the IPC staff. However, practices differ depending on the resources available at individual facilities. These areas will be further addressed and are also highlighted in the technical area R4 on IPC.

In the human health sector, antibiotics are prescription drugs in Sri Lanka, as mandated by the National Medicines Regulatory Authority Act, No. 5, of 2015. However, a notable number of pharmacies still dispense them over the counter for both human and animal use. National empirical antibiotic treatment guidelines are available for health care professionals, and a directive has been issued to limit the use of red light antimicrobials. Yet, the list of these antimicrobials needs alignment with the Access, Watch, and Reserve (AWaRe) classification.

For the animal health sector, various regulations exist under the Animal Diseases Act 1992 and the Animal Feed Act 1986 which was amended in 2016. For instance, antimicrobials for companion animals are procured through pharmacies. While antimicrobial consumption is monitored annually (both terrestrial and aquatic), comprehensive monitoring of antimicrobial usage remains a gap.

Indicators and scores

P4.1 Multisectoral coordination on AMR: Score 3

Strengths

- The Ministry of Health spearheaded the launch of the AMR Strategic Plan in 2016. The Director General of Health Services chaired the launch, with the Director General of Animal Production and Health and the Director General of Agriculture as co-chairs.
- The Director General of Health Services serves as the National IHR Focal Point, overseeing and coordinating activities.
- Sector coordinators have been appointed to manage activities in each sector, with all actions reported to the NAC-AMR.
- Information, education and communication materials have been developed to raise awareness.
- Sri Lanka actively celebrates the World Antimicrobial Awareness Week (WAAW) across various platforms.

Challenges

- The policy for combating AMR, along with its costed operational plan, awaits approval from the relevant authorities.
- Meetings of the NAC-AMR and the National Action Plan Implementation Strengthening Team, as per the terms of reference, should be more frequent.
- There is a lack of staff dedicated to AMR coordination and surveillance at the national level.
- Monitoring and evaluation mechanisms need strengthening.

P4.2 Surveillance of AMR: Score 3

Strengths

- **Human health sector:** Major hospitals are equipped with microbiology laboratory facilities; these provide a foundational strength for pathogen identification and MIC testing. However, there is an opportunity for further enhancement in some hospitals to broaden their diagnostic capabilities.
  - » A national antibiotic resistance surveillance is planned for select specimen–pathogen–antibiotic combinations. Data is to be collected, analysed and submitted to the WHO GLASS platform.
- **Animal health sector:** The surveillance of AMR in poultry focuses on commercial broiler-processing facilities, using E. coli as a representative organism to indicate potential resistance. Some of the surveillance mechanisms are:
  - » The formulation of a national plan for AMR screening in foodborne pathogens in poultry is in its initial stages.
  - » The VRI receives samples from various sources and provides selected data to the WOAH's global database on the antimicrobial agents used in animals.
  - » Accredited laboratories include an antimicrobial residues lab (veterinary faculty) and a microbiology lab at the National Aquatic Resources Research and Development Agency (NARA).

Challenges

- **One Health:** Integrated data collection and sharing across sectors is limited.
- **Human health sector:** Feedback and data utilization at both national and local levels need improvement. Comprehensive inclusion of health care facilities in the surveillance regime is challenging, especially for private-sector laboratories.
- **Animal health sector:** Establishing a properly funded surveillance system for non-human sectors is crucial. Laboratory capacities for AMR detection are limited, and AMR data submissions to the WOAH are pending.

P4.3 Prevention of multidrug resistant organism (MDRO): Score 1

Strengths

- **Human health sector:** Units of IPC with trained staff are present in most health care facilities. Such units in major hospitals are led by consultant microbiologists. Capacities exist for bacterial isolate identification and antibiotic sensitivity testing (ABST), including MIC testing. Surveillance of HAI, including methicillin-resistant Staphylococcus aureus (MRSA) bacteraemia, is conducted nationally. In this regard, training programmes are available for health care workers.
- **Animal health sector:** Awareness programmes for farmers and hatchery staff exist. Large farms employ vaccination, non-antibiotic treatments, good animal husbandry practices and strict biosecurity measures.

Challenges

- **Human health sector:** A list of priority multidrug-resistant pathogens is pending. Laboratory capacities for AMR identification are occasionally limited. Genetic identification of AMR genes is not routinely practised. Hospital isolation facilities are limited due to overcrowding.
- **Animal health sector:** Identification of multidrug-resistant priority pathogens and action plans for the non-human sector are needed. Monitoring of different farm levels remains challenging.

P4.4 Optimal use of antimicrobial medicines in human health: Score 2

Strengths

- A list of red light antimicrobials was circulated in 2016 by the Ministry of Health.
- An audit on its implementation was initiated in 2022 by the Sri Lanka College of Microbiologists, with the report pending.
- Consultant microbiologists are present in all major hospitals, and many hospitals have implemented AMSPs.
- National empirical antibiotic treatment guidelines are available.

Challenges

- A national AMSP is yet to be implemented. Monitoring systems in health care settings, especially in the private sector, are inadequate.
- The presence of red light or restricted antimicrobials is not strictly confined to hospital settings, though efforts are being made to limit their access.
- The AWaRe classification has not been integrated into the Sri Lankan system.

P4.5 Optimal use of antimicrobial medicines in animal health and agriculture: Score 2

Strengths

- Annual monitoring of antimicrobial consumption in the animal health sector, covering both terrestrial and aquatic animals.
- Development of regulations to control the distribution of animal feeds and veterinary medicines through:
  - » farm shops selling veterinary antimicrobials;
  - » inclusion of farm shop registration, national vocational qualification-level training for shop personnel, animal feed guidelines, and antimicrobial storage guidelines; and
  - » regulations under the Animal Diseases Act 1992 and the Animal Feed Act 1986 which was amended in 2016.
- Regular and continuous professional development programmes for veterinary surgeons, incorporating AMR topics.
- Monthly reporting to the WOAH on incidences of falsified veterinary medicine.
- Ban on growth promoters in livestock and aquaculture.

Challenges

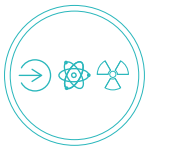
- Purchase of antimicrobials for companion animals through pharmacies is possible.
- Problems in developing a comprehensive monitoring system for antimicrobials.
- Lack of dedicated funding for AMR.

Recommendations for priority actions

- Devise a policy and a cost-updated Multisectoral National Action Plan for AMR, and ensure adequate, sustainable allocation of resources, with oversight from the Multisectoral National Advisory Committee for combating AMR. This should be accompanied by a list of prioritized MDRO pathogens.
- Expand AMR surveillance sites up to the provincial and community levels across all sectors, including the private sector, and ensure appropriate geographical representation.

- Strengthen laboratory capacity in a stepwise manner at all tiers and across all sectors, including the private sector, for:
  - » harmonized, timely AMR diagnosis and MDRO detection; and
  - » training of personnel.
- Ensure the availability of sufficient human resources, infrastructure, equipment and consumables.
- Develop the National Antimicrobial Stewardship Programme (AMSP) involving community and health care setting by incorporating "AWaRe classification"; this entails:
  - » deploying multidisciplinary teams to improve coordinated action to mitigate AMR in health care facilities in the public and private sectors; as well as
  - » training relevant personnel in the public and private sectors, thereby ensuring the availability of sufficient human and other resources for infection prevention and control (IPC), laboratory diagnostics, AMR, health care-associated infection (HAI) surveillance, and for AMSP in the public and private sectors.
- Update the existing legislations and implement them to cover all aspects of manufacturing, importation, marketing and quality of antimicrobials and pesticides related to animal health and agriculture; this entails the incorporation of "critically important antimicrobials for human medicine".



P5. Zoonotic disease

Introduction

Zoonotic diseases are communicable diseases that can spread between animals and humans. These diseases are caused by viruses, bacteria, parasites, and fungi carried by animals, insects or inanimate vectors that aid in its 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 multi-sectoral, multidisciplinary mechanisms, policies, systems, and practices are in place to minimize the transmission of zoonotic diseases from animals to human populations.

Level of capabilities

Sri Lanka exhibits considerable strengths in the monitoring and control of zoonotic diseases. The country has an extensive network of qualified veterinarians and para-professionals, covering 337 divisional veterinary surgeon ranges across the nation. Furthermore, 25 district-level veterinary investigation centres (VICs) primarily engage in outbreak investigation, surveillance, and laboratory backup services for divisional veterinary ranges. Mechanisms for multisectoral cooperation are in the early stages of establishment; these emphasize the importance of collaborations between human health and animal health sectors through the One Health approach.

The DAPH has established a Veterinary Public Health Unit, a commendable step towards a unified approach in tackling zoonotic diseases. Public health, veterinary, agricultural and environment authorities have collaboratively identified seven zoonotic diseases as top priorities for monitoring and intervention. These include rabies, tuberculosis, brucellosis, salmonellosis, leptospirosis, the highly pathogenic avian influenza, and Japanese encephalitis. National surveillance programmes exist for diseases such as rabies and salmonellosis, while plans for surveillance of other diseases are being developed by the public health and veterinary health authorities. The DAPH has developed a preparedness plan for avian influenza and does share avian influenza surveillance data with the Ministry of Health, but there is no unified system for concurrent surveillance activities across sectors.

Existing policies are primarily focused on rabies, salmonellosis, brucellosis, tuberculosis (TB) and avian influenza, with draft control plans at various stages of development. Many committees have been identified in the Sri Lanka Exotic Disease Preparedness Plan (SEDEP) to address novel avian influenza. However, there is no formal policy for intersectoral collaborations. A multisectoral committee focusing on avian influenza does exist. This committee is led by the Ministry of Health and involves the DAPH but lacks a formal mechanism for joint risk assessments.

The country's response mechanisms to zoonotic events are generally timely, ranging from a day to a week, depending on the disease and the confirmatory diagnosis. However, the focus tends to be more on individual sectors rather than on an integrated approach. A preparedness plan exists for the investigation of suspected cases of the highly pathogenic avian influenza/novel avian influenza. In this regard, a national surveillance programme is in place for continuous monitoring and early detection. Information sharing between the human and animal health sectors is sporadic, occurring mainly during outbreaks, indicating a need for a more structured process involving regular meetings, joint investigations and coordinated responses.

In terms of regulatory frameworks, animal breeding practices generally follow international standards, especially in poultry. Recent spillover events involving rabies in wildlife have identified border villages as particularly vulnerable, thereby underscoring the need for targeted interventions.

Reflecting on the progress made since the JEE in 2017, several achievements stand out:

- The DAPH now features a Veterinary Public Health Unit, staffed with allocated human resources. Although the appointment of regional DAPH officers for veterinary public health activities has been delayed due to staffing shortages, as well as infrastructural needs and operational challenges, the department has outlined the structure and roles of the VPH officers.
- While the formal One Health platform is still in the planning stages, all key ministries have participated in the preliminary discussions and activities related to its establishment. The consensus among them underscores the pressing need to launch a common legal platform.
- As of now, Sri Lanka has successfully implemented and evaluated zoonotic disease control plans, specifically for diseases like rabies, brucellosis and salmonellosis.

While the country has made commendable efforts in managing zoonotic diseases, there are several areas that require strengthening. These include the need for an integrated multisectoral approach, formal policies for intersectoral collaboration, and mechanisms for joint risk assessments. Regulatory frameworks around animal breeding and market conditions also need to be fortified to mitigate zoonotic risks effectively.

Indicators and scores

P5.1 Surveillance of zoonotic diseases: Score 2

Strengths

- A list of prioritized zoonotic diseases has been finalized through multisectoral collaborations, which underscores established coordination.
- The establishment of the Veterinary Public Health Unit within the DAPH is a significant milestone.
- Sri Lanka has a robust network of officials dedicated to the surveillance of zoonotic diseases.
- Comprehensive surveillance programmes for zoonotic diseases have been put in place. Additionally, an emergency preparedness plan, termed as the Sri Lanka Exotic Disease Emergency Preparedness Plan, for the highly pathogenic avian influenza has been developed.
- The country's veterinary laboratories are equipped and staffed to satisfactory standards, thus ensuring quality in diagnosis and research.

Challenges

- There is a palpable need for the development of a multisectoral collaboration, coordination and communication mechanism to address zoonotic diseases.
- Establishment of a dedicated multisectoral platform for the surveillance of zoonotic diseases is yet to be realized.
- Collaborative work on zoonotic diseases requires enhancement in the prevailing legislative framework across the ministries concerned.
- A challenge faced by the country is the absence of new recruitment initiatives for veterinarians and veterinary paraprofessionals, which could potentially hinder advancements in zoonotic disease management.

P5.2 Response to zoonotic diseases: Score 1

Zoonotic disease management, while having certain mechanisms in place for specific diseases or pathogens, still requires a more coordinated approach across the animal health, public health and environmental sectors.

Strengths

- A robust legal framework exists for responding to zoonotic diseases, as evidenced by the Animals Diseases Act No. 59, 1992.
- The Public Health Unit at the Animal Health Division in the DAPH has been duly established, and a rapid response working group has been initiated at both the central and regional levels within the DAPH.
- Effective multisectoral coordination with other agencies in the animal health sector is in place in order to ensure prompt responses to zoonotic events at the regional level.
- An emergency response team for the highly pathogenic avian influenza has been set up and operates at both central and regional levels.
- Real-time reporting, as well as facilitation of daily and weekly rapid responses, has been instituted.
- There is a broad capacity for diagnostic testing of zoonotic diseases like bovine tuberculosis, brucellosis, salmonellosis and leptospirosis within the laboratory network; this is accessible at both central and regional levels at different capacities.
- The DAPH has the Institute of Continuous Education for dedicated training/education.

Challenges

- A pressing need exists to develop a multisectoral operational mechanism. This mechanism should clarify roles, responsibilities and procedures between the animal and human health sectors.
- Both central VRI and regional VIC laboratories require upgrades.
- Strengthening and executing regulations on disease prevention and control activities face challenges due to limited budgetary allocations.

P5.3 Sanitary animal production practices: Score 3

In light of international standards such as the WOAH Terrestrial and Aquatic Codes, as well as the Codex Alimentarius, a national plan for best practices in animal breeding and the production of animal products has been established. This includes sanitary practices. National guidelines tailored for good production practices have been developed, made public, disseminated, and adjusted to ensure seamless implementation from the local farm level up to the trade of animal products. Such measures have significantly reduced the risk of zoonotic disease transmission.

Strengths

- Animal breeding practices align with international standards.
- Biosecurity practices are extensively adopted in animal husbandry and processing establishments, especially in poultry.
- A robust legal foundation exists for upholding good biosecurity standards in breeding/processing establishments and for combating the illegal trade in animals, including wild animals.
- An ongoing process to raise awareness about sanitary and biosecurity standards in animal production systems is in place.

Challenges

- The establishment of operational standards for slaughterhouses and the introduction of a consistent mechanism to monitor biosecurity practices in livestock and poultry farms face hurdles, often attributed to socioeconomic factors and religious considerations.

- There is a need for enhancing legislation concerning wet markets, and animal slaughter policies need to be strengthened in terms of standards in slaughterhouses, meat inspection and transportation.

Recommendations for priority actions

- Development of a multisectoral zoonotic disease surveillance system and a control plan by the Ministry of Agriculture and the Ministry of Health.
- Upgrade central and regional laboratory capacities for surveillance and support of diagnosis of zoonotic diseases – in the animal and human health sectors.
- Establish a working group with members of the Ministry of Agriculture, the Ministry of Health and the Ministry of Environment, as well as with the wildlife authorities to coordinate and monitor progress in zoonotic disease surveillance and control.
- Development of biosecurity guidelines and checklists to monitor good animal husbandry/ biosecurity practices in livestock/poultry farms by the Ministry of Agriculture.

P6. Food safety

Introduction

Food- and water-borne diarrhoeal diseases are one of the leading causes of illness and death, particularly children and especially in developing 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 is 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.

Level of capabilities

The Sri Lanka Food Act empowers health services to oversee food safety throughout most stages of the food chain. Implementation of the Food Act is carried out by authorized officers attached to the food establishment. The municipal councils act as the food authority for municipal council areas, while medical officers of health serve as the food authority for all other local establishments. The development of a food safety policy is in progress, and accordingly, the Food Act will be revised with collaborative inputs from all key stakeholders. The upcoming Food Act will ensure a comprehensive approach based on the farm-to-fork principle. The JEE mission team pointed out areas where the WOAH Terrestrial Animal Health Code and Sri Lanka's practices do not align. Specifically, it recommends that both antemortem and postmortem inspections of all the animals and poultry intended for human consumption be overseen by veterinary professionals.

The main developments in the food safety area since 2017 include:

- A food safety situational analysis was conducted in 2019, followed by a reassessment in 2023, aimed at finalizing the Food Safety Policy.
- The Food Safety Policy is being developed. A Risk-based Approach for Revising Existing Regulations to Develop Horizontal Food Regulations and Documentation of Standard Operating Procedures for Different Stakeholder Groups of the Food Chain in Sri Lanka was developed in 2021.
- Observance of World Food Safety Day from 2019 to 2023.
- Launch of an online health information management system specific to food safety in 2019.
- Approval of the Codex Guidelines for Sri Lanka in 2019.
- Execution of national food surveys in 2019 and 2021, with another in progress for 2023.
- Regular reviews of district food safety and food laboratory practices.
- Updates to the Food Control Administration Unit (FCAU) website.
- Accreditation of food laboratories operating under the Ministry of Health.
- Collaboration between the MRI and the VRI on salmonella surveillance, adopting the One Health concept.

Indicators and scores

P6.1 Surveillance of foodborne diseases and contamination: Score 3

The indicator-based surveillance (IBS) and event-based surveillance (EBS) systems encompass laboratory analysis to determine the etiology of foodborne diseases, identify the origin of contamination events, and investigate potential hazards in foods associated with specific cases, outbreaks or events.

Strengths

- A foodborne disease surveillance and monitoring system is operational.
- Structures at both national and district levels are in place to evaluate foodborne events.
- Training on the management of foodborne diseases has been integrated into the curriculum of the pertinent health staff.
- Medical officers attending to patients bear legal and official responsibilities to report notifiable diseases.
- Training on reporting such diseases is an inherent part of the medical curriculum.
- Mechanisms for disseminating information on notifiable diseases are well established.
- Reports on foodborne diseases are consistently shared through the Weekly Epidemiological Report (WER).

Challenges

- There is limited laboratory capacity for sample testing during foodborne outbreaks.
- On-site testing mechanisms are yet to be fully established.
- It is essential to ensure that all the relevant stakeholders are held accountable and take proactive measures to uphold the country's food safety standards.
- The need for the development of a food safety policy with strong central coordination is paramount.
- Funding constraints hinder laboratory capacity-building and infrastructure development.

P6.2 Response and management of food safety emergencies: Score 1

No or very limited mechanism is in place to respond to and manage food safety emergency.

Strengths

- Comprehensive legislative frameworks and official documents are available to address food safety emergencies. This includes the Food Act, the QPD Ordinance, and the *Manual for the Sri Lanka public health inspector.*
- The country has laid out a national emergency plan alongside a foodborne disease outbreak response plan.
- Infrastructure and a trained team under the Medical Officer of Health are well established, ready to respond to food safety emergencies.
- The International Food Safety Authorities Network (INFOSAN) Focal Point has been instituted under the Ministry of Health.
- Management of food safety emergencies is undertaken by the public health team, supervised by the Regional Epidemiologist and the Epidemiology Unit at the national level.

Challenges

- There is a need to provide training and resources to all the pertinent sectors to enhance their active participation in managing food safety emergencies.
- Stakeholders must be made more aware of their roles and responsibilities, and also of the response procedures that are essential during a food safety crisis.

- To reiterate, the development of a food safety policy with potent central coordination is crucial.
- The responsibilities of the key stakeholders in managing these emergencies should be clearly defined.
- Building the capacity of stakeholders to respond to food safety emergencies is another challenge to address.

Recommendations for priority actions

- Strengthen the collaboration between Sri Lanka's various agencies and ministries to adopt the "farm-to-fork" approach.
- Develop laboratory capacity in areas such as on-site testing and testing of residues.
- Develop a national food safety emergency plan.

P7. 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 high-consequence biological agents 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.

Level of capabilities

Sri Lanka has long recognized the significance of biosafety and biosecurity within human health, animal health and agricultural laboratory facilities. Since the first IHR JEE in 2017, the country has developed a biosafety manual specifically tailored for medical laboratories. This manual offers both public- and private-sector laboratory staff comprehensive guidance on the implementation of biosafety and biosecurity measures.

In the human health domain, a laboratory network exists, with the MRI serving as the National Reference Laboratory (NRL). Similarly, the animal health sector has a laboratory network, with the VRI functioning as the NRL. The National Environment Act, No. 47, of 1980 and its subsequent amendments establish clear regulations for the disposal of infectious waste, a crucial component of biosafety protocols.

Sri Lanka has identified specific pathogens that are hazardous to both human and animal health. It has also determined the laboratories authorized to store these pathogens. Within the human health sector, nine laboratory facilities have this authorization, while the veterinary sector has four such facilities. All the aforementioned laboratories function under the standards of Biosafety Level (BSL) 2. Furthermore, the multisectoral Working Group-National Inventory of Dangerous Pathogens (WG-NIDP) was formed on 3 June 2022. As a testament to Sri Lanka's commitment to biosecurity, a NIDP database software was launched on 18 November 2022 to monitor dangerous pathogens within the country.

Compared to the JEE assessment of 2017 concerning biosafety and biosecurity training, Sri Lanka has made remarkable strides. The country now has specialists capable of delivering training on laboratory biosafety and biosecurity. An accessible online curriculum on these subjects is also available in academia.

The scores and priority actions were determined through a thorough analysis of Sri Lanka's current capabilities, existing challenges and areas that need strengthening to improve the status of the country's health security in the next five years.

Indicators and scores

P7.1. Whole-of-government biosafety and biosecurity system is in place for human, animal and agriculture facilities: Score 2

Strengths

- The government has identified the reference and research laboratories for specific pathogens.
- A biosafety manual for medical laboratories was released in 2014 (2nd edition).
- The hospital infection prevention and control manual was updated in 2021 (2nd edition).
- The VRI published a manual on biosafety and biosecurity in 2022.
- In accordance with the Cartagena Protocol on genetically modified organisms (GMOs)/living modified organisms (LMOs), a National Biosafety Policy was established in 2011.

Challenges

- There is a need to establish a national laboratory licensing process to assess biosafety and biosecurity standards in all laboratories, including governmental ones. Alternatively, promoting the adoption of ISO 35001:2019 could serve as a minimum requirement.
- The development of a national strategic plan and action plan for the Biosafety and Biosecurity Policy is pending.
- A multisectoral biosafety and biosecurity organizational framework at the national, subnational and regional levels is yet to be established.
- There is a notable shortage of human resources and funding.

P7.2. Biosafety and biosecurity training and practices in all relevant sectors (including human, animal and agriculture): Score 2

Strengths

- Specialists, trained in laboratory biosafety and biosecurity, are available across the relevant sectors.
- The WG-NIDP has conducted training sessions.
- Both the Disaster Preparedness and Response Division (DPRD) and the armed forces have teams trained in disaster preparedness and response.
- Academic institutions, including the Postgraduate Institute of Medicine (offering MD in medical microbiology and diploma in medical microbiology) and the allied health sciences faculty (offering a medical laboratory technician course), have developed training modules on biosafety and biosecurity.

Challenges

- The sustainability and improvement of biosafety and biosecurity training programmes are hindered by a pronounced shortage of human resources and funding.

Recommendations for priority actions

- Develop a national strategic and costed action plan for multisectoral biosafety and biosecurity policy implementation, and ensure sustainable funding through the national budget.
- Develop a One Health national guideline for laboratory biosafety and biosecurity.
- Establish a regime of national laboratory licensing for biosafety and biosecurity as per the national guidelines/standards for public- and private-sector institutions.
- Facilitate the issuance of a regulation to enable monitoring of the immunization services delivered through the private sector.
- Design and implement a communication and community engagement programme at the field level to overcome vaccine hesitancy among specific groups.

P8. Immunization

Introduction

Immunization currently prevents 3.5 million to 5 million deaths every year from diseases like diphtheria, tetanus, pertussis, influenza and measles. Immunization is typically one of the most successful and cost-effective ways to save lives and prevent disease. Measles immunization coverage is emphasized because it is widely recognized as a proxy indicator for overall immunization against childhood vaccine preventable diseases usually included in the national routine immunization programmes. Countries will also identify and target immunization to populations at risk of other epidemic-prone vaccine preventable diseases of national importance (cholera, Japanese encephalitis, meningococcal disease, typhoid and yellow fever) some of which are delivered through mass campaigns to contain or prevent outbreaks. Countries also provide postprophylactic vaccination for zoonotic diseases such as rabies.

Target

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

Level of capabilities

The National Immunization Programme of Sri Lanka is a testament to the country's commitment to public health and has an impressive development trajectory. The programme's roots can be traced back to the Vaccination Ordinance of 1886, which mandated compulsory vaccination against smallpox. Over the years, the programme has expanded its scope considerably. The introduction of the BCG vaccine in 1949 marked a significant milestone, followed by the triple vaccine for diphtheria, whooping cough and tetanus in 1961, and the oral polio vaccine in 1962. In the last two decades, it has further expanded with the introduction of vaccines like measles rubella in 2001, hepatitis B in 2003 and human papillomavirus in 2017.

The immunization programme operates under a well-structured, multi-tiered health system that ensures its effective implementation across the country. At the apex is the Ministry of Health, which provides overarching guidance and policy direction to the national implementing agency: the Epidemiology Division of the Directorate of Health Services. Nine provincial directorates and 26 regional directorates oversee the programme's implementation at the subnational levels. The final tier consists of 358 divisional units, which are the programme's operational arms at the grassroots level. Each divisional unit is staffed with public health midwives and public health inspectors, who interface with the community to enable the success of the programme.

A commendable strength of the programme is the integration of vaccine delivery services and overall disease surveillance, including for VPDs at all levels; it also ensures universal accessibility of earmarked vaccines free of charge in the public health sector. The implementation of national guidelines and SOPs uniformly at all levels ensures equitable access to quality and safe immunization services for all eligible beneficiaries.

Moreover, the National Immunization Technical Advisory Group, consisting of experts from relevant fields, plays a pivotal role in the key policy decisions related to the National Immunization Programme. The group's chair is the DGHS, and other key officials are also members, ensuring that decisions can be easily implemented. At the divisional level, primary health care staff are accountable for the vaccination of children; a robust tracking mechanism is also in place.

Moreover, Sri Lanka has achieved significant milestones in disease eradication and control. For instance, the last case of poliomyelitis (polio) was reported in 1993, and the country received a regional polio-free certification in 2015. Measles was eliminated in 2019, with the last endogenous case reported in 2016. These achievements are not mere statistics but are indicative of the programme's effectiveness and the country's public health resilience.

Monitoring and evaluation are integral to the programme's success. Various mechanisms, such as quarterly regional epidemiologist reviews and extension of the immunization programme to the districts, as well as VPD reviews, are in place. These are complemented by random supervisory visits and annual district-level immunization coverage surveys, thereby providing a multifaceted approach to quality assurance. During the COVID-19 pandemic, periodical limited virtual reviews were conducted to ensure the programme's continued effectiveness. Moreover, focused planning and improvisation in operations led to the remarkable achievement of non-suspension of routine immunization services during the pandemic, resulting in the maintenance of vaccine coverage at the pre-pandemic level.

Despite its many strengths, the programme faces challenges that need to be addressed. The expansion of information and communication technology into the immunization service delivery system remains a significant area for improvement. While there is a push for the introduction of an individual-based immunization tracking system, logistical issues and limited IT knowledge, especially among ageing health care workers, pose hurdles. Additionally, there is a need to ensure the availability of an adequate number of trained public health staff at all levels, especially given competing health priorities and the lack of periodical cadre revisions based on demand, all currently accentuated by the financial crisis.

Indicators and scores

P8.1 Vaccine coverage (measles) as part of national programme: Score 5

Strengths

- Sri Lanka's National Immunization Programme operates well using tested guidelines and SOPs, with key policy decisions guided by a national technical advisory group.
- The immunization programme is fully integrated into the primary health care system, allowing for efficient and low-cost service delivery at all levels. Additionally, it has combined the disease surveillance functions, including for VPDs, under the same umbrella. This prevents the creation of vertical silos, a common issue in most countries of the region.
- A cadre of qualified and trained vaccinators and supervisory staff is accountable for vaccinating children and tracking performance.
- In addition to an established network of clinics, immunization services are also available at all main hospitals as a supplementary service.
- The National Epidemiology Unit manages a reliable supply chain, ensuring that vaccines and logistics are available when and where needed.
- Comprehensive monitoring and evaluation mechanisms are in place, including quarterly reviews and electronic information systems for real-time monitoring.
- The programme includes training for public health staff, ensuring that they are well equipped to administer vaccines effectively and safely.
- The programme extends its reach by providing vaccines to the private sector free of charge, thereby ensuring equitable access to immunization services.

Challenges

- The expansion of information and communication technology into the immunization service delivery system is suboptimal, especially for individual-based tracking of immunization and logistics management.

- Enabling interoperability of the various information systems being managed for the different components of the national immunization programme: tracking of individual and population coverage, as well as adverse events, following immunization; logistics and supply chain; and VPD surveillance.
- There is a need to ensure an adequate number of trained public health staff at all levels, particularly due to competing health priorities and lack of periodic cadre revisions.
- The system lacks timely updated indicators for cadre requirements, thereby affecting the projection of the needs of the public health staff.
- Vaccine hesitancy among certain groups poses a challenge to achieving full immunization coverage.

P8.2 National vaccine access and delivery: Score 5

Strengths

- The National Epidemiology Unit serves as the focal point for the National Immunization Programme, and is responsible for vaccine specifications, forecasting, and timely supply of vaccines and logistics to districts and divisions.
- The National Epidemiology Unit has a strong track record with no incidents of vaccine stock-outs or quality failures, except in the case of the human papillomavirus, as reported in the recent past.
- A push system is used for vaccine and logistics delivery, thereby ensuring efficient distribution to districts and divisions.
- All the vaccines and devices that are used come under WHO list of prequalified products, thereby ensuring quality and safety.
- A buffer stock of vaccines is maintained at each level: six months at the national level; three months at the district level; and two months at the division level.
- A stringent cold chain monitoring mechanism is in place at all levels, with real-time temperature monitoring and alert systems.
- The country uses freeze-free vaccine carriers for transport to enhance the efficiency and safety of vaccine delivery.
- A separate budget line for vaccine procurement exists in the national budget under the Ministry of Health, and the country procures vaccines through a self-procurement mechanism.

Challenges

- There is a need to strengthen the existing monitoring mechanisms to ensure the quality and safety of the immunization services provided by the private sector.
- The lack of legal provisions to allow for effective monitoring of the quality and safety of private-sector immunization services poses a challenge.

P8.3 Mass vaccination for epidemics of VPDs: Score 5

Strengths

- The country has an excellent track record of conducting mass vaccination campaigns with very high coverage by utilizing existing public health infrastructure, as in the case of collaborating with the armed forces for the COVID-19 vaccination activities.
- Contingency plans are in place for key VPDs like polio, measles and rubella, and these plans are activated during outbreaks.
- A generic vaccine deployment plan has been developed, initially for influenza, thereby providing a framework for rapid response to various epidemics.
- A fast-track registration mechanism exists to secure emergency approvals from the National Medicines Regulatory Authority, as demonstrated during the COVID-19 vaccination campaign.

Challenges

- The generic vaccine deployment plan and the vaccination components of disease-specific outbreak response plans require periodic updates for continued effectiveness.

Recommendations for priority actions

- Introduce a web-based, individual-level real-time immunization tracking system after carefully assessing feasibility and cost benefit.
- Ensure interoperability of the surveillance system, immunization coverage and vaccine safety databases through the national digital health blueprint initiative.
- Draft the Immunization Act and facilitate discussion and endorsement in order to provide legal backing for the full implementation of the National Immunization Policy.
- Improve knowledge of the general population and healthcare workers in immunization; also improve awareness in schools.
- Update and consolidate legislation on immunization.

Detect

D1. National laboratory systems

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; and 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.

Level of capabilities

Sri Lanka has a robust, tiered national laboratory system that is seamlessly integrated into its health care system. It covers both the human and veterinary health sectors and is complemented by laboratories in various sectors such as food safety, environment, fisheries and agriculture. In the human health sector, the Deputy Director General (Laboratory Services) of the Ministry of Health leads the national laboratory system. Meanwhile, the veterinary sector is led by the Director (Veterinary Research) and Director (Animal Health) of the DAPH. This national laboratory system also extends its services to various JEE-IHR technical areas, such as AMR, food safety, zoonotic diseases, biosafety and biosecurity, immunization, surveillance, health emergency management, linking of public health and security authorities, health service provision, and IPC. Notably, the private sector accounts for nearly half of the outpatient services in both human and veterinary health, with the bulk of institutional care anchored within public-sector facilities.

Since the first JEE-IHR in 2017, Sri Lanka's national laboratory system has made significant strides by effectively implementing the recommended actions. It developed guidelines for tiered laboratory networks in the human health sector in 2017, and for the veterinary sector in 2022. Additionally, guidelines to strengthen laboratory services in primary health care institutions were issued in 2019. Quality management systems have been implemented at the NRLs in the human and veterinary health sectors. Furthermore, a sizable number of human health laboratories across the country engages in the MRI external quality assurance programme (microbiology – 96%; virology – 66.6%; haematology – 96%; histopathology – 94%; and the majority in chemical pathology). There has been collaborative data sharing between the human and veterinary health sectors, evident in areas like avian influenza, salmonella and rabies surveillance. Additionally, joint research under the AMR Fleming Fund fellowship programme has been beneficial. This collaboration was further exemplified during the IHR-PVS National Bridging Workshop and the shared use of the veterinary laboratory at Peradeniya University's Faculty of Veterinary Sciences during the COVID-19 response actions. Linkages were also created with regional and global laboratories to provide access to specialized or advanced diagnostics for emerging diseases.

The MRI, founded in 1900 and upgraded in 1997, serves as the national apex reference laboratory for the national laboratory system, including for AMR surveillance. The MRI hosts an array of specialized centres and offers a broad spectrum of public health diagnostic services, including the National Influenza Centre and the polio reference facility, as well as the National Measles-Rubella Reference Laboratory, the National Japanese Encephalitis Reference Laboratory, and the water and food testing laboratory. The National External Quality Assurance Programme for priority infectious illnesses and AMR is managed by the MRI. The MRI is well equipped to screen for all of the country's endemic and priority diseases. It provides a wide range of public health diagnostic services for communicable and non-communicable diseases. These include bacteriology, virology, mycology, parasitology, immunology, serology and molecular biology. There is also a pathogen genomics laboratory. The MRI employs various diagnostic assay modalities for SARS-CoV-2, influenza, respiratory syncytial virus (RSV) and adenovirus, among others; enteric pathogens such as *Salmonella* spp., *Shigella* spp., *Vibrio cholerae*, *Campylobacter* spp. and rotavirus; vector-borne diseases such as dengue, Japanese encephalitis and chikungunya; bloodborne pathogens such as hepatitis B and C; VPDs such as *Bordetella* spp., *Haemophilus influenzae*, measles and rubella; and zoonotic diseases such as leptospirosis and brucellosis; as well as non-culture (molecular diagnostic) methods for emerging pathogens like avian influenza; and antimicrobial susceptibility testing, including antifungal susceptibility testing and for genotypic AMR. A pathogen genomic-sequencing facility has also been created, and SARS-CoV-2 genomic sequencing is now being performed. In total, the country has five genome-sequencing facilities.

Established in 1967, the VRI is the designated NRL for animal health. It covers terrestrial and aquatic health and AMR surveillance (national repository for AMR/animal health) of livestock and poultry and is the only national-level research institute engaged in veterinary research, diagnostics, consulting and technology transfer activities in the livestock sector. It has sections for virology, bacteriology, parasitology, molecular diagnostics, pathology, animal nutrition, pasture, dairy technology, vaccine production, central veterinary investigation, fish diseases diagnostics, and biosecurity and biosafety. The VRI is the designated NRL for the diagnosis of *Brucella* spp. (brucellosis), *Leptospira* spp. (leptospirosis), *Salmonella* spp. (salmonellosis), *Campylobacter* spp. (campylobacteriosis), *Mycobacterium tuberculosis* (tuberculosis), black quarter, *Pasteurella multocida* (haemorrhagic septicaemia), AMR, Influenza A virus (avian influenza), peste des petits ruminants (PPR), bluetongue, Newcastle disease (ND), foot and mouth disease (FMD) and African swine fever (ASF). It is also the only organization in Sri Lanka that manufactures vaccines for haemorrhagic septicaemia, black quarter, *Brucella* S19, swine *Pasteurellosis*, fowl cholera, FMD, ND and contagious pustular dermatitis.

The VRI is equipped to test most priority diseases. Additionally, the veterinary faculty aids in diagnosing specific diseases, including antimicrobial residues. Molecular diagnostic facilities are available at the VRI, veterinary faculty and in four of the 25 regional laboratories. The VRI collaborates with the veterinary faculty for advanced diagnostics and maintains international partnerships for diseases like lumpy skin disease (LSD), PPR, FMD and others, including collaborations with the International Atomic Energy Agency (IAEA). A genomic-sequencing facility has been recently established at the veterinary faculty, while limited sequencing access is also available at the science faculty.

Both the human and veterinary health sectors have formulated guidelines for transporting samples from all health facility levels to national and subnational reference laboratories. This system enables Sri Lanka to transport samples for diagnosing all priority and emerging diseases nationwide. However, the implementation is ongoing. Currently, samples are primarily hand carried using ambulances or other public or private transportation, with only a manual register-based tracking system in place.

In the human health sector, national quality standards have been developed and are in effect at both national and subnational levels. However, mandatory laboratory licensing is confined to the private sector. Presently, a significant number of human health laboratories nationwide participate in the MRI's external quality assurance programme, covering areas like microbiology (96%), virology (66.6%), haematology

(96%), histopathology (94%) and a majority in chemical pathology. While the VRI has adopted a quality management system for its central laboratories, it still needs to establish and enforce national quality standards at both national and subnational levels. The MRI is enrolled in various international external quality assurance programmes, covering areas like clinical microbiology, leptospirosis and more. Similarly, the VRI is enrolled in international programmes like EQAsia and also collaborates with institutions like Chulalongkorn University in Thailand, the IAEA and ACIRO Australia.

Sri Lanka has rolled out a national essential services package (ESP) across all health care tiers to ensure diagnostic accessibility. While its current implementation is suboptimal, it sets the standard for diagnostic capabilities across health care institutions and lays the groundwork for the National Essential Diagnostic List (NEDL). The MRI, the NRL for human health, boasts comprehensive testing capabilities for the country's endemic and priority diseases. It provides a broad spectrum of public health diagnostic services, spanning both communicable and noncommunicable diseases. This includes diagnostics in bacteriology, virology, mycology, parasitology, immunology, serology and molecular diagnostics, including pathogen genome sequencing. The MRI utilizes diverse diagnostic techniques, from microscopy and serology to bacterial cultures and molecular diagnostics like real-time polymerase chain reaction (PCR) assays. Similarly, it also offers genomic-sequencing testing for a wide range of national priority pathogens, including respiratory ones like SARS-CoV-2, influenza, RSV and adenovirus; enteric pathogens such as *Salmonella* spp., *Shigella* spp., *Vibrio cholerae* and rotavirus; vector-borne diseases such as malaria, dengue, Japanese encephalitis and chikungunya; bloodborne pathogens such as HIV, hepatitis B and C, and nonculture (molecular diagnostics) methods for emerging pathogens such as avian influenza; and antimicrobial susceptibility testing, including antifungal susceptibility testing. In total, Sri Lanka houses five genome-sequencing facilities. Approximately, 55 public-sector microbiology labs and 20 private-sector labs offer varied testing modalities, with 54 labs specifically equipped for the SARS-CoV-2 real-time PCR assay.

In the veterinary health sector, the VRI is adept at testing or referring to specialized international labs for all endemic and priority animal diseases. The VRI provides a plethora of diagnostic tests, including for *Brucella* spp. (brucellosis), *Leptospira* spp. (leptospirosis), *Salmonella* spp. (salmonellosis), *Campylobacter* spp. (campylobacteriosis), *Mycobacterium bovis* (tuberculosis), black quarter, *Pasteurella multocida* (haemorrhagic septicaemia), AMR, Influenza A virus (avian influenza), PPR, bluetongue, ND, FMD, ASF, fish diseases, LSD, equine influenza, bovine viral diarrhoea, swine influenza, chicken anaemia virus, and contagious pustular dermatitis. The VICs handle basic microbiological tests and oversee the collection and transportation of clinical samples to regional labs for diagnosis. For pathogen genome sequencing, the VRI collaborates with local institutions like the science faculty and veterinary faculty at the University of Peradeniya, as well as with international entities like the IAEA in Vienna (Austria) and the University of Saskatchewan in Saskatoon (Canada).

In the human health sector, the MRI serves as the apex reference laboratory. This network comprises 53 public-sector microbiology labs in health care facilities, 24 in the private sector, six within universities and five in other institutions. These are all part of the National External Quality Assurance Scheme in clinical microbiology. Hospital microbiology labs offer diverse testing methods, including microscopy, serology, bacterial culture, antibiotic susceptibility testing and molecular diagnostics; these primarily focus on the SARS-CoV-2 real-time PCR assay (available in 54 labs). This network is bolstered by laboratories that are part of preventive health care programmes such as the anti-malaria campaign, the National STD/AIDS Control Programme, the National Dengue Control Programme, anti-leprosy campaign, the National Programme for Tuberculosis Control and Chest Disease and the anti-filariasis campaign. Additionally, the MRI collaborates with global entities like WHO CC Christian Medical College in Vellore, India, and the International Leptospirosis Society in Sydney, Australia.

In the animal health sector, the VRI is the central reference lab in a network that encompasses 25 regional VICs, with one in each district. These VICs conduct basic microbiological tests, collect and transport clinical samples to the regional labs and the VRI for diagnosis, adhering to national sample transport guidelines.

Among these VICs, four are equipped for molecular diagnostics. This network is further enhanced by the Faculty of Veterinary Medicine and Animal Science at the University of Peradeniya, the National Aquatic Research Agency and private-sector labs in the poultry and dairy industry. For advanced diagnostics, the VRI collaborates with international institutions such as the IAEA, the University of Saskatchewan and the Royal Veterinary College, UK.

Since the first JEE-IHR in 2017, the country has significantly improved its national laboratory system and diagnostic accessibility. While the country has robust systems and practices to detect and respond to public health threats, including those of international concern, it is essential to formalize these systems with the One Health approach. Priority actions have been outlined based on a thorough analysis of current capabilities and future needs, aiming for heightened health security over the next five years. The strategy for implementation should explore avenues for resource mobilization by considering international financial grants like the Pandemic Fund, especially given the country's current economic climate.

Indicators and scores

D1.1 Specimen referral and transport system: Score 3 (HH–3 AH–3)

Strengths (Human Health)

- A guideline for specimen referral and transportation is available and operational in most districts.
- The district cluster system is operational and sends samples to the NRL using a register-based tracking system. Primary health care institutions collect specimens and forward them to the designated apex/referral laboratory in each district. If the apex hospital laboratory lacks a testing facility, samples are sent to the regional or subnational laboratory.
- The NRL collaborates with regional laboratories to provide advanced diagnostic services for emerging/high-threat pathogens.
- A basic investigation package for primary health care institutions and testing facilities across the hospital-tiered system has been established.
- The SOPs and guidelines on specimen transport are available for certain diseases.

Strengths (Veterinary Health)

- A guideline for specimen referral and transport from regional laboratories to the VRI is in place in the case of priority diseases.
- A system of delivering reports, daily and weekly, to the Directorate of Animal Public Health via WhatsApp, is operational.
- A specimen tracking system is available within the VRI using the Laboratory Information Management System.

Challenges (Human Health)

- The specimen referral and transport system does not cover all districts.
- Specimens are hand delivered; no courier system is used within the country.
- No established regular coordinating system to review the specimen referral network.
- No real-time electronic system is available to track specimen transport.

Challenges (Veterinary Health)

- No formal mechanism exists for regular monitoring and evaluation of the specimen referral system.
- No real-time electronic system is available to track specimen transfer.

D1.2 Laboratory quality system: Score 1 (HH–3 AH–1)

Strengths (Human Health)

- **Accreditations:**
  - » National reference laboratories
  - » ISO 15189 (MRI, NBTS)
  - » WHO disease-specific certification/accreditation (MRI for measles, rubella and Japanese encephalitis)
  - » ISO 17025 – 3 MRI, NIHS, PGH – food safety
  - » ISO 17043 – National external quality assessment (EQA) in clinical microbiology as the Proficiency Testing Provider
  - » Private-sector hospital laboratories – 20 (ISO 15189)
- The Sri Lanka Accreditation Board is a member of the International Laboratory Accreditation Corporation (ILAC).
- National EQA programmes are in place. Private-sector hospitals participate only in clinical microbiology EQA.
- National reference laboratories participate in international EQA programmes.
- Laboratories are supervised through visits and surveillance programmes.
- The national regulatory authority for registration of test kits, devices and medicines is the National Medicines Regulatory Authority. National guidelines are followed for device registration and imports.

Strengths (Veterinary Health)

- **Accreditations:**
  - » VRI – ISO 17025 – The accreditation of the bacteriology laboratory of the VRI is in process.
  - » The faculty of veterinary medicine and animal sciences lab accredited for antibiotic residue detection (ISO 17025).
  - » National Aquatic Research and Development Agency (ISO 17025)
- The VRI participates in international EQA programmes.
- For certain tests, rechecking and verification are done at the VRI.

Challenges (Human Health)

- There is no mandatory participation requirement in the National EQA programme for all hospital laboratories.
- Expansion of MRI National EQA programmes to include private-sector laboratories.
- Development and implementation of laboratory quality indicators for all hospitals.
- National Quality Management Standards should be developed and implemented.

Challenges (Veterinary Health)

- Veterinary health laboratories, except one for antibiotic residue detection, are not accredited.
- Implementation of a quality management system and laboratory quality indicators in the VICs (regional laboratories) is needed.
- No national EQA programme exists for the VICs (regional laboratories).

D1.3 Laboratory testing capacity modalities: Score 3 (HH–4 AH–3)

Strengths (Human Health)

- A tier-specific laboratory testing system is operational, allowing for the testing of certain priority diseases across the laboratory networks in this system.
- Molecular assays are available in national reference laboratories and a few subnational laboratories.
- Advanced molecular and serological testing are available for diagnosis confirmation.
- Laboratories are equipped with the necessary tools to facilitate both regular and advanced diagnostics, with a focus on maintaining biosafety. Quality assurance programmes are in place.
- There is an established mechanism for procuring supplies and producing specific reagents.
- Official agreements or referral mechanisms are in place for further testing when required.

Strengths (Veterinary Health)

- Most priority diseases can be tested at the National Reference Laboratory (i.e., VRI) and at the veterinary faculty.
- Molecular diagnostic facilities are available at the National Reference Laboratory (i.e., VRI), the veterinary faculty, and four out of the 25 regional laboratories.
- The VRI is linked to the veterinary faculty for advanced diagnostics.
- International collaborations exist for LSD, PPR, FMD and other emerging diseases.
- A genomic-sequencing facility has recently been established at the veterinary faculty.
- Limited access to genomic sequencing is available at the science faculty.

Challenges (Human Health)

- Not all tests for the diagnosis of priority pathogens are available at every level.
- Molecular diagnostics are available only in national and subnational laboratories.
- Limited facility access to identify unknown pathogens.

Challenges (Veterinary Health)

- Access to all priority pathogen genomic-sequencing facilities is not available in-country.
- Sustainability of the laboratory diagnostic capacity for all priority diseases is a concern.
- Expansion of the diagnostic capacity to identify unknown or high-consequence pathogens is needed.

D1.4 Effective national diagnostic network: Score 3 (HH–4 AH–3)

Strengths (Human Health)

- A tier-specific diagnostic service is available at the National Reference Laboratory.
- Point-of-care testing is available for certain priority diseases.
- A basic investigation package has been implemented for primary health care institutions.
- Advanced molecular and serological testing is available for diagnosis confirmation.
- A regulatory body in the form of the National Medicinal Regulatory Authority is available for in vitro diagnostic device registration.
- Guidelines for device registration and import control are in place.
- Surveillance data is shared within public health units and the Ministry of Health.

Strengths (Veterinary Health)

- A tier-specific diagnostic service is available at the National Reference Laboratory.
- Point-of-care testing is available for certain priority diseases.
- Molecular and serological testing are available for diagnosis confirmation.
- The Veterinary Drug Control Authority registers in vitro diagnostic devices.
- Guidelines for device registration and import control are in place.

Challenges (Human Health)

- Coordination and networking between various laboratory tiers are not systematic.
- Strategies for point-of-care testing need to be identified.
- Regular data sharing in the One Health framework is lacking.

Challenges (Veterinary Health)

- Procurement of point-of-care for priority diseases is needed.
- Data sharing in AMR and zoonotic diseases within the One Health framework is limited.
- A laboratory information management system is required at district-level laboratories for report delivery and specimen tracking.

Recommendations for priority actions

- Implement national guidelines for specimen referral and transport between different tiers of laboratories for all priority diseases with real-time tracking systems in human and veterinary health sectors, ensuring public and private participation to reach all levels with adequate monitoring and evaluation mechanisms.
- Expand diagnostic testing capacity for priority diseases in both human and veterinary health sectors to subnational/regional laboratories, and ensure adequate and sustainable resources, including trained human resources, essential equipment that are annually maintained and calibrated, and quality-assured consumables/supplies.
- Develop a national essential diagnostics list for the human health sector, national laboratory quality standards and licensing protocols for veterinary laboratories, as well as a tiered diagnostic testing plan for the veterinary sector.
- Conduct a national laboratory mapping exercise using a multisectoral approach with the involvement of the private sector; develop a national laboratory strategy; and ensure that all the recommended priority actions are included in the relevant sectors' annual workplans and annual budget plans.
- Develop, implement and test a formal mechanism for coordination and information/data sharing between laboratories, and epidemiology and other relevant stakeholders, including a real-time traceable Laboratory Information Management System in the One Health framework leveraging the existing multisectoral committee.

D2. 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

Strengthened early warning surveillance systems that are able to detect events of significance for public health and health security; (2) improved communication and collaboration across sectors and between national, intermediate and primary public health response levels of authority regarding surveillance of events of public health significance; and (3) improved national and intermediate level capacity to analyse data. This could include epidemiological, 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.

Level of capabilities

Sri Lanka has established health surveillance systems to monitor priority diseases in humans, covering 29 communicable diseases, and animals, focusing on seven infectious diseases. Operational standards, including case definitions, are available for nearly all human communicable diseases and several animal diseases. The country has rolled out a real-time surveillance system, which aids in the collection and analysis of relevant data, for these diseases. Moreover, there is an active system monitoring chemical exposure in the human population.

The surveillance of human communicable diseases spans both public and private health facilities. However, reporting from certain private facilities is not up to par. The Ministry of Health is transitioning to digital health information systems across all health care levels, including primary care. A digital health blueprint is already being implemented. Importantly, an effective mechanism for sharing influenza data between the animal and human health sectors is operational.

Sri Lanka's communicable disease notification system is robust, serving as a cornerstone for communicable disease control and prevention. As mandated by the QPD Ordinance of 1897, notifying communicable diseases is a legal obligation. Medical practitioners and caregivers treating notifiable diseases must report these cases to the designated authority. These reports are then subject to field investigation, and prompt preventive measures are initiated. Comprehensive reports on these diseases are accessible through the Weekly Epidemiology Report and the Quarterly Epidemiology Bulletin.

Additionally, Sri Lanka is actively monitoring AMR across the human and animal health sectors. While AMR surveillance operates autonomously within the Ministry of Health's structure, its findings significantly enhance the communicable disease surveillance efforts led by the epidemiological unit of the Ministry of Health.

However, the surveillance system faces challenges, primarily due to a limited health care workforce, exacerbated by high workloads and frequent staff turnovers.

Indicators and scores

D2.1 Early warning surveillance function: Score 4

The national strategy, guidelines and/or SOPs for surveillance have been developed and are currently being implemented at both the national and intermediate levels. The surveillance system supports immediate and weekly event reporting, integrating laboratory results and ensuring a coordinated approach between IBS and EBS.

Strengths

- Comprehensive national guidelines and SOPs are uniformly practised across national, district and divisional levels. These are spelled out in the:
  - » Quarantine Act
  - » *Manual for the Sri Lanka public health inspector*
  - » Communicable Disease Surveillance Guidelines
- The surveillance system provides both real-time reporting (when necessary) and weekly updates on communicable disease incidents via WER and the Quarterly Epidemiological Bulletin.
- A streamlined process integrates laboratory results with reported cases for:
  - » VPDs
  - » Internationally concerning diseases such as influenza, COVID-19, monkeypox and MERS-CoV

Challenges

- The early warning system is designed to address a specific set of communicable diseases, including select zoonotic diseases of public health importance (influenza, Japanese encephalitis, leishmaniasis, rabies). However, improvements are required for animal health surveillance.

D2.2 Event verification and investigation: Score 3

A method, process or mechanism for verifying and investigating detected events has been developed and is operational at the national, district and divisional levels.

Strengths

- Outbreak response plans for significant diseases and events are updated regularly.
- Routine simulation exercises are conducted to practise potential outbreak investigations.

Challenges

- There is a need for more frequent simulation exercises to train for potential outbreak investigations.

D2.3 Analysis and information sharing: Score 4

Surveillance data is consistently collected, analysed and disseminated. Regular epidemiological bulletins are produced and shared both within sectors and internationally. Data sharing is consistent across sectors and internationally.

Strengths

- Regular simulation exercises are conducted to practise potential outbreak investigations.

Challenges

- There are difficulties in introduction and adoption of advanced technologies for data analysis and presentation.
- There is a need for formulation of responsible data-sharing and usage policies.

Recommendations for priority actions

- Extend the current digital web-based surveillance system to health facilities and other primary reporting units.
- Assess the gaps in the surveillance system and barriers to reporting by private health facilities from outpatient and inpatient services; and develop and deploy mechanisms to enable optimal engagement of the private health service sector to close and address the identified gaps and barriers.
- Systematically expand the scope of the surveillance system to enable multi-hazard public health events surveillance for priority risks by effectively leveraging the national digital health blueprint.
- Designate and train teams at national and subnational levels to conduct sectoral and joint rapid and comprehensive risk assessments of potential and emerging multi-hazard threats as an integral part of the surveillance system.
- Conduct a comprehensive review to identify the monitoring and surveillance mechanisms available or planned by all the One Health sectors/stakeholders, and collaboratively develop policies; and establish operational mechanisms that are digitally enabled for efficient data sharing across sectors.

D3. 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, occupational health, laboratory scientists/technicians, biostatisticians, IT specialists and biomedical technicians and a corresponding workforce in the animal sector: veterinarians, animal health professionals, para-veterinarians, epidemiologists, IT specialists etc.

The recommended density of doctors, nurses and midwives per 1,000 populations 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 populations who can systematically cooperate to meet relevant IHR and PVS core competencies. One trained epidemiologist is needed per rapid response team.

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).

Level of capabilities

Establishing and maintaining a robust, sustainable multisectoral system for both public and animal health hinges on a skilled and motivated human resource. Sri Lanka has a group of dedicated professionals in public and animal health who support these sectors across all health care levels. However, the sustainability of this system is threatened by challenges such as emigration of skilled workers, an ageing workforce, a disjointed human resource strategy and limited financial support. There is a looming gap, with few opportunities to bring in new talent, which puts at risk the effectiveness and continuity of the agencies essential for compliance with the IHR (2005). Most importantly, this jeopardizes the health of Sri Lanka's citizens.

However, the unwavering commitment and remarkable expertise of the current public and animal health professionals are commendable. By focusing on the education and mentorship of emerging professionals, improving working conditions and implementing the upcoming Human Resource Strategic Master Plan, the situation can be improved. It is crucial to quickly enhance both the recruitment and retention of specialized personnel in public and animal health to combat workforce decline and ensure long-term service.

Indicators and scores

D3.1 Multisectoral workforce strategy: Score 1

Sri Lanka's health sector has well-defined staff categories, appraisal systems and competency standards, as well as clear-cut career progression outline for specific roles, not to mention detailed job descriptions. The animal health sector possesses a separate human resource strategy. Meanwhile, the Human Resource Strategic Master Plan for public health is nearing completion. It is essential to coordinate these elements to foster a cohesive multisectoral health workforce.

Strengths

- A specialized workforce for the health sector is in place, covering a broad spectrum of public health tasks and services, including prevention, detection, response, care and rehabilitation.
- A well-established health care task force extends to the most foundational health care facilities, such as primary medical care units, ensuring health care services even in the country's remotest areas.
- A well-organized curative and preventive sector collaborates with specialized public health bodies, like the dengue and malaria control units. For instance, the Dengue Control Unit liaises with both the curative (hospitals) and preventive sectors (surveillance).
- Certain job profiles are well established, while others are being developed by the planning unit.
- A distinct human resource strategy exists for the animal health domain.

Challenges

- Exodus of talent to foreign lands.
- The national public health system grapples with attrition, marked by staff migrations, especially among consultants, medical officers, nurses and allied health staff, predominantly within the 40–50 age bracket.
- Recruitment constraints due to the prevailing economic crisis.
- The role of volunteer community health workers within the formal health workforce necessitates fortification.
- The creation of comprehensive job profiles for all health care personnel remains a work in progress.
- A holistic strategy to devise and deploy a workforce tracking system is imperative.
- While certain occupational safety and health protocols exist in health care facilities, a comprehensive strategy is absent.
- A consolidated multisectoral human resource development strategy spanning all pertinent sectors is lacking.

D3.2 Human resources for implementation of IHR: Score 3

Sufficient human resources are present in all pertinent sectors at both national and intermediate levels to detect, assess, notify, report and respond to events in line with the IHR (2005) provisions. Addressing health worker shortages in rural, remote and underserved areas is essential for further progress.

Strengths

- A diverse range of professionals, including epidemiologists, field epidemiology/community medicine specialists, clinicians, nurses, laboratory specialists and technicians, information specialists, veterinarians and veterinary assistants, are available at the national, provincial and regional levels.
- Epidemiologists are stationed throughout the country – approximately two per 200,000–500,000 population at each intermediate and district level – equipped with field epidemiology capacity.
- A consistent transfer scheme ensures uninterrupted health services across the nation.

Challenges

- Completion of the Human Resource Database is pending.
- A dedicated programme is required to address health worker shortages in rural, remote and underserved regions.
- Limited veterinary staff in the rural areas of the country.

D3.3 Workforce training: Score 2

In response to the JEE 2017 recommendations, Sri Lanka initiated a continuous professional development system, providing in-service training to all public and animal health professionals. While ad hoc competency-based training programmes exist for certain professions and sectors, there is a need for regular competency-based training initiatives, including on the One Health approach and field epidemiology. A priority could be the organization of a One Health multisectoral simulation exercise, coordinated by the Education, Training and Research Unit of the Ministry of Health, based on identified priorities.

Strengths

- Continuous professional education programmes are available for a range of health professionals on disease outbreak preparedness.
- Some professionals have undergone specialized training in outbreak preparedness and response within their respective departments.
- Both short- and long-term training programmes aim to increase the number of qualified public health professionals nationally.
- The Health Promotion Bureau (HPB) and the Disaster Management Unit regularly organize training related to contingency planning, emergency management and risk communication.
- On-demand joint exercises are organized for multidisciplinary teams.

Challenges

- Various departments have disparate training plans. A comprehensive, updated training plan aligned with the relevant policies and strategies is needed. Furthermore, training programmes should be consolidated on a unified platform for effective evaluation.
- There is no system to identify and expand funding sources for training programmes.
- Proper candidate selection for training is essential.
- Training on public health emergency legal preparedness, encompassing other sectors, is needed.

D3.4 Workforce surge during a public health event: Score 1

Sri Lankan health professionals consistently demonstrate a strong sense of duty, always poised to respond in the event of a sudden public health crisis. While this informal approach to managing a surge has been effective, it is prudent to formulate a national multisectoral health workforce surge strategic plan to ensure timely and appropriate responses to any public health event.

Strengths

- In the event of a public health crisis, staff from various categories can be redeployed to high-demand areas (for example, trainee doctors/trainee public health inspectors are called during their course duration to address pandemic crises).
- A system is in place to include personnel from other sections (such as chemicals, radiation and animal health) during a surge.

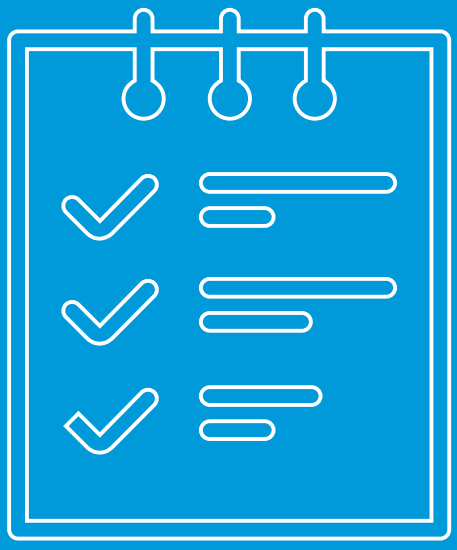
Challenges

- A formalized surge strategy is yet to be documented.
- There is no established policy for surge staffing during public health emergencies.

Recommendations for priority actions

- Finalize the draft Human Resource Strategic Master Plan, to be coordinated by the Human Resource Unit of the Ministry of Health, and recommend other relevant ministries related to the One Health approach to develop similar strategies. Assess the needed budget and technical needs; map existing financial resources; and involve countries, World Health Organization (WHO), the Food and Agriculture Organization (FAO), the World Organisation for Animal Health (WOAH), the United Nations Environment Programme (UNEP), the World Bank and other partner agencies to provide technical support and external resources. Ensure coordination in the One Health approach involving all the relevant sectors and cadres in the public and private sectors.
- Create a Human Resource Database as a source for the Human Resource Unit of the Ministry of Health to support decision-making. Other relevant ministries related to the One Health approach can use this model to develop similar databases. Assess existing budgets and involve external partners to provide assistance.
- Organize at least once a year a One Health multisectoral simulation exercise, coordinated by the Education, Training and Research Unit of the Ministry of Health, based on the identified priorities and use the outcomes to develop joint training programmes, to improve coordination among all the sectors relevant to prevent, detect and respond to public health emergencies.
- Conduct a gap analysis of the required health workforce surge for public health emergencies and develop a multisectoral workforce surge strategy involving all the relevant public and private sectors, coordinated by the Ministry of Health. The surge strategy needs to address staffing, organizing, mobilizing and training in order to be always ready to respond appropriately to public health emergencies. Request WHO, FAO, WOAH and UNEP for technical assistance.

Respond



R1. Health emergency management

Introduction

This capacity focuses on management of health emergency and systems for enabling countries to be prepared and operationally ready for response to any public health event, including emergencies, as per the all-hazard requirement of IHR. Ensuring risk-based plans for emergency preparedness, readiness and response, robust emergency management structures and mobilization of resources during an emergency is critical for a timely response to public health emergencies.

Target

(1) Existence of national strategic multi hazard emergency assessments (risk profiles) and resource mapping. (2) Existence of emergency readiness assessment (3) Development of National Health Emergency Operation Centre (NHEOC) plans and procedures. (4) Establishment of an emergency response coordination mechanism or incident management system. (5) Evidence of at least one response to a public health emergency within the previous year that demonstrates that the country sent or received medical countermeasures and personnel according to written national or international protocols. (6) Existence of an emergency logistic and supply chain management system/mechanism. (7) Existence of policies and procedures for research, development and innovation for emergency preparedness and response.

Level of capabilities

Health emergency management in Sri Lanka falls under the purview of the Ministry of Health. The Ministry of Health encompasses several units and agencies, each dedicated to distinct facets of health emergency management:

- **The National Health Emergency Operations Centre:** Situated within the Disaster Preparedness and Response Division of the Ministry of Health, the NHEOC spearheads the coordination of health responses to emergencies in Sri Lanka. It develops and implements national public health emergency plans and offers technical support to other involved agencies.
- **The Epidemiology Unit:** Tasked with the surveillance and monitoring of diseases and other health threats, this unit also extends technical support to the NHEOC and other entities engaged in public health emergency management.
- **The Disaster Management Centre:** This centre oversees the coordination and response to both natural and man-made disasters. It collaborates closely with the NHEOC to ensure that health requirements are addressed during crises.
- **The Sri Lanka Red Cross Society:** As a nongovernmental organization, the Sri Lanka Red Cross Society assists those impacted by disasters by providing medical care, sustenance and shelter. It also partners with the Ministry of Health to raise awareness about public health risks and champions disaster preparedness.
- **The Health Promotion Bureau:** Working in tandem with the NHEOC, the HPB focuses on risk communication, community mobilization and infodemic management during emergencies in Sri Lanka.

From 16–18 May 2023, Sri Lanka organized a Strategic Risk Assessment Workshop to complement IHR core capacities for preparedness. These core capacities mandate countries to identify priority public health risks and then map and allocate appropriate resources for response. The workshop aimed to bring together the relevant stakeholders and enhance their risk assessment skills. Its objective was to aid Sri Lanka in evaluating the public health risks associated with known hazards. Identifying these risks enables the country to prioritize actions and formulate plans to brace for potential emergencies, thereby bolstering the nation's preparedness and response capabilities.

During the risk profile development exercise at the workshop, several hazards, including floods, landslides, dengue and infectious diseases with pandemic potential, were identified as "high risk". The subsequent actions encompassed identification, prevention, preparedness and mitigation strategies for each hazard. These will be incorporated into national action plans, notably the National Action Plan for Health Security (2024–2028). Moreover, the risk assessment will inform policy and advocacy initiatives, strategy development and workforce capacity-building.

The NHEOC stands as the lead agency for coordinating and addressing public health emergencies within Sri Lanka. The NHEOC develops and implements national plans for public health emergency management and provides technical assistance to the relevant departments and agencies involved in emergency response. The resources available to the NHEOC comprise:

- a comprehensive surveillance system network;
- an expert team specializing in public health, epidemiology and disaster management;
- a reserve of medical supplies and equipment; and
- a dedicated communications system.

The NHEOC has been instrumental in effectively managing several public health crises in Sri Lanka, such as the COVID-19 pandemic, measles outbreak and the dengue fever epidemic.

The Medical Supplies Division, along with the 26 regional medical supplies divisions, supports both regular supply chains and emergency provisions. This division maintains its own fleet of vehicles, and its supply staff, trained in handling specialized materials (such as radioactive medicines), accompany shipments when required. However, the country has a limited capacity for domestic production of antibiotics and certain surgical items.

Research related to health emergencies is conducted both independently and as part of the Health Sector Disaster Management Diploma at the Postgraduate Institute of Medicine. Annually, between 10 and 15 health emergency research projects are undertaken within the framework of the Health Sector Disaster Management Diploma programme.

Indicators and scores

R1.1 Emergency risk and readiness assessment: Score 2

Strengths

- Stakeholders who contributed data for multisectoral risk assessment demonstrate strong commitment.
- Risk assessment tools are available at both national and subnational levels.
- The DesInventar risk database is available.
- Risk readiness assessment of hospitals is routinely integrated into hospital activities.

Challenges

- At times, there is a misalignment between the boundaries of administrative districts and health districts.

- Diverse data formats and software are used by stakeholders for data collection, compilation and dissemination.
- The management of the DesInventar database is centralized and does not always accurately represent the location of events.
- Risk assessments have not been conducted across all health districts.

R1.2 Public Health Emergency Operations Centre (PHEOC): Score 3

Strengths

- The NHEOC is well established and is frequently activated for various public health events, including disasters, outbreaks, food safety concerns and deliberate events.
- The NHEOC maintains strong connections with subnational HEOCs and the Disaster Management Centre.

Challenges

- Documentation for subnational HEOCs is incomplete.
- HEOCs have not been established in all health districts.

R1.3 Management of health emergency response: Score 4

Strengths

- The Health Incident Management System (HIMS) is integrated into the NHEOC procedures and is promoted as a management tool during emergency responses.
- The HIMS is routinely used in emergency response actions.

Challenges

- More advocacy and capacity-building activities are needed regarding the use of the HIMS.
- Some stakeholders are unclear about the distinction between an organogram and the operational aspect of the HIMS during emergencies.

R1.4 Activation and coordination of health personnel and teams in a public health emergency: Score 2

Strengths

- There is significant experience in deploying national emergency medical teams (NEMTs) during disasters.
- The Sri Lankan army's EMT is undergoing certification, while the Ministry of Health is also planning to establish an EMT.
- Experiences from both sending and receiving EMTs are shared at regional and global levels.

Challenges

- The EMT initiative is being implemented, but in a fragmented manner.
- A documented process for national EMTs is currently lacking.

R1.5 Emergency logistic and supply chain management: Score 4

Strengths

- The Medical Supplies Division, along with the 26 regional medical supply divisions, provides the framework for supply during both regular operations and emergencies.
- During the COVID-19 pandemic, regulatory authorization was secured to facilitate local personal protective equipment (PPE) production.

Challenges

- There is no temperature tracking system for non-vaccine products.
- The logistics system lacks comprehensive documentation.

R1.6 Research, development and innovation: Score 2

Strengths

- Subject matter experts in emergencies and research are nurtured to bolster the workforce.

Challenges

- A strategic framework for operational research during health emergencies is absent.

Recommendations for priority actions

- Establish standard operating procedures (SOPs) and develop standard formats to be used by different agencies for data management to inform the conduct and use of risk and readiness assessment at all levels.
- Extend the subnational Health Emergency Operations Centre (HEOC) coverage, capacity and auditing to all the health districts in a phased manner based on risk.
- Document, disseminate and test institutional emergency preparedness and response plans for the central Medical Supplies Division and regional medical supplies divisions.
- Develop and implement training programmes for the following:
  - » HEOC management, including the Incident Command System;
  - » emergency medical teams; and
  - » One Health rapid response teams (to move to surveillance if not already there).
- Develop and implement a national strategic framework and a small grant system for research in health emergencies.

R2. 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, multisectoral 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.

Level of capabilities

Sri Lanka enacted a legal statute for the establishment of the National Council for Disaster Management, which is chaired by the President. The council coordinates the efforts of all the MDAs responsible for preparing for, detecting and responding to both natural and man-made disasters or public health events. The Ministry of Defence, via the Disaster Management Centre, manages the National Emergency Operational Centre, and oversees the collection and collation of health and intelligence data, as well as liaises with the respective MDAs for response actions.

The Ministry of Health houses the DPRD, which serves as the focal point for the Biological and Toxic Weapons Convention, and coordinates responses to health emergencies through the NHEOC. Additionally, the DPRD oversees the NIDP. The Ministry of Health also facilitates training for frontline CBRN responders, which is conducted by the tri-forces and the police. Besides, an active National Steering Committee oversees activities related to CBRN surveillance and monitoring. Health security is also being integrated into the broader national security policy which is currently in development.

Despite notable changes in the JEE tool from versions 1.0 to 3.0 concerning this technical area, Sri Lanka has made significant strides in fortifying the priority actions mentioned in the 2017 report. This includes enhancing information-sharing mechanisms between the security and health sectors, and conducting joint training sessions for them.

Indicators and scores

R2.1 Public health and security authorities (e.g. law enforcement, border control, customs) are involved during a suspected or confirmed biological event: Score 4

Strengths

- Training sessions addressing chemical, biological and explosive hazards have been conducted with the participation of both health and security authorities. These sessions encompassed information sharing, joint investigations and coordinated responses.

- Simulation exercises have been carried out in scenarios involving suspected or deliberate biological events.
- Emergency preparedness and response plans, complemented by the SOPs of the DPRD and the tri-forces, outline the specific roles and responsibilities of the health and security authorities during health crises.
- The Epidemiology Unit has provided field epidemiology training to public health specialists, including those from the security sector.
- Joint investigations involving both health and security sectors have been carried out – for example, health investigations involving the navy and prison clusters during the COVID-19 outbreak.

Challenges

- The national security policy is still in its final stage of development. Upon finalization, health security may gain priority at the policy level, especially in scenarios involving suspected or deliberate CBRN events.
- In the past, CBRN training sessions were conducted separately for the health and security sectors, especially at the tactical and operational levels.
- A coordination mechanism is under development between the tri-forces, the police, and pre-hospital ambulance services. This mechanism aims to streamline responses and facilitate the deployment of EMTs during suspected or confirmed deliberate CBRN events.

Recommendations for priority actions

- Through a multisectoral approach, the Disaster Preparedness and Response Division (DPRD) should work with all the relevant ministries, departments and agencies (MDAs) to advocate for the finalization and endorsement of the national security policy.
- Aim to expand the joint simulation exercises (SimExs) and tabletop exercises for suspected or confirmed deliberate events to cover all chemical, biological, radio-nuclear and cyber hazards.
- Plan to review and conduct joint CBRN and cybersecurity training programmes for personnel across the sectors of public health, border control and security; the trainings involve:
  - » surveillance and identification of suspected chemical, biological, radio-nuclear and deliberate cyber events; and
  - » frontline responders for suspected chemical and deliberate biological events.
- Work with WHO country office on training the personnel of public health, security and border control, and use the National Self-Assessment Tool (NSAT) to generate a CBRN profile for Sri Lanka on hazard, vulnerability and risk in order to inform planning and response.

R3. Health services provision

Introduction

Resilient national health systems are essential for countries to prevent, detect, respond to and recover from public health events, while ensuring the maintenance of health systems functions, including the continued delivery of essential health services at all levels. Particularly in emergencies, health services provision for both event-related case management and routine health services are equally as important. Moreover, ensuring minimal disruption in health service utilization before, during and beyond an emergency and across the varied contexts within a country is also a critical aspect of a resilient health system.

Target

1) Evidence of demonstrated application of case management procedures for events caused by IHR relevant hazards.
2) Optimal utilization of health services, including during emergencies.
3) Ensuring continuity of essential health services in emergencies.

Level of capabilities

The health system in Sri Lanka comprises both curative and preventive services. Curative care is available at different levels, ranging from "outpatient only" facilities and primary care institutions to tertiary care institutions and specialized hospitals. These facilities form a structured network and provide a comprehensive range of health care services. All these state-provided services are free of charge at the point of delivery, including for any required medicines or investigations. The private health care system accounts for about 5% of inpatient care and 50% of outpatient consultations. While household contributions to current health expenditure (CHE) are significant, catastrophic health expenditure remains low. Preventive services are provided almost entirely by the public sector through a network of medical officers of health units, including domiciliary health care workers, as well as through preventive programmes.

Indicators and scores

R3.1 Case management: Score 4

Strengths

- Sri Lanka has dedicated clinical case management guidelines for priority hazards. These are supported by a cadre of technical experts affiliated with professional colleges; these experts are available to offer training under the administrative guidance of the relevant directorates of the Ministry of Health.
- Across the island, patient admissions and referrals from the extensive health care network, spanning primary to tertiary levels, adhere to established care pathways. Primary-level medical institutions are led by doctors, while secondary-level and higher level medical Institutions are managed by certified medical administrators.
- Specific case management facilities, including designated hospitals like the National Institute of Infectious Diseases and the National Hospital for Respiratory Diseases, among others, are available at the national level.

- Case management benefits from a technical network that includes regional epidemiologists and infection control units in hospitals. Isolation facilities are accessible at every system level.
- During the COVID-19 pandemic, innovative case management approaches, such as those involving home-based care, intermediate care centres, as well as step-down hospitals, were employed.
- The streamlined transfer protocols that were followed for COVID-19 patients can be adapted for other infectious diseases too.

Challenges

- Awareness of and adherence to case management guidelines might be suboptimal, partly due to resistance to change. Institutions lack a clear mechanism to monitor guideline compliance and in terms of providing clinicians with feedback.
- The revision of case management guidelines is hampered by a lack of dedicated financial and human resources.
- Although health care facilities have defined catchment areas, individuals are free to access services at any state-run facility; this hinders the strengthening of integrated care pathways.
- There is a need for better integration of health care provisions across all levels of care in the public sector as well as in the private sector.

R3.2 Utilization of health services: Score 3

Strengths

- A dedicated authority and a functional mechanism monitor health system performance at all levels; they involve:
  - The Health Information Management System for monitoring service utilization
  - Medical audits at both national and institutional levels
  - "In-charge" meetings/management committees in hospitals
  - Provincial/District reviews
  - Head of institution/MoH meetings at RDHS and PDHS levels
  - Health Development Committee meetings/Director's meetings at the national level with the DGHS
  - National Health Development Committee meetings with the Secretary of Health
  - Biannual national quality review meetings
  - Perinatal and maternal mortality review meetings
  - The Grievance Coordination Unit within the Ministry of Health
  - Public feedback mechanisms on health services, such as a public hotline and suggestion boxes in hospitals.

Challenges

- Private-sector health care data, including on service utilization, is scarcely available.
- The utilization of public-sector primary health care is relatively low, likely due to policies allowing direct access to secondary/tertiary care levels.
- A system to assess, track and monitor public trust in the health system, which would inform policy, planning and implementation in a better manner, is absent.
- Medical audit arrangements are suboptimal at both national and institutional levels.
- The absence of a national facility/provider accreditation system and other national external evaluation systems hinders quality service assurance and public trust.
- The public awareness platform for available services is not sufficiently robust.

R3.3 Continuity of essential health services (EHS): Score 4

Strengths

- A nationally defined EHS package exists, complemented by a shared care cluster model to support its delivery.
- Primary health care, central to Sri Lanka's vision of universal health coverage, ensures easy access to health care institutions (within 5 km) and offers free health care based on the EHS package.
- Care access prioritizes marginalized and vulnerable populations.
- The activation of the health sector and national emergency preparedness and response plans falls under the purview of the emergency operational units at all levels. These are overseen by the Disaster Preparedness and Response Division of the Ministry of Health, with explicit provisions for the continuity of EHS.
- The armed forces, the police, the Department of Civil Defence, and Sri Lanka Customs collaborate with health authorities during emergencies; for instance, during the COVID-19 pandemic, they offered support for vaccination, contact tracing and patient management.
- Island-wide pre-hospital emergency care services are provided by Suwa Seriya through the hotline number 1990.

Challenges

- The current system for monitoring EHS continuity, both routinely and during emergencies, is not robust enough.
- The equitable provision of health care services is constrained by resource limitations.
- Support for medical personnel and other frontline workers, especially concerning burnout and mental health, is suboptimal.
- Digital health care and telemedicine platforms are underutilized, with some rural areas lacking satisfactory network facilities.

Recommendations for priority actions

- National clinical case management guidelines for entities related to priority health emergency events should be exercised, reviewed and regularly updated. Additionally, efforts should be made to enhance the capacity of health staff in following clinical guidelines, and a regular mechanism to monitor adherence should be developed.
- Further expand public health care reporting systems and explore feasible options to establish parallel reporting systems for private health facilities to share service utilization and other essential data with the government health authority for planning and quality assurance; the aim is to:
  - » optimize service utilization at primary health care facilities;
  - » identify and ensure necessary resources and arrangements;
  - » provide information on services available at the primary care facilities; and
  - » institute a functional referral system between primary, secondary and tertiary care facilities.
- The available EHS package and plans/guidelines on continuity of EHS in emergencies should be reviewed, evaluated and regularly updated.

R4. Infection prevention and control

Introduction

To have strong, effective infection prevention and control (IPC) programmes that enables safe health care and essential services delivery, and prevention and control of health care acquired infections (HCAIs). It is critical to initially ensure that at least the minimum requirements for IPC are in place, both at the national and facility level, and to gradually progress to the full achievement of all requirements within the WHO IPC core components recommendations.

Target

(1) National IPC programme strategy has been developed and disseminated. (2) Implementation of the national IPC programme plans, with monitoring and reporting of HCAIs. (3) Established national standards and resources for safe health facilities.

Level of capabilities

In Sri Lanka, IPC practices are firmly in place in line with WHO guidelines. This comprehensive strategy encompasses key elements like hand hygiene, managing HCAIs, addressing AMR and ensuring a safe health care setting. All public hospitals in the country consistently implement these IPC protocols, which also include training and surveillance.

The effectiveness of IPC is gauged by monitoring HCAIs. These are evaluated based on factors like extended hospital stays, long-term disability and unfortunate fatalities, which also lead to increased out-of-pocket expenditure. The IPC focal point, the Directorate of Healthcare Quality and Safety within the Ministry of Health, works in tandem with a range of stakeholders, including policymakers, health care practitioners and service users.

In collaboration with the Sri Lanka College of Microbiologists and WHO, the Ministry of Health has developed training modules for health care workers. These modules are tailored to address the IPC guidelines that are relevant to the Sri Lankan scenario, especially in light of the COVID-19 pandemic.

Amidst the COVID-19 crisis, the IPC unit identified a three-tiered delay model. The insights derived from this model were shared at COVID-19 meetings as invaluable lessons. Additionally, a thorough quality and safety evaluation of COVID-19 treatment centres was undertaken using Google Forms. The findings were then presented to the COVID-19 Steering Committee of Sri Lanka.

Moreover, the IPC unit championed the launch of online training sessions for health care workers, with an emphasis on COVID-19. This training covered the correct use of PPE and the initiation of COVID-19 screening and treatment centres. Throughout the pandemic, the IPC Unit consistently conducted on-site hospital visits to ensure unwavering compliance with IPC standards and to offer crucial support.

Indicators and scores

R4.1 IPC programmes: Score 3

It was agreed that an active national IPC programme exists, and a national IPC operational plan, in line with WHO minimum requirements, is available. This includes the role of IPC in outbreaks and pandemics. National guidelines/standards for IPC in health care have been disseminated, and selected health facilities are implementing these guidelines using multimodal strategies. This encompasses health worker training, as well as monitoring and feedback.

Strengths

- Implementation of the National IPC Policy and guidelines.
- Quality control and evaluation of the HCAI surveillance programme.
- Availability of monitoring and evaluation indicators related to a safe environment in hospitals.

Challenges

- Technical support and human resource constraints at both national and facility levels.
- While the relevant data from the Directorate of Healthcare Quality and Safety (DHQS) are currently collected in a distinct format, they are now being transitioned into an electronic-based data system.

R4.2 HCAI surveillance: Score 3

A national strategic plan for HCAI surveillance, including of pathogens that are antimicrobial-resistant and/or prone to outbreaks, is in place. This is implemented through a national programme and system of data collection, analysis and feedback. Selected secondary and tertiary health care facilities are conducting HCAI surveillance as specified and provide regular feedback to senior management and health workers.

Strengths

- Availability of a national HCAI surveillance programme established by the DHQS.
- A high-quality laboratory system supports HCAI surveillance in most hospitals.
- Standardized definitions and appropriate methods are employed for HCAI surveillance.

Challenges

- The integration of IPC monitoring with existing surveillance components in the country is limited.

R4.3 Safe environment in health facilities: Score 3

National standards and resources for a safe built environment – such as water, sanitation, and hygiene, screening, isolation areas and sterilization services in health care facilities – are in place. This includes the necessary infrastructure, materials and equipment for IPC. Standards for reducing overcrowding and optimizing staffing levels in health care facilities, in line with WHO minimum requirements, are implemented in selected health care facilities at a national level according to plan.

Strengths

- Standards, guidelines or procedures for a safe environment in health facilities have been initiated by the Directorate of Environmental Health, Occupational Health & Food Safety of the Ministry of Health.
- The majority of health care facilities are equipped with isolation areas.
- Most health care facilities have access to safe water.

Challenges

- Technical support and human resource constraints at both the national and facility levels.
- Relevant DHQS data are collected in a separate format, but it is currently being transitioned into an electronic-based data system.

Recommendations for priority actions

- Launch and implement the IPC policy in the following manner:
  - » launch the IPC policy after obtaining Cabinet approval;
  - » implement the IPC policy across all health care institutions, including private health care facilities;
  - » ensure the availability of necessary human and financial resources, facilities and equipment to facilitate the implementation of the policy; and
  - » develop a costed strategic plan to enable the implementation of the policy.
- Develop and implement the national IPC guidelines in the following manner:
  - » develop and implement the IPC guidelines in alignment with the IPC policy, encompassing multimodal strategies.
- Enhance the HCAI surveillance system by:
  - » expanding coverage – include all base hospitals and tertiary care hospitals within the surveillance system;
  - » extending surveillance efforts to encompass the private health care sector as well;
  - » strengthening the quality control and evaluation procedures of the HCAI surveillance programme at both institutional and national levels; and
  - » strengthening feedback with periodic review of the IPC measures.
- Intensify efforts to monitor the indicators associated with a safe hospital environment and address the identified problems.

R5. Risk communication and community engagement

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

States Parties use multilevel, multisectoral and multifaceted risk communication and community engagement (RCCE) capacity for public health emergencies. Real-time exchange of information, advice and opinions during unusual and unexpected events and emergencies so that informed decisions to mitigate the effects of threats, and protective and preventive action can be made. 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 community engagement and infodemic management.

Level of capabilities

Serving as the national central hub for RCCE in Sri Lanka, the Health Promotion Bureau of the Ministry of Health plays a crucial role in overseeing emergency preparedness and response across various sectors. Although the HPB operates with several consultants, it has effectively established public communication, behavioural insights and social media units, primarily relying on medical doctors with public health background, due to limited staffing.

Building on the risk communication framework developed for COVID-19 in January 2020, the HPB recently finalized an RCCE strategy, drawing from the lessons and best practices observed during the pandemic. The current plan can be adapted into an all-hazards RCCE-IM (Infodemic Management) plan and integrated into the national emergency plan with clear command structures and SOPs at both national and local levels.

The operational budget for the HPB was supplemented by a specific allocation of 2.5 million US dollars from a World Bank loan earmarked for COVID-19 emergency response in Sri Lanka for the years 2021 and 2022. This allocation was designated for risk communication activities. However, in December 2022, this loan expired. Out of the 2.5 million US dollars, 1 million was re-absorbed by the government, leaving only 1.5 million US dollars that was effectively used for risk communication efforts, which were executed through the United Nations Children's Fund (UNICEF). This raises substantial concerns about the sustainability of the HPB's ongoing RCCE initiatives. It is imperative that resources are secured and allocated to RCCE across all its components, not just specific areas like communication material production and media campaigns.

During the pandemic, the HPB successfully secured support from senior government officials for active engagement in RCCE initiatives. Persistent advocacy efforts have led national authorities to establish an RCCE Technical Advisory Committee, appoint two official spokespersons, address emerging concerns, participate in RCCE public communication activities, mobilize most line ministries for consistent messaging, and foster community trust in national leadership.

Throughout the COVID-19 pandemic, the Epidemiology Unit and the HPB disseminated epidemiological data and key public health messages through broadcast and online outlets in Sinhala, Tamil and English. Various official sources also provided information on the crisis response. While there were occasional inconsistencies in messaging and language, the efforts to maintain information flow under challenging conditions are commendable.

Sri Lanka has robust networks of NGOs and community-based organizations, such as Sarvodaya, as well as community support groups such as Mothers' Support Group and Happy Village. These groups have been instrumental in supporting RCCE outreach during emergencies. There is potential to formalize and integrate these efforts using the experience gained during the COVID-19 pandemic to enhance engagement, resource allocation and ground capacity.

Laying emphasis on formative research is essential to better understand community perceptions and behaviours during emergencies. While the behavioural insight unit currently focuses on research and knowledge dissemination, there is a pressing need for more emphasis on evidence generation and use of findings to inform planning and interventions. This calls for a systematic approach and the adoption of evidence-based strategies for future RCCE interventions.

Sri Lanka made notable strides in managing infodemics during the COVID-19 pandemic by activating a 24-hour hotline, conducting online social listening and using multiple fact-checking services. Digital media start-ups also played a role in these efforts, coordinated by UNICEF with the World Bank emergency loan. However, there is an urgent need to further structure these efforts using the insights gained to establish a robust social listening and community feedback mechanism.

Strengthening RCCE capacity and increasing the number of RCCE resource persons at all levels is paramount. This requires a comprehensive assessment of the national workforce's RCCE capabilities, leading to the identification and prioritization of training needs. Current efforts lack a structured plan for monitoring training impact and outcome. This process will have to be integrated in the national RCCE-IM all-hazards plan to ensure that the strengthened RCCE capacities translate into tangible and positive outcomes.

Indicators and scores

R5.1 RCCE systems for emergencies: Score 3

The HPB serves as the national hub for RCCE in Sri Lanka. Despite constraints in staffing and funding, the HPB has set up units engaged in public communication, behavioural insights and social media. The bureau has recently developed an all-hazards RCCE strategy. However, there are concerns about sustaining their operations and building upon the progress achieved during the pandemic. For effective RCCE, it is essential to have clear command structures, SOPs and dedicated funding at both national and local levels. The HPB's advocacy has resulted in the formation of an RCCE Technical Advisory Committee; it has also garnered increased government support for consistent messaging and community trust building.

Strengths

- Dedicated units and multidisciplinary expertise for behavioural insights, public communication and social media within the HPB.
- Strong national and subnational multisectoral coordination ensuring harmonized interventions and leveraging partner capacities.

- Development of an all-hazards RCCE strategy based on previous plans for COVID-19 and pandemic influenza.
- Capability to leverage lessons and best practices from the COVID-19 RCCE response for future planning and interventions.
- The HPB has earned recognition as a trusted entity for RCCE, one that provides transparent and regular updates.
- Strategic integration of RCCE into other sectoral interventions, such as in water, sanitation and hygiene initiatives for vulnerable communities in the urban areas.

Challenges

- Lack of an integrated RCCE system and formal SOPs to provide clarity on roles and responsibilities during emergencies.
- There are no formal coordination mechanisms for RCCE between public health authorities and other partners; however, the informal mechanisms have been effective during emergencies.
- Limited operational budget for the HPB, leading to concerns about the sustainability of RCCE within the national preparedness and response structure.
- Limited seasoned RCCE expertise in the country.
- Planning and interventions related to RCCE are not consistently informed by risk assessments.

R5.2 Risk communication: Score 3

Strengths

- The institutional coordination and technical committees which were established helped in enhancing RCCE coordination, harmonizing public messaging and in defining partner roles during the COVID-19 pandemic.
- Comprehensive public communication outreach mechanism using a mix of traditional, social and digital media platforms.
- Development of a wide range of information, education and communication materials, primarily created internally in collaboration with WHO and UNICEF, following systematic pretesting.
- Effective engagement with media outlets and technical experts to educate the public.

Challenges

- Limited systematic collection and use of behavioural insights for RCCE messaging.
- Insufficient resources for systematic and integrated analyses of data points and infodemic insights.
- Limited capacity for A/B testing of communication materials, and evaluations do not extend to impacts beyond reach and engagement metrics.
- Reliance on external applications and emergency funds for online social listening, while the offline social listening system needs reinforcement.
- Dependence on UNICEF's outsourced services for social media monitoring due to the absence of a formal strategy for misinformation reporting and rumour management.

R5.3 Community engagement: Score 3

Strengths

- A vast number of active community-based organizations and networks played pivotal roles during the COVID-19 pandemic; they have also been crucial for other health programmes.
- Engagement with the community is maintained through informal connections, using a mix of online and offline activities.
- An established online social listening and rumour tracking system is available in multiple languages, but there is limited information about the use of its findings.

- Quick investments made to reinforce existing social and behavioural data collection methodologies and to establish social listening mechanisms.

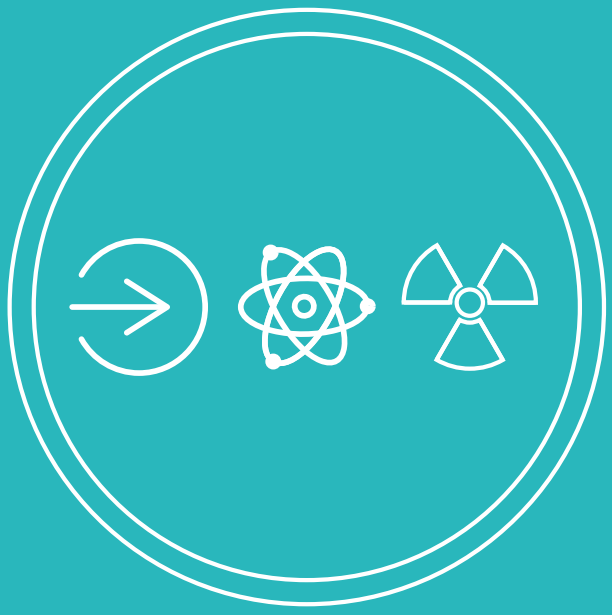
Challenges

- Lack of resources to conduct a baseline survey to evaluate populations that are at risk.
- While NGO mapping has been conducted, the findings have not been utilized to formalize partnerships.
- Inadequate utilization of online feedback and community data due to limited capacity to tailor the responses based on evolving trends.

Recommendations for priority actions

- Conduct a self-reflection exercise and external evaluation of the effectiveness of the national RCCE during the COVID-19 pandemic to document the lessons learned and best practices; use the findings to update the existing RCCE plan for 2023–2025; and determine the resource and capacity gaps so as to establish sustainable systems and build the capacity for the plan's strategic implementation after mapping the resources and capacities currently available in the public sector and among partners.
- Assess and advocate for necessary resources and mechanisms to establish an integrated framework that harmonizes the collection, analysis and strategic utilization of community feedback, socio-behavioural insights, and risk assessments across all tiers. Leverage these insights systematically to drive informed decision-making in RCCE and infodemic management planning and interventions.
- Review and adapt existing structures and processes to integrate RCCE and infodemic management into provincial, district and divisional annual action plans (AAPs). Ensure the allocation of dedicated resources and establish robust mechanisms for continuous monitoring and adaptive enhancements, thereby elevating the overall effectiveness and impact of RCCE and infodemic management interventions.

IHR-related hazards, PoEs and border health



PoE: Points of entry and border health

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 were 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.

Level of capabilities

Sri Lanka operates four international airports and six international ports, but only Bandaranaike International Airport and Colombo Port are designated PoEs under the IHR (2005). Four authorized ports issue ship sanitation certificates. The two designated PoEs are well equipped with adequately trained staff available 24/7. Public health contingency plans have been developed for both airports and ports, involving multisectoral participation, and tested through tabletop exercises in 2016. The country published SOPs for the prevention, early warning and response to public health events at PoE in 2015.

Following evaluations of the core capacities at these designated points, several corrective measures were implemented, including updates to the SOPs and the development of public health contingency plans for the non-designated PoEs. The country also maintains adequate facilities and competent staff for the quarantine of small numbers of animals and limited quantities of food at its airports and ports. The National IHR Steering Committee or the Presidential Task Force has demonstrated the capacity to conduct risk assessments, and provide technical support for decisions on international travel measures, as evidenced during the COVID-19 response actions.

Indicators and scores

PoE1. Core capacity requirements at all times for PoEs (airports, ports and ground crossings): Score 4

Designated PoEs in Sri Lanka have units for managing both infectious and non-infectious medical conditions. These units are supported by a transport system that facilitates referrals to pre-identified infectious disease hospitals and specialist hospitals. In addition to vector control and food and water safety measures, public health protocols also encompass environmental sanitation and coordination with a dedicated unit for managing radio-nuclear events. Currently, plans are in progress to regularly test and evaluate existing capacities for necessary upgrades.

Strengths

- A 24/7 medical centre is operated at international airports by the Airport Authority of Sri Lanka, offering some diagnostic facilities (electrocardiogram – ECG; blood pressure – BP; and fasting blood sugar – FBS) and ambulance services for ill travellers.
- A 24/7 health office is operated at international airports and ports by the Quarantine Unit of the Ministry of Health, catering to ill travellers.
- Public health emergency contingency plans, SOPs and technical guidelines were regularly updated during the COVID-19 pandemic, including protocols for human remains repatriation and traveller information.
- Training for Ship Sanitation Inspection and Certification for health staff at PoE was provided in 2017.
- Regular mosquito surveillance is conducted by airport and port health staff, complemented by the staff of national anti-filariasis and antimalaria campaigns.

Challenges

- Institutionalization and documented endorsement of updated SOPs and technical guidelines are needed for effective coordination during both routine operations and public health emergencies.

PoE2. Public health response at PoEs: Score 3

In Sri Lanka, PHECPs have been developed and implemented at designated PoEs for biological hazards and are integrated with the national surveillance system. Staff at non-designated PoEs have also been trained in conveyance inspection, including ships, for the issuance of the Ship Sanitation Inspection and Control Certificate and the Ship Sanitation Control Exemption Certificate. The PHECPs, which adopt an all-hazards approach and involve multisectoral engagement, are in the process of being further strengthened, including at some non-designated PoEs. The personnel at these non-designated PoEs perform regular functions and are part of the national surveillance system.

Strengths

- Simulation exercises are conducted occasionally.
- The PHECPs for Bandaranaike International Airport and the Emergency Preparedness and Response Plan for Colombo Port were tested in 2016 through tabletop exercises and discussions.
- Effective coordination exists between health and non-health sectors at PoEs.
- Orientation training on COVID-19, including on PPE, has been provided for all PoE staff.
- Training programmes on vessel inspection, granting pratique, and vector control at ports and airports have been conducted.

Challenges

- Coordination with the intermediate level of the national surveillance network remains a challenge.

PoE3. Risk-based approach to international travel-related measures: Score 4

Public health measures for international travellers, such as screening and thermal scanning, were implemented during the COVID-19 pandemic in line with the PHECPs and national strategies. There is a need for simulation exercises and evaluations at both national and intermediate levels to test the all-hazards, multisectoral preparedness and response plans post-COVID-19.

Strengths

- Regular review meetings are conducted at PoEs by the Quarantine Unit, involving the staff of airport and port health offices.
- Staff of the Quarantine Unit attend the review meetings convened by the Civil Aviation Authority Sri Lanka, involving all stakeholders at airports.

- Risk assessments concerning international arriving travellers were regularly undertaken at PoEs during the COVID-19 pandemic. These contributed to the risk management strategies developed by the Presidential Task Force, the National IHR Steering Committee, the Advisory Committee on Communicable Diseases (ACCD) and the Technical Committee of the Ministry of Health to prepare guidelines on Quarantine Measures for Travellers and were implemented in coordination with the IHR co-national focal points.
- The staff of airport and port health offices report directly to the Quarantine Unit of the Ministry of Health which is an IHR Co-National Focal Point.
- During the COVID-19 pandemic, guidelines were frequently updated and issued by the Ministry of Health, depending on the caseload in the country and the number of SARS-CoV-2 positive travellers.

Challenges

- Regular simulation exercises for testing the PHECPs and mechanisms for multisectoral coordination at PoEs need to be conducted.

Recommendations for priority actions

- The standard operating protocols for the public health measures that are required during routine times (24/7) and during a public health emergency to be reviewed and updated regularly at predetermined intervals.
- Conduct regular simulation exercises to test the public health emergency contingency plans (PHECPs), preferably as part of the overall drills at airports and seaports.
- Develop/update the PHECPs for non-designated PoEs.
- Enhance facilities at PoE health units to effectively undertake routine surveillance activities for water and food safety, yellow fever and malaria, and safe transportation of dead bodies.
- Develop and implement an e-health information system for airport and port health units covering all public health measures required for IHR (2005) compliance.
- Develop and implement a standard capacity-building programme for health officials on how to carry out conveyance inspection and quarantine procedures.

CE. 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 capacity for chemical risks or events. This requires effective communication and collaboration among the sectors responsible for chemical safety, including health, occupational health, emergencies, environment, transportation and safe disposal, agriculture/veterinary, as well as industries.

Level of capabilities

In recent years, the emphasis on the preparation for chemical events has grown, particularly as State Parties must maintain surveillance and possess the capacity to manage chemical risks and incidents. In the last five years, this priority has been underscored, with Sri Lanka bearing witness to a series of notable chemical accidents. Incidents such as X-Press Pearl, Blue Diamond, the fire at Damro Cushion, and several chemical accidents in medium- and small-scale industries resulted in considerable environmental and property damage. Several employees were killed in certain chemical incidents, further highlighting the gravity of the problem.

The focus is not just on addressing past events. The goal extends to achieving timely detection and forging an effective response strategy for potential future risks. This highlights the vital role of collaboration: forging ties with sectors focused on chemical safety; partnering with industries; and guaranteeing the safe transport and disposal of hazardous materials. This multifaceted approach was evident when adjustments were made to the technical area of chemical events in CE1. With the introduction of the third edition of the JEE, the emphasis for CE1 has shifted to developing mechanisms proficient in detecting and responding to chemical emergencies, while CE2 prioritizes creating an enabling environment dedicated to the holistic management of chemical events.

Delving further, Sri Lanka has established a solid foundation with its policy regulations and guidelines. The National Chemicals Policy 2023 has been developed and approved. There are explicit environmental recommendations established for industries that deal with chemicals and other potential hazard materials. Manuals, guidelines and surveillance strategies abound, all aimed at the assessment and management of chemical events, intoxications and poisonings. Other than the National Chemicals Profile 2015 which is already in circulation, there is more on the horizon. The Central Environmental Authority is intensively working to revise the National Environment Act to set the stage for a more comprehensive approach to chemical management in the future. Regulations for environmental impact assessment related to "handling industries" are in place. Furthermore, the nation has adopted guidelines centred around the safe storage of chemicals in order to ensure safety at every step.

Inspections play a pivotal role in this framework. Factories throughout Sri Lanka are closely monitored by district factory-inspecting engineers. Simultaneously, the Central Environmental Authority steers the ship with a focused licensing system to ensure that pollution control is a top priority. This emphasis on regular checks and balances is evident among the medical officers of health and the public health inspectors, who routinely carry out inspections in workplaces.

However, this system relies heavily on comprehensive training and capacity-building. Sri Lanka has laid out disaster preparedness plans at district levels to ensure that a robust response mechanism is always on standby. Training is not limited to one sector; it spans from public health staff and environmental staff to safety officers in various industries. The breadth of the CBRN training is commendable, covering the tri-forces, the police, hospital staff and many more. This layered training approach ensures that the nation is equipped at every level, from safety officers and district factory-inspecting engineers to public health inspectors and emergency physicians.

Sri Lanka has allocated tangible resources to support its commitments. Its provinces are equipped with emergency funds to ensure rapid response. Workers have a safety net with a dedicated compensation fund, and the Ministry of Health plays its part with designated funds for emergency health response.

Regarding health services, Sri Lanka ensures comprehensive coverage. Hospitals at the base level and above are equipped to treat patients affected by chemical poisoning/events. Divisional hospitals provide supportive management for these patients and refer them to secondary and tertiary care hospitals as required. This comprehensive health care system extends its services to the workplace and affected communities, with the medical officers of health and the public health inspectors leading the efforts.

Indicators and scores

CE1. Mechanisms established and functioning for detecting and responding to chemical events or emergencies: Score 2

There are established and functional mechanisms for detecting and responding to chemical events or emergencies. Guidelines or manuals on the surveillance, assessment and management of chemical events, intoxication and poisoning are available. Therefore, a score of 2 was reached by consensus.

Strengths

- Agencies with clear coordination mechanisms are well established.
- An operational Poison Centre is available for emergencies.
- Fully trained CBRN teams are on standby.
- Health institutions are equipped and ready to address chemical events.
- A total of 354 medical officers of health offices operate island-wide, offering environmental and occupational health services.
- A structured chemical event notification process is in place within factories.
- Accident investigations are conducted jointly to ensure thorough analysis.

Challenges

- There is a pressing need to enhance the capabilities of the Poison Centre.
- The existing analytical facilities, particularly those related to environmental monitoring and biological monitoring, require improvements.
- A more systematic zoning approach for industries is essential.
- The surveillance of chemical events, focusing on hazard, health and exposure databases, can be further refined.
- The chemical event notification process demands more robust protocols.
- Training programmes centred around emergency management and risk communication in chemical events need further emphasis.
- The ongoing economic crisis poses a considerable challenge.
- The dominance of an informal economy workforce, which accounts for 60% of the country's total workforce, and the prevalence of small-scale industries present obstacles.

- A shortage or inadequacy of human resources.
- The challenge of balancing competing priorities.

CE2. Enabling environment in place for management of chemical events – Score 2

National policies, plans or legislation for chemical event surveillance alert and response exist. Therefore, a score of 2 was reached by consensus.

Strengths

- Comprehensive national policies and plans are already in place.
- The foundation is further strengthened with dedicated legislation.
- Active community participation during policy-making consultations.
- The presence of a functional environmental impact assessment system.

Challenges

- The overarching management of chemical events, especially at the apex body level, requires fortification.
- There is a pressing need to map chemical-handling industries and identify high-risk chemicals. This should be accompanied by the development of a comprehensive database.
- Response mechanisms for chemical events at the industry level, especially pertaining to emergency plans and drills, need improvements.
- Risk communication strategies about chemical events directed towards the public can be enhanced.
- Staff training aimed at responding to major chemical accidents should be prioritized.

Recommendations for priority actions

- Establish an apex body for management of chemical events throughout their life cycle.
- Establish regulations for chemical storage facilities.
- Develop a plan for prevention and preparedness for chemical events, including major maritime chemical events.
- Develop a database on chemical-handling places of concern and also develop a comprehensive plan for emergency response, including for off-site and on-site management of chemical events.
- Strengthen surveillance related to chemical events, especially for notification and dissemination of information for action.

RE. 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.

Level of capabilities

In 2014, the Sri Lanka Atomic Energy Act, No. 40, led to the dissolution of the Atomic Energy Authority (AEA) and the formation of two distinct entities:

- The Sri Lanka Atomic Energy Regulatory Council (SLAERC), responsible for regulating the use of ionizing radiation within the country and overseeing radio-nuclear emergency preparedness and response.
- The Sri Lanka Atomic Energy Board (SLAEB), tasked with providing technical expertise on ionizing radiation and promoting the peaceful use of nuclear energy.

This Act – Chapter VII, Section 58 (1) – also authorized SLAERC to develop a radiological Emergency Management Plan (EMP) to address potential nuclear or radiological emergencies at the national level. It also authorizes the Disaster Management Centre in implementing the EMP.

Since the first JEE in 2017, significant advancements have been made in radiation emergency preparedness and response. Notably, the EMP was formulated in 2019 and adopted in 2021. Although its full implementation is still a work in progress, several SOPs have been set up to tackle the radiological scenarios identified by SLAERC. However, further efforts are needed to fully integrate the identified responders and their responsibilities, with the medical sector standing to benefit significantly from such an integration.

As a member of the IAEA's Response and Assistance Network, Sri Lanka can seek international assistance to address complex radiation incident scenarios. Various international aid programmes have assisted Sri Lanka in strengthening its monitoring strategy and evaluating its plans. However, recent health and economic challenges have impacted its human resources and some of its monitoring capabilities, so maintenance and repair can no longer be ensured. This has led to a decline in operational preparedness over time.

The emergency preparedness categories, as outlined by SLAERC in accordance with the IAEA's General Safety Requirements (Part 7), are limited to categories III, IV and V. Incidents involving undamaged high-activity sealed sources, such as industrial radiography sources, nuclear gauges and sources related to industrial irradiation or radiotherapy facilities, can be managed with the existing capacities. While Sri Lanka possesses some capabilities for environmental monitoring and foodstuff analysis, it lacks internal dosimetry capabilities. This deficiency means that handling situations involving damaged sealed and unsealed sources, and handling international nuclear incidents would pose challenges. Yet, the spectrometry equipment within SLAEB and SLAERC could bridge this gap with the formulation of specific procedures.

Sri Lanka is in discussions with nuclear plant manufacturers regarding the potential construction of a nuclear power plant. In anticipation, SLAERC is preparing a new nuclear energy bill. If this project proceeds, a significant enhancement in Sri Lanka's emergency preparedness and response capabilities, encompassing manpower, equipment and arrangements, will be essential.

Indicators and scores

RE1. Mechanisms established and functioning for detecting and responding to radiological and nuclear emergencies: Score 2

Strengths

- The country has a regulatory body, SLAERC, and an expert centre, SLAEB. SLAEB possesses specialist tools, such as fixed and in situ spectrometers, vehicle-mounted instruments with GPS tracking devices, an early detection gamma probe network and such others, which would prove useful for complex scenarios. On the other hand, SLAERC holds a variety of handheld equipment which can be deployed during a radiation emergency and supplied to first responders (fire and rescue services, ambulance services, medical staff, etc.) to increase their response capabilities. Additionally, SLAERC has a limited number of gamma spectrometers (one fixed High Purity Germanium – HPGe – and several mobile instruments) which can be used for radiation incidents needing characterization.
- International assistance can be sought under existing arrangements with the IAEA's Response and Assistance Network.
- The combined resources of SLAERC and SLAEB ensure that Sri Lanka has sufficient laboratory facilities for environmental monitoring. In addition to field monitoring, samples of soil, grass, water and air can be analysed in Colombo. In situ gamma spectrometry can be conducted throughout the country. Established monitoring points are in place for use during radiation emergencies, offering comparisons to background radiation levels.
- The equipment and personnel of the CBRN units from the Sri Lanka Navy, Air Force and Army are fully integrated into the EMP. These units, equipped with comprehensive PPE and monitoring devices, are trained to play an active role during radiation incidents. They also routinely participate in exercises to test their procedures.
- The Mega Port Screening Project allows for systematic monitoring of all imported goods at the Colombo port using portal monitors. Additionally, airports maintain active surveillance using mobile detection devices operated by the air force, targeting both gamma-emitting radionuclides and fissile material.

Challenges

- While a fair number of spectrometers are available in the country, they are primarily utilized for monitoring commodities and foodstuff (both imported and exported) and for water analysis. Despite the mandate set by the Regulations on Ionising Radiation Protection of the Atomic Energy Safety Regulations No. 1 of 1999, no internal dosimetry techniques, such as in vitro monitoring procedures, have been developed so far. This gap could significantly hinder the country's response capabilities should any medium-scale incident (a leaking high-activity source) or a large-scale incident (off-site release from a nearby nuclear power plant) were to occur.
- Prior to the COVID-19 pandemic, SLAERC intended to enhance its EMP capabilities by instituting a new department focused on radiation emergencies. However, the subsequent economic downturn in 2019 led to the shelving of the plan, and recruitment for open positions was suspended. Consequently, the pace of developing emergency preparedness and response procedures decelerated, with SLAERC prioritizing its regulatory responsibilities amidst a diminished workforce.
- Out of the six hospitals with radiotherapy/nuclear medicine wards, only four have the equipment and knowledgeable staff to assist during a radiation emergency. Regrettably, no specific training

has been provided to these radiation specialists, thus rendering these hospitals ill-prepared for radiation emergencies.

- While SLAERC has formulated some SOPs to address various radiation incident scenarios, these procedures are scattered among the EMP stakeholders. As a result, many responders continue to depend on real-time advice from SLAERC during incidents.
- Certain specialist instruments, such as the liquid scintillator for gross alpha/beta measurement, some gamma probes for early detection, and vehicle-mounted plastic scintillator, are currently non-operational and have not been repaired due to financial constraints.

RE2. Enabling environment in place for management of radiological and nuclear emergencies: Score 4

Strengths

- A comprehensive EMP for addressing nuclear or radiological emergencies has been created and is actively being implemented. The plan clearly delineates the roles and responsibilities of all stakeholders, and provisions have been set for emergency funds, urgent countermeasures and subsequent recovery. Its strategic components have been recently assessed through tabletop exercises involving national stakeholders. Additionally, drills and exercises, supported by international and foreign agencies, have been conducted to further validate the plan.
- The stakeholders involved in the plan have agreed to the specifics of their responsibilities and met again in 2021 to discuss the modalities of their involvement within the scope of the plan.
- In 2023, a tabletop exercise, involving national stakeholders, was conducted to further test the plan's strategic components.
- The Regulations on Ionising Radiation Protection of the Atomic Energy Safety Regulations No. 1 of 1999, currently under review, empowers SLAERC with the regulatory tools to maintain good control over the licensees. These regulations provide regulatory duties for the registrants/licensees to undertake suitable protective measures in the event of an emergency exposure. The regulations also detail the circumstances that qualify as a radiation emergency and define the licensee's obligation to promptly notify SLAERC. Additionally, the document outlines the regulator's responsibilities concerning individual monitoring and health surveillance of both workers and the general public, covering both external and internal monitoring.
- The EMP clearly outlines the interdisciplinary coordination mechanisms for radiation incidents.
- During emergencies, strategic coordination among responders is efficiently managed through the State Ministry of National Security and Disaster Management and the Disaster Preparedness Unit of the Ministry of Health. SLAERC would give advice to both the bodies on the technical aspects of the emergency. For international coordination, a designated IHR NFP liaises with WHO, while SLAERC serves as the liaison body for the IAEA.
- The Regulations on Ionising Radiation Protection of the Atomic Energy Safety Regulations No. 1 of 1999 ensure the proper management of radioactive waste and effluents. A dedicated facility within the premises of SLAEB allows for the storage of disused and orphan radioactive sources.

Challenges

- Currently, there are no established plans for stockpiling equipment and medication in the event of a significant incident involving the dispersion of radioactive material. Similarly, there are no plans for addressing the decontamination of premises and the surrounding environment.
- The Ministry of Health, via its health care facilities, holds the primary responsibility for public health management, especially during emergencies. Their duties range from offering medical advice to the public and treating radiation-induced injuries, to assessing public health in areas affected by contamination. Furthermore, they are tasked with all medical aspects of emergency preparedness, including training the medical staff to identify and treat the effects of both external and internal radiation exposure. While the EMP clearly outlines these roles and responsibilities, there is a noticeable gap between policy and practice, with no tangible evidence supporting this

level of preparedness at the national scale. Presently, the National Hospital of Sri Lanka appears to be the sole medical facility equipped to handle radiation incidents.

- While the EMP was officially adopted in 2021, it has not undergone comprehensive testing. Consequently, no revisions or updates have been made; this is also due to lack of feedback. Some tabletop exercises have been initiated to assess national-level arrangements, but tangible drills or field exercises, which would evaluate the tactical and operational elements of the plan, are yet to be conducted. However, such exercises are scheduled for 2024, under the guidance of WHO.

Recommendations for priority actions

- Pursue the development of SOPs and technical guidelines for all the stakeholders involved in emergency management plans (EMPs) and test them accordingly through operational/ tactical exercises.
- Conduct specialized training for selected medical staff and make arrangements to equip selected medical facilities across the country to handle radiation emergencies involving irradiated and/or contaminated patients.
- Build human resources at the Sri Lanka Atomic Energy Regulatory Council (SLAERC) – by establishing a dedicated emergency preparedness and response division – and at the Sri Lanka Atomic Energy Board (SLAEB) in a phased manner for the purpose of developing and maintaining competencies in radiation and nuclear emergency preparedness and response.
- Develop and implement internal dosimetry techniques using the capacities already existing in-country in order to reinforce compliance with the Regulations on Ionizing Radiation Protection of the Atomic Energy Safety Regulations No. 1 of 1999; and increase preparedness for radiation emergencies.
- Restore and improve the operability of the monitoring devices/systems used for characterization and international events (NDEWS).

Annex. JEE background

Mission location and duration

Colombo, Sri Lanka, 4–8 September 2023

Team leads and Co-leads			
Karen Sliter (team lead), International Atomic Energy Agency (IAEA)			
Reuben Samuel (team co-lead), WHO Regional Office for South-East Asia			
	IHR core capacity	**Lead**	**Co-lead**
P1	Legal instruments	Ben Lilley	Asees Kaur
P2	Financing	Jahanzaib Sohail	Ben Lilley
P3	IHR coordination, National IHR Focal Point (IHR NFP) functions and advocacy	Sujeet Singh	Maung Maung Htike/ Peggy Hanna
P4	AMR	Sebastian Haller	Arunkumar Govindakarnavar Mo Salman
P5	Zoonotic disease	Ago Pärtel	Sebastian Haller
P6	Food safety	Ago Pärtel	Henk Ormel
P7	Biosafety and biosecurity	Ni Ketut Susilarini	Geofrey Jagero
P8	Immunization	Reuben Samuel	Homoud S. Algarni
D1	National laboratory systems	Arunkumar Govindakarnavar	Ni Ketut Susilarini
D2	Surveillance	Mo Salman	Rajesh Sreedharan
D3	Human resources	Henk Ormel	Yolanda V. Bayugo/Peggy Hanna
R1	Health emergency management	Homoud S. Algarni	Tamara Curtin Niemi
R2	Linking public health and security authorities	Geofrey Jagero	Rajesh Sreedharan
R3	Health services provision	Richard Brown	Reuben Samuel
R4	IPC	Mo Salman	Richard Brown Sebastian
R5	RCCE	Peggy Hanna	Yolanda V. Bayugo
PoE	Points of entry and border health	Sujeet Singh	Maung Maung Htike Homoud

	IHR core capacity	Lead	Co-lead
CE	Chemical events	Mohamad Pauzi Zakaria	Alexandre de RUVO
RE	Radiation emergencies	Alexandre de RUVO	Mohamad Pauzi Zakaria
Tamara Curtin Niemi			
Rajesh Sreedharan, JEE HQ advisor			
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Maung Maung Htike, JEE Secretariat (RO)			
Manish Gautam, technical report writer/editor			

Objective

To reassess Sri Lanka's capacities and capabilities in the 19 technical areas of the JEE tool, building on the results of the first JEE evaluation, and to provide updated data that will further support Sri Lanka's ongoing efforts to enhance its 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, strengths, areas that need strengthening, best practices, challenges, and scores – is 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 disagreements 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.

Field visits

- Department of Animal Production and Health (Zoonotic diseases)
- Veterinary Research Laboratory (Zoonotic diseases)
- Disaster Preparedness and Response Division, Ministry of Health (Health emergencies)
- National Disaster Management Centre (Health emergencies)
- Medical Research Institute (Laboratory)
- National Hospital of Sri Lanka (Tertiary care hospital)
- National Institute of Infectious Diseases (Secondary care institution and infectious disease treatment centre)
- MOH Piliyandala (Primary care institution providing community preventive health services)
- Epidemiology Unit, Ministry of Health (Surveillance, immunization)
- Health Promotion Bureau (RCCE)
- Bandaranaike International Airport (Points of entry and border health)

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 publicly available.
- The evaluation is not just an audit. The information provided by Sri Lanka will not be independently verified but will be discussed and the evaluation rating mutually agreed upon by the host country and the evaluation team. This is a peer-to-peer review.

National counterpart

	IHR core capacity	Technical Lead	Institution
P1	Legal instruments	Dr S.M. Arnold	Deputy Director General (Public Health Services), Ministry of Health
P2	Financing	Dr Sanketha Francis	Senior Registrar, Planning Unit, Ministry of Health
P3	IHR coordination, National IHR Focal Point (IHR NFP) functions and advocacy	Dr Dilhani Samarasekera	Consultant Community Physician, Quarantine Unit, Ministry of Health
P4	AMR	Dr Kushlani Jayatilleke	Consultant Microbiologist, Sri Jayawardanapura General Hospital
P5	Zoonotic disease	Dr Manori Wijemanna	Public Health Specialist, Department of Animal Production and Health
P6	Food safety	Dr Banuja Wijethilake	Consultant Community Physician, Food Control Administration Unit, Ministry of Health
P7	Biosafety and biosecurity	Dr Malika Karunaratne	Consultant Microbiologist, National Institute of Infectious Diseases
P8	Immunization	Dr Samitha Ginige	Chief Epidemiologist, Ministry of Health
D1	National laboratory systems	Dr Lilani Karunanayake	Consultant Microbiologist, Medical Research Institute
D2	Surveillance	Dr Samitha Ginige	Chief Epidemiologist, Ministry of Health
D3	Human resources	Dr Samantha Ranasinghe	Director Training, Ministry of Health
R1	Health emergency management	Dr Samiddhi Samarakoon	National Coordinator, Disaster Preparedness & Response Unit, Ministry of Health
R2	Linking public health and security authorities	Dr Samiddhi Samarakoon	National Coordinator, Disaster Preparedness & Response Unit, Ministry of Health

	IHR core capacity	Technical Lead	Institution
R3	Health services provision	Dr Nerangi Wijesuriya	Senior Registrar, DDG Medical Services Unit, Ministry of Health
R4	IPC	Dr Dewanee Ranaweera	Deputy Director, Directorate of Healthcare Quality & Safety, Ministry of Health
R5	RCCE	Dr Amanthi Bandusena	Consultant Community Physician, Health Promotion Bureau, Ministry of Health
PoE	Points of entry and border health	Dr Dilhani Samarasekera	Consultant Community Physician, Quarantine Unit, Ministry of Health
CE	Chemical events	Dr Inoka Suraweera	Consultant Community Physician, Environment Health Unit, Ministry of Health
RE	Radiation emergencies	Mr Prageeth Kadadunna	Director, Sri Lanka Atomic Energy Regulatory Council

Key Sri Lanka participants and institutions

S.N.	Participants	Institutions
1	Dr Asela Gunawardena	Director General of Health Services
2	Dr Sunil De Alwis	Additional Secretary – Medical Services/Ministry of Health
3	Dr S.M. Arnold	Deputy Director General – Public Health Sevices-1/Ministry of Health
4	Dr Sudath Dharmarathna	Deputy Director General – Laboratory Services/Ministry of Health
5	Dr S. Sridharan	Deputy Director General – Planning/Ministry of Health
6	Dr Lal Panapitiya	Deputy Director General – Medical Sevices-1/Ministry of Health
7	Dr Samiddhi Samarakoon	Deputy Director General – Education Training & Research
8	Dr Samitha Ginige	Chief Epidemiologist, Ministry of Health
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103	Mr Ruwan Bandara	Team Assistant – WHE/WHO Sri Lanka
104	Ms Geethani Dissanayake	Team Assistant – NCD/WHO Sri Lanka

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- Photos of National HEOC
- List of Equipment at Subnational HEOC
- Standard Operating Procedures for EOC
- List of Incidents for Which the EOC Was Activated (Activation and Deactivation Register of National HEOC)
- Data Collection Formats Folder
- Situation Reports of Flood, COVID-19, etc.
- Easter Sunday Attack Report
- COVID-19 Intra-Action Report
- COVID-19 World Bank Report
- Draft Sri Lanka NEMT Framework
- Meeting Minutes of Emergency Medical Teams Coordination in Sri Lanka
- Sri Lanka Army Medical Teams Article
- List of HSDM Graduates
- Guidelines for Donation of Medical Supplies during Disasters
- Reference to List of Research Conducted Each Year in the DPRD Annual Reports

13. Linking public health and security authorities

- National Security Policy Document
- NEMT Framework
- Agenda of the CBRN Training
- STAR Assessment
- Quarantine Act
- Designation of DPRD as the Focal Point for Biological Weapons Convention

- Training Scenario for Anthrax Attack for Training of Tri-forces
- Case Scenario – CBRN
- Case Scenario – Ports of Entry Radiation Incident
- Weekly Epidemiological Report
- Weekly Dengue Report
- Joint Investigations
- Joint Situational Update during COVID-19
- Predictive Modelling of COVID-19 Outbreak in Navy Cluster in Sri Lanka

14. Health services provision

- Guidelines for District and Divisional Level Referral System: Sexual and Gender-Based Violence
- National Health Strategic Master Plan 2016–2025, Volume IV
- Guidelines on Management of Dengue Fever and Dengue Haemorrhagic Fever in Children and Adolescents
- Sri Lanka Preparedness and Response Plan: COVID-19, April 2020
- National Emergency Operation Plan, August 2017
- Sri Lanka Essential Health Services Package 2019

15. IPC

- National Strategic Framework for Development of Health Services 2016–2025, Ministry of Health
- National Strategic Plan on Healthcare Quality and Safety
- Manual on Management of Tertiary and Secondary Care Hospitals, 2022, Ministry of Health
- Hospital Infection Prevention and Control Manual, 2021
- Draft IPC Policy
- Department of Medical Microbiology and Immunology – Academic|FOM (cmb.ac.lk)
- Prospectus – Board Certification in Medical Mycology 2022 – Google Drive
- Quarterly Performance Evaluation format
- DHQS Annual Bulletin 2019–2022
- Hand Hygiene Guide
- Guide for QPET
- Circular on HAI Surveillance
- Letter of Invitation to the Steering Committee
- Formalization of Waste Management in Accordance with the National Policy
- HQS Circular 02-122/2013
- 6_20_General_Indicators_Excel_Sheet_3.xlsx (live.com)
- Manual for the Sri Lanka PHI
- Provisional-clinical (health.gov.lk)
- Healthcare Waste Management Training Module
- CPD Manual on Healthcare Quality & Safety

16. RCCE

- Technical Advisory Committee Terms of Reference
- Technical Advisory Committee Minutes
- National Risk Communication Strategic Plan for Public Health Emergencies 2023–2025
- Social Media Reports
- Digital Signage
- Media Briefings on YouTube and Network of Media Platforms
- Press Release
- Coordination of Resource Persons for TV/Radio Talk Shows

- Media Coordination – Free Airtime
- Media Seminar Coordination and Facilitation
- Weekly Public Concerns Reports
- Suwasariya 24-Hour Hotline
- Risk Communication Training PowerPoint Presentation
- Risk Communication Training Module for Health Care Staff (Draft)
- Letters of Recruitment to Social Media Team
- Letters of Recruitment to Suwasariya (Hotline) Team
- Media Invitation Letters
- Behaviour Research: Motivation, Opportunity and Ability Model to COVID-19 Preventive Behaviours (awaiting publication in *Sri Lanka Journal of Health Research*)
- Survey on Front of Pack Labelling (FOPL)
- Social Media Reach Data
- Number of Calls to Hotline
- Suwasariya Data
- Public Concerns Report Monthly Summary
- National Risk Communication Strategic Plan for Public Health Emergencies
- IEC Material (TV Spots, Billboard Messages, Voice Message Scripts, SMS Text Messages)
- Nutrition Risk Communication Messages
- Media and Social Media Team Documents
- Behaviour Research Unit Data
- Collaborative Research with UNICEF on CAB and COVID-19 Vaccination Roll-out Media Campaign
- Guideline Book on Mothers' Support Group (MSG) Activities
- Empowering Communities during COVID-19 Pandemic through Mothers' Support Groups
- Strengthening Social Capital in the Sri Lankan Population: A Case Study of the Mothers' Support Groups' Initiative during Economic Crisis, Focusing on Nutrition
- Revisiting Health Promotion Settings: An Innovative Model from Sri Lanka to Integrate Healthy Settings Using mHealth
- Letter of Establishing a Health Promotion App
- Survey on COVID-19 Vaccine Acceptance
- Survey on Mobile Phone-based Nutrition Education Targeting Pregnant and Nursing Mothers in Sri Lanka
- Survey on Dietary Diversity, Food Security, and Nutrition Practices among Families of Samurdhi Beneficiaries and Smallholder Farmers in Two Selected Districts in Sri Lanka

17. Points of entry and border health

- Annual Transfer List of Medical Officers
- Quarantine and Prevention of Diseases Ordinance – Sri Lanka
- List of Notifiable Diseases in Sri Lanka
- Notifiable Disease Form H-544
- Job Description of Medical Officer at Health Office at PoE
- Job Description of Public Health Inspector at Health Office at PoE
- Simulation Exercise Case Scenario
- Sri Lanka Exotic Disease Emergency Plan – SEDEP
- Letter of Director General of Health Services on Vector Surveillance and Control at Airports and Ports
- Health Care Strategic Framework to Control Covid-19 from Ports and Supply Chains in Sri Lanka
- Water Sampling Register
- Food Sampling Register

- Food Premises Grading Form H800
- Food Handlers Training Programme at Colombo Port – Letter and Participants
- Intra Action Review
- COVID-19 Preparedness and Response Capacity in Sri Lanka (LKA)
- Sri Lanka Ports Authority – Emergency Response, 2015
- Aircraft Disinfection Weekly Report
- Entomological Survey at Bandaranaike International Airport (BIA) by Anti-Malaria Campaign Staff
- Routine Mosquito Surveillance at BIA
- Airport Emergency Plan – BIA – Part
- Meeting Minutes – Avian-Pandemic Influenza
- Specialists – Page 11 – Quarantine Unit
- National Public Health Contingency Plan for Designated Airports in Sri Lanka
- National Civil Aviation Plan for Public Health Emergency of International Concern (PHEIC) by the Civil Aviation Authority of Sri Lanka (CAASL)
- Implementing Standard 045 – Public Health Emergencies Involving Operation of Aircraft 045 PHEIC
- GD 011 – 3rd Edition – COVID-19 Special Air Travel Operational Procedures Applicable to Sri Lanka
- Aerodrome Standards IS 030
- National Emergency Operation Plan
- Cadre
- Avian and Communicable Diseases Control Division (ACCD) Meeting Minutes, December 2022
- Pandemic Preparedness Plan
- Strategic Preparedness, Readiness and Response Plan 2022
- Annual Reporting Tool 1 2023
- Minutes – 5th National Steering Committee Meeting
- Job Description of Consultant Community Physician
- Public Health Emergency Preparedness and Response Plan for the Sea Ports – Sri Lanka
- Standard Operating Procedure (SOP) for Prevention, Early Warning, and Response to Public Health Events at PoE
- Training Manual on SOP for Prevention, Early Warning, and Response to Public Health Events at PoE
- Inspection for Food Sanitation
- Core Capacity Assessment Tool – BIA
- Core Capacity Assessment Tool – Colombo Port
- Preventive Measures for Persons Arriving
- Summary of Arrival Procedures via Airport
- Exemption of Pre-Departure COVID-19
- Quarantine Measures for Travellers (multiple dates mentioned but listing only once for brevity)
- Repatriation of Human Remains
- Operations of Offshore Crew Transit Hub
- Operations at Oil Tankers
- Persons Getting Onboard
- Ship Repairs at Colombo Dockyard
- Vessel Operations
- Embarkation of Seafarers on Vessels
- Emergency Medical Disembarkation
- Disembarkation of Sri Lankan Crew from Vessels
- Bulk Crew Change

- Disembarkation of Foreign Crew from Vessels
- Setting Up and Maintenance of Isolation Centres
- Transportation of Seafarers
- Seafarers Arriving by Air
- Onboard Vendors and Stalls in the Port Premises
- Disembarkation of Sea Marshals

18. Chemical events

- National Chemical Profile of Sri Lanka – 2015
- Management of Survivors of Chemical Incidents in Hospitals – 2019
- National Policy on Management of Chemicals – 2023

19. Radiation emergencies

- Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency
- Convention on Early Notification of a Nuclear Accident
- National Nuclear or Radiological Emergency Management Plan (EMP) – Sri Lanka
- Annexure 6 to the EMP: Standard Operational Procedures (SOPs)
- Annexure 5 to the EMP: Oils for Screening Food, Milk, and Water Concentrations
- Annexure 4 to the EMP: D-Values
- Annexure 3 to the EMP SLAERC: Emergency Response Teams and Equipment
- Annexure 2 to the EMP: Emergency Response Communication Details (as of 30 April 2019)
- Annexure 1 to the EMP: Details of Radiation Facilities Identified for EP Categories for Emergency Response (as of 30 April 2019)
- Parliament of the Democratic Socialist Republic of Sri Lanka: Atomic Energy Act, No. 40, of 2014
- IAEA: Response and Assistance Network
- Method for Developing Arrangements for Response to a Nuclear or Radiological Emergency: Updating IAEA-TECDOC-953

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