JOINT EXTERNAL EVALUATION OF IHR CORE CAPACITIES

of the

REPUBLIC OF MALDIVES

Mission report:
5-9 March 2017

World Health Organization

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Contents

ACKNOWLEDGEMENTS

Abbreviations

AMR	antimicrobial resistance
EOC	emergency operations centre
EPI	Expanded Programme on Immunization
EQA	external quality assessment
ERP	Emergency Response Plan
FAO	Food and Agriculture Organisation of the United Nations
FETP	Field Epidemiology Training Programme
HCAI	healthcare associated infections
HERP	Hospital Emergency Response Plans
HPA	Health Protection Agency
HR	human resource
HRH	human resources for health
IGMH	Indira Gandhi Memorial Hospital
IHR	International Health Regulations
IPC	infection prevention and control
JEE	joint external evaluation
MERS-COV	Middle East Respiratory System Coronavirus
MFDA	Maldives Food and Drug Authority
MMR	measles, mumps, and rubella
MOFA	Ministry of Fisheries and Agriculture
MOU	memorandum of understanding
NAP	national action plan
NFP	national focal point
OIE	World Organisation for Animal Health
OPV	Oral Poliovirus Vaccine
PCR	polymerase chain reaction
PHEIC	Public Health Emergency of International Concern
PPE	personal protective equipment
PVS	Performance of Veterinary Service
SARI	severe acute respiratory infection
SOPs	standard operating procedures
TB	tuberculosis
TOR	terms of reference
WHO	World Health Organization

Executive summary

Findings from the joint external evaluation

Overarching issues and priority actions:

The Maldives team started the preparation for the JEE in July 2016 for the initial request which was made in August 2016. The commitment, dedication and will of the national staff was evident throughout the evaluation process. However, several recurring themes emerged that will require some attention and support from senior members at various ministerial levels.

The overarching themes that were identified and agreed as priority actions during the discussions were as follows:

Finance and Human resources

Despite the enthusiasm and tenacity of staff, insufficient or lack of finance and inadequate human resources was a theme that cut across many of the core capacities. To a large extent this prevented staff from performing their duties in a manner that will fully embrace and facilitate a One Health approach.

Areas such as food safety, workforce, International Health Regulation (IHR) (2005) coordination, zoonosis, biosecurity and biosafety referred to a gap in financial resources to fund initiatives, systems, policies, and procedures and the retention of human resources. High turnover of trained, experienced and qualified staff impacts the system. This is compounded by the fact that many posts, especially in the medical sector, are filled by expatriates. There is a concern that Maldives is being used as a springboard by these international professionals to move to greener pastures after gaining experience.

The post of a chief veterinarian at the time of the evaluation was filled but there is a shortage of trained staff in zoonosis sector to prevent, detect and respond to zoonotic disease outbreaks, including laboratory technologists and food specialists. Agriculture plays a marginal role in the economy of Maldives, constrained by the limited availability of cultivable land and the shortage of domestic labour. However, a veterinary infrastructure is required to guard imports of live animals, control food safety and fulfil international obligations.

Meetings and briefings with senior staff and deputy Minister of Health showed a good grasp of the issues and a strong commitment to embracing the evaluation of the JEE as a means of moving forward in working towards the aim of the IHR (2005) in providing a public health response to the international spread of disease.

Legislation/regulations and working guidelines

There is existing legislation, regulations and guidelines in place in the country. There is a need to review the existing legislation as required for IHR implementation and for them to be universally implemented - in particular, the completion and enforcement of the Public Health Protection Act.

The existence of a high level National IHR Focal Point (NFP) was highly commended by the JEE experts, who as a result, recommended its' recognition as an official National Committee in one of the Priority Actions. This clearly demonstrated that Maldives is in a good position and simply needs to coordinate and identify resources to review all the available pieces of legislation and guidelines. This should provide an indication of any gaps needing to be addressed. In food safety, for example, a priority action recommended that the various laws and regulations be merged into a one piece of legislation dealing with all aspect of food safety.

There is need to formulate a national laboratory framework which embraces policy, guidelines, standard operating procedures (SOPs), and terms of reference (TORs) to be made clear in many guidelines, for example, the coordination of emergency operations. Another running theme was the absence of animal health considerations in the various capabilities but it was also acknowledged that the agriculture and veterinary sectors have a limited presence in the Republic of Maldives.

The Maldives can also equally celebrate the successes achieved in many areas. It has established laws and policies which have enabled the performance of the IHR (2005). There is alignment of the country's Public Health Act 2012 with the IHR (2005) requirement with an established mechanism for reporting.

The country can also be proud of its effective national Expanded Programme on Immunization (EPI) which has maintained a vaccination coverage at around 98% with a set target to reach 99-100%. The government also fully funds EPI, which is available to all. In addition, there have been no reported cases of measles since 2010 and the Maldives will be the first in the WHO South-East Asia Region to validate the elimination of measles in 2017.

The team of experts also noted that The Maldives is in a good position to share with other countries its Health Sector Emergency Response Framework which provides a system for the sending and receiving of health personnel and medical countermeasures during public health emergencies.

The Maldives is well placed to review and consolidate the various pieces of legislation it currently has and to approve many of the circulating plans and guidelines to ensure multi-sectoral cooperation and joint partnerships to ensure the integration of capacities within a One Health approach.

Republic of Maldives scores

Technical areas	Indicators	Score
National legislation, policy and financing	P.1.1 Legislation, laws, regulations, administrative requirements, policies or other government instruments in place are sufficient for implementation of IHR (2005)	3
	P.1.2 The State can demonstrate that it has adjusted and aligned its domestic legislation, policies and administrative arrangements to enable compliance with IHR (2005)	4
IHR coordination, communication and advocacy	P.2.1 A functional mechanism is established for the coordination and integration of relevant sectors in the implementation of IHR	4
Antimicrobial resistance	P.3.1 Antimicrobial resistance detection	1
	P.3.2 Surveillance of infections caused by antimicrobial-resistant pathogens	1
	P.3.3 Health care-associated infection (HCAI) prevention and control programs	3
	P.3.4 Antimicrobial stewardship activities	1
Zoonotic diseases	P.4.1 Surveillance systems in place for priority zoonotic diseases/pathogens	3
	P.4.2 Veterinary or animal health workforce	2
	P.4.3 Mechanisms for responding to infectious and potential zoonotic diseases are established and functional	3
Food safety	P.5.1 Mechanisms for multisectoral collaboration are established to ensure rapid response to food safety emergencies and outbreaks of foodborne diseases	2
Biosafety and biosecurity	P.6.1 Whole-of-government biosafety and biosecurity system is in place for human, animal and agriculture facilities	2
	P.6.2 Biosafety and biosecurity training and practices	2
Immunization	P.7.1 Vaccine coverage (measles) as part of national programme	5
	P.7.2 National vaccine access and delivery	4
National laboratory system	D.1.1 Laboratory testing for detection of priority diseases	3
	D.1.2 Specimen referral and transport system	3
	D.1.3 Effective modern point-of-care and laboratory-based diagnostics	3
	D.1.4 Laboratory quality system	2
Real-time surveillance	D.2.1 Indicator- and event-based surveillance systems	4
	D.2.2 Interoperable, interconnected, electronic real-time reporting system	3
	D.2.3 Integration and analysis of surveillance data	4
	D.2.4 Syndromic surveillance systems	4
Reporting	D.3.1 System for efficient reporting to FAO, OIE and WHO	4
	D.3.2 Reporting network and protocols in country	3
Workforce development	D.4.1 Human resources available to implement IHR core capacity requirements	2
	D.4.2 FETP[1] or other applied epidemiology training programme in place	2
	D.4.3 Workforce strategy	1

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1   FETP: Field epidemiology training programme

Technical areas	Indicators	Score
Preparedness	R.1.1 National multi-hazard public health emergency preparedness and response plan is developed and implemented	**2**
	R.1.2 Priority public health risks and resources are mapped and utilized	**1**
Emergency response operations	R.2.1 Capacity to activate emergency operations	**2**
	R.2.2 EOC operating procedures and plans	**2**
	R.2.3 Emergency operations programme	**1**
	R.2.4 Case management procedures implemented for IHR relevant hazards.	**2**
Linking public health and security authorities	R.3.1 Public health and security authorities (e.g. law enforcement, border control, customs) are linked during a suspect or confirmed biological event	**2**
Medical countermeasures and personnel deployment	R.4.1 System in place for sending and receiving medical countermeasures during a public health emergency	**1**
	R.4.2 System in place for sending and receiving health personnel during a public health emergency	**1**
Risk communication	R.5.1 Risk communication systems (plans, mechanisms, etc.)	**1**
	R.5.2 Internal and partner communication and coordination	**3**
	R.5.3 Public communication	**3**
	R.5.4 Communication engagement with affected communities	**3**
	R.5.5 Dynamic listening and rumour management	**2**
Points of entry	PoE.1 Routine capacities established at points of entry	**2**
	PoE.2 Effective public health response at points of entry	**2**
Chemical events	CE.1 Mechanisms established and functioning for detecting and responding to chemical events or emergencies	**1**
	CE.2 Enabling environment in place for management of chemical events	**1**
Radiation emergencies	RE.1 Mechanisms established and functioning for detecting and responding to radiological and nuclear emergencies	**1**
	RE.2 Enabling environment in place for management of radiation emergencies	**1**

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

PREVENT

National legislation, policy and financing

Introduction

The International Health Regulations (IHR) (2005) provides obligations and rights for States Parties. In some States Parties, implementation of the IHR (2005) may require new or modified legislation. Even if a 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 in a more effective manner. 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 at http://www.who.int/ihr/legal_issues/legislation/en/index.html. In addition, policies that identify national structures and responsibilities as well as the allocation of adequate financial resources are also important.

Target

Adequate legal framework for States Parties to support and enable the implementation of all their obligations, and rights to comply with and implement the IHR (2005). New or modified legislation in some States Parties for implementation of the IHR (2005). Where new or revised legislation may not be specifically required under the State Party's legal system, States may revise some legislation, regulations or other instruments in order to facilitate their implementation and maintenance in a more efficient, effective or beneficial manner. States Parties ensure provision of adequate funding for IHR implementation through the national budget or other mechanism.

Maldives level of capabilities

The Maldives has achieved progress in this area and the established laws and policies have facilitated performance of IHR (2005) activities in an efficient, effective, and beneficial manner. The country has legislation, regulations, and administrative requirements for the implementation of IHR. Most sectors have the relevant legislation and policies for the implementation of IHR including areas of food safety and animal health. However, these require a formal assessment. The country's Public Health Act of 2012 facilitates IHR under the Public Health Protection Act and is aligned with IHR requirements.

The Attorney General's office regulates the legal framework and coordination between sectors to ensure that there are no conflicting and/or overlapping laws and regulations.

Sustainable financing is critical for developing IHR core capacities and implementing national and international IHR strategies. This aspect has been addressed with specific budgets available in times of emergency.

Recommendations for priority actions

- Review the legislation and regulations for IHR implementation and update the legislation and regulation requirements for IHR implementation.

- Review the implementation of the Public Health Protection Act.

- Complete the Public Health Protection Act regulations and SOPs for IHR implementation.

- Operationalize Maldives One Health approach in consensus with public health, animal health, wildlife, security, and other relevant sectors.

Indicators and scores

P.1.1 Legislation, laws, regulations, administrative requirements, policies or other government instruments in place are sufficient for implementation of IHR (2005) – Score 3

Strengths/best practices

- The IHR are under the Public Health Act 2012
- Reporting mechanism is established.

Areas that need strengthening/challenges

- Full enforcement of laws and regulations not universally implemented.
- Maldives does not have any cross-border agreements, protocols, or memoranda of understanding with neighbouring countries regarding public health emergencies.

P.1.2 The State can demonstrate that it has adjusted and aligned its domestic legislation, policies and administrative arrangements to enable compliance with the IHR (2005) – Score 4

Strengths/best practices

- There is high-level commitment and leadership for full implementation of the IHR.
- The IHR are under the Public Health Act 2012.
- Reporting mechanism is established.

Areas that need strengthening/challenges

- Some offices still do not have all the necessary regulations to ensure implementation of IHR.

IHR coordination, communication and advocacy

Introduction

The effective implementation of the IHR requires multisectoral/multidisciplinary approaches through national partnerships for efficient and alert response systems. Coordination of nationwide resources, including the designation of a national IHR focal point, which is a national centre for IHR communications, is a key requisite for IHR implementation.

Target

Multisectoral/multidisciplinary approaches through national partnerships that allow efficient, alert and responsive systems for effective implementation of the IHR (2005). Coordinate nationwide resources, including sustainable functioning of a national IHR focal point – a national centre for IHR (2005) communications which is a key requisite for IHR (2005) implementation – that is accessible at all times. States Parties provide WHO with contact details of national IHR focal points, continuously update and annually confirm them.

Maldives level of capabilities

Implementing the IHR requires the participation of various ministries, administrative levels, partners, and stakeholders. Maldives has a high level national IHR committee with all responsible ministries as members, thus making it a national multisectoral, multidisciplinary coordination committee with terms of reference. All information exchange is through this committee which is formed with members from relevant ministries who can be called upon during emergencies. Information is shared and tasks are assigned to the members with a quick action plan made to formally coordinate the tasks.

This mechanism was utilized during the 2014 Ebola outbreak, Middle East Respiratory Syndrome Coronavirus (MERS-CoV) and Zika response. SOPs and guidelines are made available through IHR (2005) Committee including systematic and timely information exchange.

Although there is no formally documented mechanism established between sectors, there is close collaboration between the Ministry of Fisheries and Agriculture (MoFA) and the Health Protection Agency (HPA) surveillance team. This collaboration can also be established with other sectors of the government if the need arises. This is normal government working procedure.

Regular meetings of the National IHR Committee update the members on any new information. The last updates were shared in 2016. The multisectoral response is not tested regularly and was last tested during the Ebola response.

Recommendations for priority actions

- Include the high level national IHR committee in the country's regulations to be recognised as an official national committee.

- Maintain the institutional capacity between line ministries in coordinating the IHR during emergencies and non- emergencies.

- Formalise systemic information exchange between animal and human health.

Indicators and scores

P.2.1 A functional mechanism established for the coordination and integration of relevant sectors in the implementation of IHR – Score 4

Strengths/best practices

- Close Intersectoral collaborations at technical level.
- Systemic and timely information management through members of IHR Committee.
- SOPs/guidelines available for coordination between the NFP and other relevant sectors.

Areas that need strengthening/challenges

- Lack of expertise in Risk Communication.
- Lack of Human resources.
- High staff turnover rate so training needs to be carried out frequently.

Antimicrobial resistance

Introduction

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

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

Target
Support work coordinated by FAO, OIE and WHO to develop an integrated global package of activities to combat antimicrobial resistance, spanning human, animal, agricultural, food and environmental aspects (i.e. a One Health approach). Each country has: (i) its own national comprehensive plan to combat antimicrobial resistance; (ii) strengthened surveillance and laboratory capacity at the national and international levels following international standards developed as per the framework of the Global Action Plan; and (iii) improved conservation of existing treatments and collaboration to support the sustainable development of new antibiotics, alternative treatments, preventive measures and rapid point-of-care diagnostics, including systems to preserve new antibiotics..

Maldives level of capabilities

Maldives has drafted a national AMR plan for detection and reporting of priority AMR pathogens. The country is now waiting for the draft plan to be reviewed by an external expert for finalisation. However, currently in addition to many others, the country can test for most of the WHO priority pathogens (e.g. Extended Spectrum Of Beta lactamase), Methicillin-resistant Staphylococcus aureus, vancomycin resistance in enterococci and Carbapenem-resistant Enterobacteriaceae at the tertiary level in Indira Gandhi Memorial Hospital (IGMH). Preparations are also underway for a national action plan to meet the Global Action Plan (GAP).

The IGMH laboratory is identified as the national AMR laboratory but is yet to be officially designated. Work is in process to officially have it designated. In addition, all hospitals conduct AMR detection for diagnostic purposes but the country is yet to come up with a reporting system. Data generated from these hospitals is not validated. However, the laboratory methods are verified and quality monitored using kits and in-house controls. External quality assurance is done for Zika and Influenza. Culture and sensitivity reports are generated and these are uploaded to the World Health Organization (WHO) network. For tuberculosis, in addition to microscopy, Gene expert tests are done and reports are generated.

Surveillance of infections caused by AMR pathogens are currently not in place in either the human or animal sectors. There is a sub-committee on animal and plant health consisting of relevant stakeholders under the national AMR Committee.

There are 22 public hospitals in Maldives, 3 of these are in the greater Malé region and one in each of the 19 atolls. In addition, there are 7 private hospitals. One public hospital at the tertiary level and one in each atoll will be designated as sentinel sites for AMR pathogens among humans.

PREVENT

Only some of the livestock farms are registered. Under the draft regulation on live animal import regulation, livestock farms will have to be registered. If there is an illness spreading in the livestock population, MOFA will be notified by the island's council or the owner of the farm. They will also notify the HPA and both ministries will work closely to control the illness. Samples will be taken and sent to laboratories outside the country for testing. The Health Protection Agency or Public Health units will assist sample collection and transportation. This process is not always a smooth one as there are issues with acceptance of samples from the receiving laboratories.

Maldives has a national infection control guideline prepared in 2008. This guideline is being reviewed and will be updated this year. The guideline includes Health Care Associated Infections (HCAI) and their prevention. Infection Control and patient safety focal points are identified for each atoll at atoll-level hospitals, and in the tertiary hospital. The infections that are have been notified are catheter induced infections, IV associated infections, ventilator associated pneumonia and needle prick injury. There are protocols/guidelines developed for needle-prick/sharp injuries against HIV and Hepatitis B and airborne infections against TB.

There are designated trained Infection Prevention and Control (IPC) professionals in IGMH and a national Infection Control Committee in operation. Evaluations are undertaken, although not at regular intervals, to assess the effectiveness of infection control measures. The reports of these evaluations are generally not published.

A National Plan for antimicrobial stewardship activities is yet to be developed. Although there is no guidance on appropriate antibiotic use, prescription audits are done annually and findings are shared with relevant doctors at IGMH. Pharmacies are checked randomly to ascertain whether they sell antibiotics without prescriptions. Maldives Food and Drug Authority (MFDA) assesses antibiotic use patterns and feedback is given to doctors at IGMH. No antibiotics are dispensed without a prescription for humans.

MOFA prescribes antibiotics for animals on a prescription. These are not available for normal use as they are imported by MOFA. Import is authorised by MFDA.

Recommendations for priority actions

- Complete and approve the NAP for AMR which encompasses and facilitate multi-sectorial coordination.
- Veterinary sectors to increase the size of human resource capacities on AMR functions.
- Allocate and maintain adequate human resources on AMR aligned with NAP.

Indicators and scores

P.3.1 Antimicrobial resistance detection – Score 1

Strengths/best practices
- Testing for some priority pathogens done at the tertiary level hospital.

Areas that need strengthening/challenges
- Inadequate human resources and funds.
- Establishment / strengthening of laboratory services.

P.3.2 Surveillance of infections caused by antimicrobial-resistant pathogens – Score 1

Strengths/best practices

- Sub-Committees on animal health and agriculture and Sub-Committee on education and awareness have been established.

Areas that need strengthening/challenges

- Registration of the farms.

- Lack of data

P.3.3 Health care-associated infection (HCAI) prevention and control programs – Score 3

Strengths/best practices

- Laboratory staff trained.

- National Infection Control Committee.

Areas that need strengthening/challenges

- Inadequate capacity and lack of some competencies. E.g. clinical microbiologists, infection disease specialists, veterinarian.

P.3.4 Antimicrobial stewardship activities – Score 1

Strengths/best practices

- Prescription Audits

- MFDA assessment of antibiotic use pattern

Areas that need strengthening/challenges

- Institutionalization of antimicrobial stewardship activities

Zoonotic diseases

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

Adopted measured behaviors, policies and/or practices that minimize the transmission of zoonotic diseases from animals into human populations.

Maldives level of capabilities

The Republic of Maldives approved a Health Master Plan 2016-2025 that provides strategic direction and guidance to all partners in health and collaborative sectors to further develop policies, plans and programmes to improve the health of the population. Although MoFA is mentioned as one of the stakeholders, no reference is made to zoonotic diseases or 'One Health'. A 'One Health' approach for zoonotic disease prevention, detection and response takes place on an ad-hoc basis whenever there is a serious health threat posed by a zoonotic disease. A One Health policy, plan or Memorandum of Understanding is not in place. The MoFA is represented in the IHR (2005) Committee, but there is no direct technical cooperation, mainly due to lack of human and financial resources. Although the livestock sector in the Republic of Maldives is very small (estimated 9000 goats and 15000 chickens), the risk of outbreaks of a zoonotic disease is rising due to climate change, rise of the tourism sector and globalized trade. Resources need to be increased to better provide capacities like surveillance and prevention of outbreaks of zoonotic diseases, to establish basic animal health laboratory facilities and an operational Veterinary Service to perform the most needed basic functions such as diagnosis of diseases, surveillance, and disease prevention activities. Progress after the Performance of Veterinary Services (PVS) Evaluation Report, conducted by a team authorised by the World Organization of Animal Health (OIE) in October 2011 appears to be slow.

Recommendations for priority actions

- Enlarge the veterinary workforce.
- Assign a Chief Veterinary officer and establish a Veterinary Service.
- Establish Animal Health laboratory facilities.
- Expand the zoonotic surveillance system and strengthen the Avian Influenza surveillance system.

Indicators and scores

P.4.1 Surveillance systems in place for priority zoonotic diseases/pathogens – Score 3

Strengths/best practices

- A surveillance system for Avian Influenza at farm level exists. Rapid diagnostic tests are irregularly used for surveillance on imports of live birds.
- Scrub typhus, toxoplasmosis and foodborne diseases are determined as zoonotic diseases of greatest national public health concern.

Areas that need strengthening/challenges

- Lack of Animal Health Laboratory facilities.

- Syndrome surveillance and more specifically zoonotic surveillance systems for more than one pathogen.

- Lack of a formal reporting process.

- Lack of rapid diagnostic tests for zoonotic diseases.

P.4.2 Veterinary or animal health workforce – Score 2

Strengths/best practices

- In case of a zoonotic threat there are good working relations and short lines of communication between the Ministry of Health and the Ministry of Fisheries and Agriculture.

- Involvement of the Ministry of Fisheries and Agriculture in the IHR committee

Areas that need strengthening/challenges

- Lack of trained staff to prevent, detect and respond to zoonotic disease outbreaks.

- High turnover of the Chief Veterinary officer as they are usually expatriates.

- Establishment of a Veterinary Service.

- Development of Animal Health laboratory facilities

- Recruitment of veterinarians and animal health workers at national and regional level to address the shortage.

- Additional training on zoonotic diseases for human and animal health professionals as continued professional education

P.4.3 Mechanisms for responding to infectious and potential zoonotic diseases established and functional – Score 3

Strengths/best practices

- Excellent collaboration between the Ministry of health (MoH) and the Ministry of Fisheries and Agriculture (MoFA)

Areas that need strengthening/challenges

- Lack of systematic information exchange.

- Lack of institutional memory due to the high turnover of veterinary personnel.

- Limited capacity for outbreak investigation and response to zoonotic disease outbreaks.

- Lack of compensation for farmers, mass vaccinations, or culling materials in case of an outbreak of a zoonotic disease.

Food safety

Introduction

Food- and water-borne diarrhoeal diseases are leading causes of illness and death, particularly in less developed countries. The rapid globalization of food production and trade has increased the potential likelihood of international incidents involving contaminated food. The identification of the source of an outbreak and its containment is critical for control. Risk management capacity regarding the control of food throughout the 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

Surveillance and response capacity among States Parties for food- and water-borne disease risks or events by strengthening effective communication and collaboration among the sectors responsible for food safety, and safe water and sanitation..

Maldives level of capabilities

The key Ministries involved in the management of food and water safety issues are the Ministries of Health, Fisheries, and Agriculture (MOFA) and Tourism. Maldives is almost totally dependent for its food security on imports (95%) and this makes the balance between food security and food safety very fragile. Any delay in food shipments or a decision to destroy imported cargo due to food safety reasons can create direct food insecurity. The ground water is completely salinized and the country is entirely dependent on one desalination factory for its water supply. The Maldives welcome almost 2 million tourists every year and the country needs to avoid adverse impact from a foodborne disease outbreak. The government is in the process of strengthening a multi-sectoral strategy among the various stakeholders, but an overall legal framework is required. Data collection is done in a fragmented way and due to lack of analysis of these data, national standards cannot be developed. Because of these gaps the government cannot ensure food safety according to international standards. Food for export, however, is produced according to international standards. As safe food and water are basic human needs, serious investment in improved food safety is highly recommended.

Recommendations for priority actions

- Assess the different and fragmented laws and regulations regarding food safety with the aim of merging them into a specific Food Safety Act to ensure safe food and water for the population of The Maldives as well as for the tourism sector.

- Invest in human capacity and enhance capability on training, education, and research on food safety.

- Define the roles and responsibilities of the different stakeholders along the whole food chain (from farm to fork), improve cooperation and prevent duplication of work.

Indicators and scores

P.5.1 Mechanisms for multisectoral collaboration established to ensure rapid response to food safety emergencies and outbreaks of foodborne diseases – Score 2

Strengths/best practices

- Consumer Protection Act and Public Health Act address some food safety issues.
- Food for export produced according to international standards
- Regular checks of bottled water factories
- Hygiene checks of cafes and restaurants
- Codex Alimentarius (Food code) international standards followed.
- Good coordination between experts and agencies during an emergency.

Areas that need strengthening/challenges

- Human and financial resources.
- Lack of proper legal framework.
- Weak coordination between stakeholders.
- Fragmented food safety control systems across various agencies and ministries (MFDA, HPA, Port Authority)
- Limited laboratory capacity for chemical analysis.
- Gaps in quality control of imported food.

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, recognise, 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 securing infectious agents against those who would deliberately misuse them to harm people, animals, plants, or the environment.

Target

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

Maldives level of capabilities

Maldives has a progressive agenda to develop capacities on biosafety and biosecurity to safeguard the public health and safety of laboratory workers. The Health Services Act (2015) provides a legislative oversight and the key capabilities include availability of national laboratory standards, laboratory licensing and monitoring protocol, healthcare waste management and IPC. A need assessment on this technical area was undertaken in 2013 and identified areas of major gaps and the way forward.

There is currently no national training capacity of health and laboratory workers or a multi-agency committee to ensure bio-risk reduction and laboratory cabinets, for example, are not regularly calibrated. There are recurring issues with retention of skilled staff. It is also established that there is a lack of systematic healthcare and laboratory waste management system for infectious waste across the country, which is further compounded by the lack of standard treatment method such as incineration. Routine certification of facilities and equipment has also been a challenge.

The current capacities and gaps in biosafety and biosecurity are more reflective of human health sector due to the limited presence of agriculture and veterinary sectors in Maldives.

Recommendations for priority actions

- Develop and maintain suitably skilled staff in healthcare facilities including laboratories with regular access to training on biosafety and biosecurity. This includes training for sample handling and shipment i.e. International Air Transport Association training for every two years; certification of cabinets with a regional expert (until national inspection capacity is developed)

- Develop safe waste management provision with necessary standard treatment facilities to ensure biosafety and biosecurity

- Form a biosafety/biosecurity Committee with representation from agencies such as HPA, Quality Assurance (QA), Indira Gandhi Memorial Hospital (IGMH), The Environment Ministry) with responsibilities on biosafety and biosecurity. This Committee can lead to expedited development of guidelines on biosecurity and its effective implementation.

Indicators and scores

P.6.1 Whole-of-government biosafety and biosecurity system in place for human, animal and agriculture facilities – Score 2

Strengths/best practices

- Inspection undertaken in laboratories in Male and findings are shared with corresponding facilities
- Presence of laboratory standards
- Incident reporting system established within atoll facility and Ministry of Health (MoH)
- Health Services Act (2015) provides a legislative framework

Areas that need strengthening/challenges

- Budgetary constraint makes regular assessment of Atoll health facilities challenging
- Staff shortage, skills, and continuity impact on regular surveillance
- Laboratories need to have operating licenses

P.6.2 Biosafety and biosecurity training and practices – Score 2

Strengths/best practices

- Need assessment for biosafety and biosecurity conducted in 2013
- Checklist for biosafety developed for assessment
- Availability of Personal Protective Equipment (PPEs) at all relevant facilities
- National waste management guidelines
- National IPC guidelines

Areas that need strengthening/challenges

- Lack of continuity in awareness and training of staff
- Completion of follow up assessment if required.
- Limited resources of timely maintenance and servicing of equipment.

Immunization

Introduction

Immunizations are estimated to prevent more than two million deaths a year globally. Immunization is one of the most successful global health interventions and cost-effective ways to save lives and prevent disease.

Target

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

Maldives level of capabilities

Maldives has a robust national-level immunization programme. All Expanded Programme on Immunization (EPI) vaccines (Bacillus Calmette-Guerin, Hepatitis B (HEPB), Poliomyelitis (Oral Poliovirus Vaccine (OPV) and Inactivated Poliovirus Vaccine), Diphtheria, Pertussis & Tetanus, Measles, Mumps & Rubella (MMR), Haemophilus influenza type B (HiB), Penta, measles) and travel vaccines such as those for Hajj (influenza, meningitis) and yellow fever are covered. Maldives administrative coverage has been maintained at around 98% for a few years. The aim is to achieve a target rate of 99-100% for all EPI vaccines. Current national progress on immunization is very focused on human health side and not extended on zoonotic side for example, for a one health approach.

No cases of measles have been reported since 2010 and Maldives plan to validate the elimination of measles in 2017 as the first country in the South East Asia Region to do so.

No incentives are given for vaccination however the National Programme creates strong awareness and advocates routinely. Refusal of vaccination is very minimal mainly due to religious beliefs and "alleged link" with Autism for MMR.

All vaccinations are registered at the vaccination centre where monthly coverage data is compiled and vaccine coverage is calculated with close monitoring of dispatched vaccine from both central and atoll hospital level up to the point of delivery (usually within 24 hours) is done.

EPI vaccines are procured by government budget through the United Nations International Children's Emergency Fund (UNICEF) and are provided free of charge whereas travel vaccines carry a charge.

Maldives introduced Inactivated Poliovirus Vaccine in 2015 and initiated trivalent OPV to bivalent OPV switch in 2016.

Recommendations for priority actions

- Maintain the current level of coverage of immunization with targeted expansion of capacity for potential zoonotic diseases.

- Validate the immunization coverage through survey and systemic trend analysis of coverage and incident of vaccine preventable diseases.

- Include migrant population immunization as part of the entry policy of the country.

Indicators and scores

P.7.1 Vaccine coverage (measles) as part of national programme – Score 5

Strengths/best practices

- Maldives has been able to achieve and maintain around 98% immunization coverage for over 10 years.

- The immunization programme is very well established and is a priority programme that fully covers the entire country.

Areas that need strengthening/challenges

- Scarce population in scattered islands remains a challenge

P.7.2 National vaccine access and delivery – Score 4

Strengths/best practices

- The entire vaccine procurement is fully government funded

- Vaccines are delivered to all atolls and immunization is carried out in all islands

- Procurement of small amount of vaccines no longer remains a challenge as it is now being done through pool procurement by the United Nations International Children's Emergency Fund (UNICEF).

Areas that need strengthening/challenges

- Far flung scattered island remains a challenge.

PREVENT

DETECT

National laboratory system

Introduction

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

Target

Real-time biosurveillance with a national laboratory system and effective modern point-of-care and laboratory-based diagnostics.

Maldives level of capabilities

Maldives has made progress in laboratory testing for detection of WHO listed major diseases. Indira Gandhi Memorial Hospital (IGMH) Laboratory is the National Public Health Reference Laboratory. Each atoll has a hospital with limited laboratory facilities. The remaining islands of the atolls also have laboratory facilities at the health centres for sample processing (so that they can be transferred to Male). Currently, pathogens tested are Influenza, tuberculosis (TB), HIV, Bacterial culture, Salmonella, Plasmodium, Zika, Dengue and Scrub typhus. When IGMH is not able to test for any pathogen, the samples are sent to their collaborating centres located in neighbouring South Asian Association for Regional Cooperation countries or laboratories identified by Ministry of Health (MoH)

Apart from India, there is not yet a formal agreement in place with recipient countries. IGMH and Maldives Blood Services laboratories are enrolled in an External Quality Assessment (EQA) programme but this is not the case for atoll hospital laboratories.

Transportation of samples is a challenge due to the nature of the islands and dependency on overseas countries for diagnostic purposes. Transportation of samples to overseas is dependent on courier Service (DHL).

Current laboratory facilities are limited to human health though the country is in the process of developing laboratories for analysing animal samples. However, the need for an extensive animal health laboratory is low as the animal population is very small

Recommendations for priority actions

- Accreditation of hospitals and laboratory facilities by competent external agencies
- Formal arrangement for sample transportation including those of the animal sectors
- Upgrade laboratory facilities particularly for equipment, TB culture and Gene Expert validation and good practices
- Formulate national laboratory framework which encompasses policy, guidance, Standard Operating Procedures (SOPs), interagency workings, data sharing

Indicators and scores

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

Strengths/best practices

- Capable of testing WHO recommended ten core tests
- Polymerase Chain Reaction (PCR) testing capability for Influenza and zika
- Participating in EQA programme

Areas that need strengthening/challenges

- Maintenance of laboratory equipment
- Calibration of laboratory instruments
- Shortage of laboratory technologists

D.1.2 Specimen referral and transport system – Score 3

Strengths/best practices

- Standardized SOPs for specimen collection, packaging, and transportation
- Specimen referral network for some diseases, for example, Zika
- Areas that need strengthening/challenges
- Contract with courier service for infectious specimen transportation to external laboratories
- Participation in regional laboratory network

D.1.3 Effective modern point-of-care and laboratory-based diagnostics – Score 3

Strengths/best practices

- Procurement policy for laboratory reagents

Areas that need strengthening/challenges

- Plan for point of care diagnostics

D.1.4 Laboratory quality system – Score 2

Strengths/best practices

- Responsibility of MoH for issuing license and inspection of the laboratories
- Accreditation of National laboratory for disease specific testing
- Enrolment of IGMH in EQA programme for bacteriology, serology, biochemistry transfusion medicine, measles, Zika and influenza

Areas that need strengthening/challenges

- Biosafety cabinet certification
- Laboratory accreditation

Real-time surveillance

Introduction

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

Target

Strengthened foundational indicator- and event-based surveillance systems that are able to detect events of significance for public health, animal health and health security; improved communication and collaboration across sectors and between sub-national, national and international levels of authority regarding surveillance of events of public health significance; improved country and intermediate level regional capacity to analyse and link data from and between strengthened, real-time surveillance systems, including interoperable, interconnected electronic reporting systems. This would include epidemiologic, clinical, laboratory, environmental testing, product safety and quality and bioinformatics data; and advancement in fulfilling the core capacity requirements for surveillance in accordance with the IHR and OIE standards.

Maldives level of capabilities

Maldives has established event- and indicator-based surveillance in the country. Any adverse health events from the general public can be reported to island/atoll facilities or directly to the HPA which is within the MoH. These can also be reported to the surveillance hotline established at HPA. Data recording of event based surveillance is done minimally; however, an events log book is maintained centrally from 2017. Documentation of each event may not be done at all centres in the atolls.

The indicator-based surveillance data is collected from island public health units and sent to atoll public health units. Atoll public health units upload this information to the South-East Asia Regional Office integrated data analysis system for surveillance of communicable diseases and HPA. Centrally this data is analysed and a report is generated. Diseases like dengue fever are maintained in a separate database and validation of the data is also made before entry. Dengue data is reported weekly and other diseases are reported fortnightly. There is no direct data entry from the laboratory to the surveillance system. However, the laboratory notifies HPA of any unusual findings through a reporting format.

The most common communicable diseases reported in the country include Sever Acute Respiratory Illness (SARI), influenza like illness (ILI), Fever, maculopapular rash, acute flaccid paralysis, Dengue, measles and gastroenteritis. SARI and ILI are reported from 4 sites (IGMH, ADK hospital, Kulhudhufushi Hospital and Hulhumalé Hospital). Acute Respiratory Infection (ARI), Acute gastroenteritis and viral fever are reported daily from all health facilities (20 atoll hospitals, 4 Malé region hospitals).

As animals are in small numbers in Maldives there is no surveillance system in place for the animal health sector other than the event based surveillance.

Recommendations for priority actions

- Increase technical and human resource capacity, (central and peripheries) for data collection and analysis.
- Electronic surveillance system needs to be updated.
- Laboratory and animal health surveillance to be integrated.
- Event Based surveillance recording and analysis improvement, especially documentation, analysis and reporting.

Indicators and scores

D.2.1 Indicator- and event-based surveillance systems – Score 4

Strengths/best practices

- Strong network between atolls/health facilities and central level.
- Reporting on daily basis through emails or texts.

Areas that need strengthening/challenges

- Web based information system needs to be updated to better suit the country's needs..
- Update of database.

D.2.2 Interoperable, interconnected, electronic real-time reporting system – Score 3

Strengths/best practices

- Electronic and real time reporting (web based surveillance system).

Areas that need strengthening/challenges

- Integration of epidemiological with laboratory surveillance both in human and animal health sector.

D.2.3 Integration and analysis of surveillance data – Score 4

Strengths/best practices

- Indicator based disease data analysed at central level fortnightly
- Indicator based disease reviewed daily at atoll levels

Areas that need strengthening/challenges

- Enhancement of data analysis capability both at the central and atoll level

D.2.4 Syndromic surveillance systems – Score 4

Strengths/best practices

- Influenza surveillance and Zika surveillance system established and closely integrated with the Communicable Disease surveillance system.

Areas that need strengthening/challenges

- Data validation and quality assurance

DETECT

Reporting

Introduction

Health threats at the human–animal–ecosystem interface have increased over the past decades, as pathogens continue to evolve and adapt to new hosts and environments, imposing a burden on human and animal health systems. Collaborative multidisciplinary reporting on the health of humans, animals and ecosystems reduces the risk of diseases at the interfaces between them.

Target
Timely and accurate disease reporting according to WHO requirements and consistent coordination with FAO and OIE.

Maldives level of capabilities

Maldives has designated focal points located at the MoH for IHR (2005) and the MoFA for OIE World Animal Health Information Database. The country has demonstrated on many occasions its ability to identify a potential Public Health Emergency of International Concern (PHEIC) and file a report to WHO within the expected time. However, the information sharing mechanisms between ministries outside the health sector are not optimal and should be strengthened. Although a network exists, some partners within the network are not clear about their ToR as highlighted during a suspected Ebola case. Food safety issues are reported by the International Food Safety Authorities Network (INFOSAN) focal point.

The NFP is familiar with Annex 2 of the IHR (2005) and has applied this during risk assessments in several situations. However, no official SOP exists in describing the process for decision-making and notification to WHO when a potential PHEIC is identified. Information sharing mechanisms are available for the human health and other sectors in case of cross-cutting issues such as zoonotic diseases.

Recommendations for priority actions

- Conduct advocacy actions targeting the various ministries and partners to raise awareness and obtain commitment from other sectors for reporting and information sharing.
- Develop and endorse SOPs for reporting public health events.
- Develop and endorse SOPs for reporting notifiable animal diseases.

Indicators and scores

D.3.1 System for efficient reporting to FAO, OIE and WHO – Score 4

Strengths/best practices
- The focal point for IHR has been nominated, trained, and empowered to function using an all hazard approach.
- The reporting mechanisms have been tested during exercises and real-life events.
- The IHR NFP consults with WHO about the notification and response to public health events as per Article 8 of the IHR.

DETECT

Areas that need strengthening/challenges

- Formalisation of the Information exchange mechanisms between line ministries.

D.3.2 Reporting network and protocols in country – Score 3

Strengths/best practices

- Maldives has demonstrated its capacity for reporting potential PHEIC to WHO and animal health events to OIE in simulation exercises as well as in real situations.

Areas that need strengthening/challenges

- Operating procedures for decision-making and reporting of potential PHEIC need to be prepared.

DETECT

Workforce development

Introduction

Workforce development is 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.

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).

Maldives level of capabilities

Maldives has a draft Human Resource for Health (HRH) plan. However, it is not endorsed or implemented.

All inhabited islands have a health facility. There is one hospital on each atoll and one health centre at each of the other islands in an atoll. All health facilities provide laboratory services, depending on the category of the facility.

Epidemiologists and other specialized public health personnel are placed only at the central level at the HPA but should there be a need they will be deployed to work in the atoll and island level, for example, during outbreaks, unknown illnesses, etc. Meanwhile, basic epidemiological work at the atolls is done by community health workers who are trained to carry out public health work and are guided by the public health staff at HPA.

There was an expatriate veterinarian employed by the MoFA. This position is currently vacant and is in the process of being filled.

Some of the field epidemiology training was given in India and Thailand. The rest was given in Maldives at the central level. Training at the local level was conducted by HPA. Field Epidemiology Training Programme (FETP) concept is also included as a module in the courses provided by Faculty of Health Science.

There is no systematic training programme for doctors or epidemiologists but depends on the need of the country and the availability of scholarship opportunities. Training opportunities are provided every year.

The turnover rate of doctors is high. Nurses and other allied health professionals work for longer periods. Most local nurses work on average for 20-25 years. Expatriate nurses work for 7-10 years. Other allied health professionals work for about 15 -30 years. The high cost of living and lack of a housing allowance for local staff was highlighted as the main reason for this in Malé. The MoH releases funds to train staff abroad, but there are no incentives to retain health staff, especially doctors. There is frustration within tertiary hospital staff as freelancers are earning more, at a time hospitals are looking to expand.

In the efforts to retain the public health workforce, job structures have been developed for doctors, nurses, and public health staff, based on qualification and experience. The job structure for doctors has been endorsed and implemented but this is not yet the case for public health staff.

Recommendations for priority actions

- Endorse and implement the draft HRH plan, which includes a strategy for training, recruitment and retaining of human resources (HR).

- Use a regional mechanism to ensure regular and secured placement for health workforce training.

- When planning health workforce needs for the country, consider the private health workforce that is already bearing part of the workload of the country's health needs.

- Based on the recommendations of the feasibility study, move toward establishing a suitable medical college in Maldives to help close the existing HR gaps.

Indicators and scores

D.4.1 Human resources available to implement IHR core capacity requirements – Score 2

Strengths/best practices

- Each island has a doctor and nurse and 90% of islands have public health staff.

- The Government has invested in specialized training within the last few years.

- Public Health training, degrees, and Masters degrees are available.

Areas that need strengthening/challenges

- Lack of technical local staff (especially in the regions).

- Lack of strong clear government and private employment policies after training.

- High dependency on expatriate staff that do not stay for long tenures.

- High turnover of staff.

- Recruitment challenges and long recruitment procedures.

D.4.2 FETP or other applied epidemiology training programme in place – Score 2

Strengths/best practices

- Within the last 5 years many staff have been trained in short term FETP.

- Currently, various Public Health related courses are available locally under Faculty of Health Sciences.

- Training requirement is forecast every 3 years.

Areas that need strengthening/challenges

- Budget constraints.

- High turnover of trained staff

D.4.3 Workforce strategy – Score 1

Strengths/best practices

- Technical staff job structure in place.

- Technical staff salary structure reflects market value.

- In the process of developing a reliable and timely Health Workforce information system.

- The capacity of HRH Unit has been strengthened.

- HR management audits conducted annually.

DETECT

Areas that need strengthening/challenges

- Limited Budget for HRH.

- Turnover of health professionals is high due to insufficient locally trained staff.

- Geographical dispersal of atolls leads to increased challenges in supporting the workforce in distant areas.

- Rural recruitment and retention.

- HRH leadership and management capacity.

DETECT

RESPOND

Preparedness

Introduction

Preparedness includes the development and maintenance of national, intermediate and community/ primary response level public health emergency response plans for relevant biological, chemical, radiological and nuclear hazards. Other components of preparedness include mapping of potential hazards, the identification and maintenances of available resources, including national stockpiles and the capacity to support operations at the intermediate and community/primary response levels during a public health emergency.

> **Target**
>
> *Development and maintenance of national, intermediate (district) and local/primary level public health emergency response plans for relevant biological, chemical, radiological and nuclear hazards. This covers mapping of potential hazards, identification and maintenance of available resources, including national stockpiles and the capacity to support operations at the intermediate and local/primary levels during a public health emergency.*

Maldives level of capabilities

The Maldives has a number of capabilities to prepare for public health emergencies. It has a well-developed multi-hazard Health Emergency Risk Management Framework based on incident management principles, with clear roles, triggers, and processes; and this clearly links to an overarching national multi-sector emergency framework. There are some more detailed operational plans sitting underneath the Health Emergency Risk Management Framework, including an Emergency Response Plan (ERP), SOPs, some disease specific plans, and Hospital Emergency Response Plans (HERPs). Some of these plans have been tested using exercises. The ERP however is awaiting sign off by MoH.

In addition to these plans, Rapid Response Teams have been established and a training toolkit for these teams developed. There is provision for emergency funds - a general contingency fund, not specific to health, granted by presidential decree.

Risk assessments and resource allocation is done when an event occurs. However, national risk assessment and resource mapping is required before an event, and this needs to be regular/systematic, and beyond communicable diseases. Planning and awareness also needs to be increased for wider IHR-related hazards, including natural disasters, chemical and radiation. As with many other areas, human resource capacity in this area is limited, including surge capacity.

Recommendations for priority actions

- Finalise MoH endorsement of Emergency Response Plan.
- Broaden planning for emergency preparedness and response including other IHR-related hazards and core requirements.
- Conduct regular national public health risk assessment (pre-event) and resource mapping.

- Increase human resource capacity for emergency preparedness and response, including expertise and training in epidemic-prone and emerging diseases, risk assessment and risk communication.

Indicators and scores

R.1.1 National multi-hazard public health emergency preparedness and response plan developed and implemented – Score 2

Strengths/best practices

- Health Emergency Risk Management Framework in place (four modules).

- Health Emergency Risk Management Framework clearly links to an overarching national multi-sector emergency framework.

- Health Emergency Response Plan developed (2014), which is multi-hazard and incorporates Points of Entry.

- Some disease specific plans developed (e.g. Pandemic Influenza, Ebola, MERS-CoV, Zika)

- HERPs in place, covering trauma and mass casualties, plus airport emergency plan

- Plans have been tested, including:

  ○ HERP drills for 7 atoll hospitals in 2015 and 2016.

  ○ Ebola functional exercise held in 2014 to test SOPs.

  ○ Emergency Response plan tested during the Airport Emergency table top exercise held in September 2016.

  ○ After Action Review developed after HERP drills and for Airport Emergency table top exercise

- Rapid Response Teams established and training toolkit developed

- Emergency fund release available from the government by presidential decree, although not health specific.

Areas that need strengthening/challenges

- The Emergency Response Plan needs to be endorsed/signed off by MoH.

- The Emergency Response Plan needs to cover other, non-infectious disease, IHR-related hazards, such as chemical and radiation.

- The Maldives is at high risk of natural disasters but due to perceived low impact, less focus is given on preparedness activities for disasters and other emergencies.

- High staff turnover rate, so training needs to be given frequently.

R.1.2 Priority public health risks and resources mapped and utilized – Score 1

Strengths/best practices

- Some risk identification, assessment, and resource mapping.

- Annual surveillance data for communicable diseases compiled in the annual Communicable Disease report, and assists prioritization.

- Specific risk assessments conducted if an outbreak and other Public Health event occurs, and resources will be mapped according to the event and severity of the event.

- Some emergency resources already in place (Emergency Health Kits, Chlorine, personal protective equipment).

- Mock drills and table top exercises carried out through the year.

Areas that need strengthening/challenges

- No overall formal or regular assessment of national public health risks or resource mapping prior to an event.

- More expertise / human resource capacity needed in emergency preparedness and response, which is challenging for a small country.

Emergency response operations

Introduction

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

Target

Country with public health emergency operations centre (EOC) functioning according to minimum common standards; maintaining trained, functioning, multisectoral rapid response teams and "real-time" biosurveillance laboratory networks and information systems; as well as trained EOC staff capable of activating a coordinated emergency response within 120 minutes of the identification of a public health emergency.

Maldives level of capabilities

The structure for the EOC specified in the Emergency Response Plans has four levels. For level four (low level emergencies at the island level), the hospital emergency coordination committee at the local level will take charge. For level 3 (serious level affecting a single atoll or city, the Health Task Force at HPA will be activated. For level 2 (significant level, where multiple atolls or capital Malé is affected), the Health Emergency Coordination Committee at the MoH will be activated. At level 1, the National Emergency Operations Committee led by the President in National Disaster Management Centre will be activated.

In the case of a national emergency, the highest level of coordination will be activated by the National Emergency Operations Committee, and will likely take place at the National Disaster Management Committee. The MoH is represented in the Committee.

The Health Emergency Coordination Committee is activated in case of a more contained emergency, corresponding to national emergency level 2. This Committee is led by the Minister of Health or the Director General of Health Services.

The Health Emergency Coordination Committee membership derives from two groups: A core group which includes MoH units and sections, and other institutions strictly related to emergency health; and the expanded group which includes representatives from different sectors. Depending on the situation, the relevant members from the expanded group will convene together with the core group to be a part of the Committee.

If the emergency corresponds to levels 3 or 4, Atoll or Island level, the Health Task Force is activated.

The emergency response will be coordinated from the EOC, a dedicated space within the MoH, which is yet to be set up. The EOC will be equipped with all essential emergency management, coordination, and communication resources. Pending allocation of dedicated space, an EOC point of contact will be identified and will remain available 24/7. Response plans and SOPs are developed and functional exercises have been completed to test operations. Nevertheless, the system is not yet capable of activating a prompt coordinated response after identification of a public health emergency.

Recommendations for priority actions

- Establish fully functioning national EOC with specified TORs for members, and test functionality through table-top and simulation exercises.

- Build country capacity on emergency response and coordination (e.g. staff training, further development of SOPs).

- Improve case management and transport of potentially infectious patients and other relevant hazards.

Indicators and scores

R.2.1 Capacity to activate emergency operations – Score 2

Strengths/best practices

- Health Task Force (Health Protection Agency) is active and well established.

Areas that need strengthening/challenges

- Emergency Operations Centre yet to be fully functional.

R.2.2 EOC operating procedures and plans – Score 2

Strengths/best practices

- SOPs and Response plans are available.

Areas that need strengthening/challenges

- High staff turnover rate.

R.2.3 Emergency operations programme – Score 1

Strengths/best practices

- Mock drills carried to test the plans annually.

Areas that need strengthening/challenges

- Skilled human resources lacking.

R.2.4 Case management procedures implemented for IHR relevant hazards – Score 2

Strengths/best practices

- SOPs and case management guidelines available.

Areas that need strengthening/challenges

- Due to geographical spread, difficulty in transporting patient(s) from islands.

RESPOND

Linking public health and security authorities

Introduction

Public health emergencies pose special challenges for law enforcement, whether the threat is manmade (e.g. the anthrax terrorist attacks) or naturally occurring (e.g. flu pandemics). 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 in case of a biological event of suspected or confirmed deliberate origin, including the capacity to link public health and law enforcement, and to provide and/or request effective and timely international assistance, such as to investigate alleged use events.

Maldives level of capabilities

In the Maldives, cooperation between public and security sectors has grown with time on a reactive basis in the absence of a formalised inter-agency arrangement. There is sector-specific emergency response guidance available and the national IHR Committee facilitates information sharing and engagement with security sectors. The country undertook an exercise in 2016 on a public health emergency scenario at the airport. The Public Health Act 7/2012 provides current provision of linkages with the security sector which allows the authorities to detain and quarantine an individual presenting public health risks. The Maldives National Police Force is connected with Interpol.

There is a clear need and expectation to institutionalise the existing informal linkages. A review of existing legal and policy instruments is necessary, which could lead to the development of formal partnership arrangement and SOPs to enable joint working during and between emergencies/disasters. The anticipated framework, national emergency preparedness and response plan, could be instrumental in the development of incident management systems to take forward the current good practices between public health and security services.

Recommendations for priority actions

- Development and harmonization of appropriate legal and policy instruments and operational packages (MOU, SOPs) to ensure multi sectorial health response and preparedness involving relevant security sectors.

- Develop, progress and sustain incident management system (with Command and Control structures) which could articulate the reporting and information sharing mechanisms, including security and collaboration with external partners/countries.

- Develop an integrated capacity development programme (training, exercises, experience sharing) to facilitate integration and joint working between relevant security authorities and those in public health.

Indicators and scores

R.3.1 Public health and security authorities (e.g. law enforcement, border control, customs) linked during a suspect or confirmed biological event – Score 2

Strengths/best practices

- The mechanism of the National IHR Committee which is utilised for information sharing pertaining to each event.

- Timely training for infection control and response are carried out on an event basis, and on diseases of international concern (Ebola response, MERS response, Hospital emergency response, Public health airport emergency).

- SOPs are in place for the functioning of security authorities, which define the procedures for emergency events at points of entry.

- Risk assessments are carried out on possible events of public health concern.

- Corrective measures such as gap identification and required actions are always communicated to the responsible parties and monitored.

- Coordination between police and the Interpol.

Areas that need strengthening/challenges

- Formulation of a designated workforce comprising of trained staff for contingencies.

- Capacity for producing technical procedures for the response for radiation and chemical events needs to be addressed. Routine information sharing mechanism needs to be established.

- Specific budget allocated to emergency response for public health emergencies.

- Coordination and implementation of procedural components need to be addressed and adopted by main stakeholders such as the Ministry of Defence in the event of an emergency.

- Orientation and training should be systematic and regular to keep human resources up to date and motivated.

- Acquiring assistance from the International Community is ad hoc especially for radiological and chemical events, leading to the potential of an increased extent of damage.

Medical countermeasures and personnel deployment

Introduction

Medical countermeasures are vital to national security and protect nations from potentially catastrophic infectious disease threats. Investments in medical countermeasures create opportunities to improve overall public health. In addition, it is important to have trained personnel who can be deployed in case of a public health emergency for response.

Target

National framework for transferring (sending and receiving) medical countermeasures, and public health and medical personnel from international partners during public health emergencies.

Maldives level of capabilities

The Maldives has a Health Sector Emergency Response Framework, a Pandemic Preparedness Plan, a Rapid Response Tool kit, and emergency teams that have been identified at national and atoll levels. This provides a national (domestic) system for sending and receiving medical countermeasures and health personnel within the Maldives during public health emergencies. It includes a written manual/policy for the MoH Emergency Teams which provides a good example of best practice for other countries. There are also some stockpiles of countermeasures held within the country, including Interagency Emergency Health Kits, Chlorine, and Personal Protective Equipment (PPE).

However, specific plans for countermeasures and personnel that establish systems for both domestically and overseas-recruited staff have not been developed. Current stockpiles may also not necessarily be sufficient or match predicted risks.

Not all countermeasures and personnel can be expected to come from within a small country, highlighting the importance of investigating and establishing appropriate support and sharing arrangements with other countries, with manufacturers and distributors, and international agencies.

Recommendations for priority actions

- Develop plans for sending and receiving medical countermeasures and health personnel for public health emergencies, at both national and international levels.

- Consider regional and international arrangements for sharing resources and support, including possible agreements with manufactures and distributors of medical supplies, other countries, and international agencies.

- Review stockpiles against current and future needs and ensure adequate maintenance processes are in place.

RESPOND

Indicators and scores

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

Strengths/best practices

- The Maldives has a Health Sector Emergency Response Framework and Pandemic Preparedness Plan that provides a national (domestic) system for sending and receiving medical countermeasures

- There are also some stockpiles of countermeasures held within the country:

  ○ Interagency Emergency Health Kits, enough for 30,000 people for two months for national use during a public health emergency;

  ○ Chlorine stock, updated monthly, used as needed for disinfecting water supplies when there is an annual peak in acute gastroenteritis cases (and occasional clusters);

  ○ Personal Protective Equipment.

Areas that need strengthening/challenges

- Specific plans for countermeasures that establish systems both domestically and from overseas have not been developed.

- Future plans should address (among other things):

  ○ Procedures for decision making, sending, and receiving medical countermeasures (and animal countermeasures);

  ○ Dedicated resources/staffing identified for logistics related to delivery and receipt of countermeasures, or tracking and distribution of countermeasures;

  ○ Other stockpiles as appropriate, or processes to obtain when needed (e.g. antiviral medication, vaccines);

  ○ System for maintaining stockpiles and ensuring stock does not expire;

  ○ Agreements, as appropriate, with manufacturers or distributors, other countries, and/or international agencies, to procure or share medical countermeasures during a public health emergency.

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

Strengths/best practices

- The Maldives has a Health Sector Emergency Response Framework, a Pandemic Preparedness Plan, a Rapid Response Tool kit, and emergency teams have been identified at the National and Atoll levels.

- This provides a national (domestic) system for sending and receiving health personnel within the Maldives during public health emergencies.

- The system includes a written manual / policy for MoH Emergency Teams, which provides a good example of best practice for other countries.

- Training was implemented for Rapid Response Teams in May 2016.

RESPOND

Areas that need strengthening/challenges

- Specific plans for health personnel that establish systems both domestically and receiving personnel from overseas have not been developed.

- Future plans should address (among other things):

  ○ Procedures for decision making, sending, and receiving health personnel;

  ○ Dedicated resources/staffing for coordination related to health personnel;

  ○ How international personnel will be quickly integrated into a national/local response;

  ○ Some outstanding details relating to sending or receiving health personnel (regulatory and licensure concerns, training criteria and standards, liability concerns, safety concerns, triggers for requesting personnel from other countries);

  ○ Agreements, as appropriate, with other countries, and/or international agencies and groups (e.g. WHO-Global Outbreak Alert & Response Network) for expert support and additional personnel.

Risk communication

Introduction

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

Communications of this kind promote the establishment of appropriate prevention and control action through community-based interventions at individual, family and community levels. Disseminating the information through appropriate channels is essential. Communication partners and stakeholders in the country need to be identified, and functional coordination and communication mechanisms should be established. In addition, the timely release of information and transparency in decision-making are essential for building trust between authorities, populations and partners. Emergency communications plans should be tested and updated as needed.

Target

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

Maldives level of capabilities

The Maldives has a number of capabilities and processes that it uses regularly to respond to public health events. There are staff and spokespeople in the HPA the and MFDA that respond to public information needs. There are procedures for clearance of public messaging and to coordinate messaging with other parts of the health sector and with other agencies. Information can reach the target population and messages are fine tuned to the respective audience and adjusted according to feedback received.

A key gap currently is a lack of a risk communication plan to formalize processes, to prepare for events ahead of time, and for ongoing monitoring of the effectiveness of public messaging. There is also a lack of staff with specialized training in risk communication, and no established risk communication function operating across the MoH and HPA.

Community engagement could be increased, with more proactive and ongoing engagement to help inform messaging and risk assessment. Addressing rumours and misinformation could also potentially be improved (currently conducted in a reactive ad hoc manner), however establishing systematic, proactive mechanisms for this are unlikely to be feasible, given limited human resource capacity in a small country.

RESPOND

Recommendations for priority actions

- Develop a risk communications plan.

- Consider establishing a dedicated risk communications function within the MoH or HPA.

- Improve internal operational communication protocols to ensure proper hand overs between staff during an emergency response.

Indicators and scores

R.5.1 Risk communication systems (plans, mechanisms, etc.) – Score 1

Strengths/best practices

- The Maldives has staff and spokespeople in the HPA and MFDA that respond to public information needs during emergencies:

  ❍ HPA responds to outbreaks and other public health emergencies;

  ❍ MFDA responds to food safety/medicine-related events.

- The Emergency Risk Management Framework, Emergency Response Plan, and the Rapid Response Tool kit includes communication functions and processes.

Areas that need strengthening/challenges

- There is currently no risk communication plan in place.

- There is currently no established risk communication function operating across the MoH and HPA.

- There is a lack of staff with specialized training in risk communication.

R.5.2 Internal and partner communication and coordination – Score 3

Strengths/best practices

- The MoH has procedures for clearance of public messaging.

- Emergency Risk Management Framework, Emergency Response plans and the Rapid Response Tool kit shows how to coordinate internal communication during an emergency.

- Information is coordinated with other parts of the health sector and with other agencies.

- Testing communication coordination with partner organizations has taken place when exercising HERPs.

Areas that need strengthening/challenges

- Interagency coordination could still be improved, and putting in place a risk communications plan could help address this.

- There isn't a formal mechanism or protocol to coordinate communication among international stakeholders and response agencies during an emergency.

R.5.3 Public communication – Score 3

Strengths/best practices

- MoH has a designated and trained public spokesperson.

- Media releases and messages are developed and agreed among relevant staff and agencies.

- Some proactive communications are undertaken - e.g. seasonal issues such as dengue.

- Messaging is tailored according to geographic location and language.

- Messaging is adjusted according to feedback received.

- Regular media briefings and updates through mass and social media are provided during emergencies as needed.

Areas that need strengthening/challenges

- A proactive communications strategy is needed.

R.5.4 Communication engagement with affected communities – Score 3

Strengths/best practices

- Health staff, in particular those in public health units, regularly engage with communities and religious leaders / mosques. This helps inform and revise messages.

- A public hotline is available.

Areas that need strengthening/challenges

- Community engagement could be increased, with more proactive and ongoing engagement to help inform messaging and risk assessment - development of a risk communications plan could assist with this.

- Plans needed to scale up community engagement capacities to be deployed during emergencies.

R.5.5 Dynamic listening and rumour management – Score 2

Strengths/best practices

- MoH does have ad hoc methods of receiving information about public health associated rumours (health care workers, social media, hotline information, etc.).

- MoH addresses rumours and misinformation, via media statements to correct such information.

Areas that need strengthening/challenges

- There isn't a systematic, proactive mechanism for dynamic listening and rumour management.

RESPOND

OTHER IHR-RELATED HAZARDS AND POINTS OF ENTRY

Points of entry

Introduction

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

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

Maldives level of capabilities

There are seven designated points of entry (PoEs) – three international airports and four sea ports. The country does not have a formal National Public Health Emergency Contingency Plan at their PoEs. However, a number of disease specific contingency response plans exist and these have been tested in a simulation exercise.

Health facilities and immediate health services available at the PoEs are either inadequate or non-existent. There are no referral transportation provisions to health facilities at designated PoEs except at Malé International Airport.   Routine environment safety inspections are not regulated by competent authorities unless reported and no routine vector control measures are conducted at POEs.

The country's effectiveness in responding to Public Health Events, evaluated at PoEs, has been assessed centrally but not yet published. There is a lack of qualified human resources to be able to implement fully functional required measures at the PoEs, including inspection of conveyances available at designated PoE. However, the country has the competency to issue ship sanitation certification to incoming ships.

Although 95% of the country's food comes from outside, it does not have adequate food testing capacity or legislation. However, they are routinely handling cargo and performing inspection and other relevant functions. Ministry of Fishery and Agriculture (MoFA) has designated areas at PoEs for animal quarantine, but these provisions are not functional.

Recommendations for priority actions

- Draft and implement the National Public Health Emergency Contingency Plan at the designated PoEs.

- Ensure appropriate isolation and quarantine facility within the designated PoEs for humans and animals.

- Periodically assess the designated PoEs and verify their functionality with simulation exercises.

- Identify HR requirements, build capacity and allocate resources as per requirements.

Indicators and scores

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

Strengths/best practices

- Health facilities are regulated by the Ministry of Health to ensure that the services and facilities are up to general standard.

- Inspection to all health facilities by the Ministry of Health is conducted on regular basis.

- Timely training for specific public health issues involving bodies working at PoEs and medical personnel are being done.

Areas that need strengthening/challenges

- Minimal medical facilities for emergencies and suspected cases of PHEICs are not established in most of the designated PoEs since the issue is not raised at a suitable platform.

- Due to the multi sectoral approaches and variety of case definitions and infection control protocols that require preparation and response for different PHEICs, it is difficult to cater at dispersed PoE locations.

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

Strengths/best practices

- The referral system and communication mechanism for transfer of passengers requiring medical attention has been established at Malé International Airport.

- Agencies working at PoEs, especially at Malé International Airport, are well informed of possible public health risks that need to be attended.

- SOPs are established for major areas of concern specially disease based.

Areas that need strengthening/challenges

- Strategic planning with multi sectoral-approach becomes difficult due to time constraints and coordination barriers.

- Acquiring sufficient resources centrally for prompt implementation.

- Allocation of land area and space for PH regulation at PoEs.

Chemical events

Introduction

Timely detection and effective response of potential chemical risks and/or events require 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 safety.

Target

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

Maldives level of capabilities

The Maldives has a strong awareness of health protection and consumer safety for chemical events. No major chemical incident has happened in the country except a marine oil spillage due to a ship sinking. In 2015, the country undertook a chemical profiling but has yet to conduct an assessment for chemical safety. A chemical industry is not a major economic activity in the country, though chemicals constitute a major part of modern living with the risk of imported chemical release. The Government of Maldives has ratified relevant international conventions and treaties including the Rotterdam and Stockholm Conventions, Basel Convention, and Chemical Weapons Convention.

There is currently no mechanism in place for detecting, alerting, and responding to chemical events from accidental, incidental, or deliberate release. Intersectoral communication, coordination, and partnership to enable coordinated, preparedness, surveillance and response to chemicals events are managed only on an ad hoc basis and limited in scope.

Recommendations for priority actions

- The national multi-hazard emergency preparedness and response plan under the IHR (2005) needs to include chemical events as part of the national emergency preparedness.

- Develop intersectoral mechanisms for detecting, alerting, and responding to chemical events or emergencies including the designation of lead competent authorities for chemical safety and risk management.

- Develop baseline capacity (skilled staff, training for chemical safety and toxicology, antidotes, equipment and laboratory, predictable funding) to prevent and manage chemical events including those required to assess ago-chemicals and their residue.

Indicators and scores

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

Strengths/best practices

- The Maldives has ratified The Basel (signed 1992); Rotterdam and Stockholm conventions (signed 2006); Vienna Convention for the protection of the ozone layer, is a member of the Strategic Approach to International Chemicals Management; Chemical Weapons Convention.

- The United Nations Institute for Training and Research (UNITAR), together with the Maldives' Ministry of Environment and with financial support from the Strategic Approach to International Chemicals Management Quick Start Programme (QSP), launched the "Strengthening Capacities for National Strategic Approach to International Chemicals Management Implementation in Maldives" project in 2013.

Areas that need strengthening/challenges

- There is overall no mechanism in place for detecting, alerting and responding to chemical events or emergencies.

- Chemical profiling has been completed but not yet implemented. There's no inventory of chemical stock or safety assessment.

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

Strengths/best practices

- Chemical profile conducted in 2015.

- National Health Care Waste Management Policy developed.

Areas that need strengthening/challenges

- No system established to manage a chemical event.

OTHER

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 with surveillance and response capacity for radiological and nuclear hazards/events/ emergencies. This requires effective communication and collaboration among the sectors responsible for radiological and nuclear emergency management.

Maldives level of capabilities

In the Maldives, there are currently no major radio-nuclear sources or activities apart from those for medical purposes. There is also no capacity to undertake surveillance to ensure the routine use of radiation in healthcare facilities or to identify any transportation and passage of radionuclides through the country. There is concern identified from national participants about the lack of knowledge and basic detection facilities for radiation in the country. Current legislative and institutional frameworks are limited in providing reference for developing capacities for radiation emergencies.

Recommendations for priority actions

- National multi-hazards emergency preparedness and response plan under the IHR (2005) needs to include radiation emergencies as part of the national emergency preparedness.

- Develop intersectoral mechanisms for detecting, alerting, and responding to radiation incident or emergencies including the designation of lead competent authorities for radiation safety and risk management. Current or upcoming legislation should include radiation safety for health protection.

- Develop baseline capacity (skilled staff, training for radiation safety, antidotes, equipment and laboratory, predictable funding) to prevent and manage radiation emergencies including those required to monitor radiation exposure for medical personnel.

Indicators and scores

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

Strengths/best practices
- None identified during the course of JEE.

Areas that need strengthening/challenges
- All aspects as per the IHR (2005) to develop a mechanism for detecting and responding to radiological and nuclear emergencies including human resource development.

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

Strengths/best practices

- None identified during the course of JEE.

Areas that need strengthening/challenges

- All aspects as per the IHR (2005) to develop an enabling environment for management of radiological emergencies including human resource development.

Appendix 1: JEE background

Mission place and dates

Male, Maldives: 5-9 March 2017

Mission team members:

- Dr Rajesh Sreedharan, Team Leader, JEE Secretariat, World Health Organization, Geneva

- Dr Bardan Rana, Regional Advisor, IHR, World Health Organization, S.E. Asia Regional Office

- Professor Hendrik Jan Ormel, Senior Veterinary Policy Advisor, Food & Agriculture Organization of the United Nations (FAO)

- Dr Sohel Saikat, Program Officer, Service Delivery & Safety. World Health Organization

- Dr Darren Hunt, Public Health Physician, New Zealand

- Professor Mahmudur Rahman, Institute of Epidemiology, Disease, Control & Research, Bangladesh

- Dr Shushil Dev Pant, Medical Officer, Public Health, World Health Organization Country Office

- Miss Zainab Sonnah Bangura, Report writer, United Kingdom

Objective

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

The JEE process

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

Should there be significant and irreconcilable disagreement between the external team members and the host country experts, or among the external, 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.

Preparation and implementation of the mission

- Prior to the visit teleconferences were held with the team of experts to review the agenda, responsibilities and logistics

- A training course was conducted on 20th February 2017, 12:55 – 13:55to provide all the national stake holders with the information and resources necessary to participate in the JEE process, including guidance on self-reporting requirements and responsibilities for the process.

- Background documents were collected and shared with the JEE team along with the complete JEE tool for review.

- Meetings with the relevant stakeholders and field visits were conducted to validate the collected information

- A consensus was reached with the nationals with regards to the scores and priority actions.

- A debriefing meeting with senior officials and national technical teams involved in the evaluation took place to present the outcomes of the JEE, best practices and priority actions.

- The press was invited to take pictures and publish the outcome of the JEE.

- The Minister of Health thanked the JEE team, technical staff and all the stakeholders for their hard work and contribution. He acknowledged the importance of the Priority actions and the commitment to take on board some of the priorities identified.

Limitations and assumptions

- The evaluation was limited to one week, which limited the amount and depth of information that could be managed.

- It is assumed that the results of this evaluation will be publically available.

- The evaluation is not just an audit. Information provided by <host country> will not be independently verified but will be discussed and the evaluation rating mutually agreed to by the host country and the evaluation team. This is a peer-to-peer review.

Key host country participants and institutions

Maldives lead representatives:

Ministry of Health
- Honorable Ministers
- Permanent Secretary
- Policy and International Health
- Director General of Health Services and the IHR team
- Health Protection Agency
- Quality Assurance Unit
- National Drug Agency
- National Blood Services

Other Ministries and Partners
- Ministry of Agriculture &Forestry
- Ministry of Environment &Energy
- Ministry of Tourism
- Maldives National Defense Force
- Ministry of Foreign Affairs
- Attorney General's Office
- Civil Aviation
- Indira Gandhi Memorial Hospital
- Maldivian Red crescent
- National Disaster Management Centre

- Customs

- Immigration

- Port Authorities

- Maldives National University

- Public Service Media

Supporting documentation provided by host country

National legislation, policy and financing

- Public Health Act 2012,

- Disaster Management Act 2015,

- Health Master Plan 2016-2025

- Draft Port Health Regulation

- Draft Vector Control Regulation

IHR coordination, communication and advocacy

- Final draft of the 'benchmark assessment report' of 2016

- IHR capacity building core group and IHR working group for response and preparedness documents

- National Pandemic Preparedness plans

- Terms of Reference for the high level National IHR Committee

Antimicrobial resistance

- List of public and private hospitals

- National guidelines for infection control in health facilities 2008

- Protocol for needle-prick/sharp injuries

Zoonotic diseases

- Health Master Plan 2016-2025, Ministry of Health of the Republic of Maldives

- Annual Animal Health Report 2008-2016

- OIE PVS Evaluation Report (October 2011)

Food safety

- Consumer Protection Act

- Public Health. Act

- National Standard for Bulk Transportation and Storage of Drinking Water (MFDA-FCD STAN 17-2016)

- National standard for Labelling Prepackaged Food (MFDA-FCD STAN 4-2014, Rev. 1-2016)

- National Standard for Analysis and Sampling (MDA-FCD STAN 5-2014)

- General Regulation for Food Establishments and Services

- INFOSAN Activities in Maldives

- Codex Alimentarius Activities in Maldives (FSD-PS/PS-FR/SOP 004)
- SOP for handling local food alerts (FSD-PS/PS-MS/SOP 004)
- List of Food Related Complaints- 2016
- Regulation on import, produce and sale of breast milk substitutes in the Maldives (MFDA-FS/R1:2008)
- Factory Auditing (FSD-E/IQA-OC/SOP 012)
- SOP for issuing health certificate (FSD-E/QA-HC/SOP 002)
- SOP for responding to Rapid Alert System for Food and Feed (FSD-E/QA-OC/SOP 016)

Biosafety and biosecurity

- Ministry of Health Quality Improvement programme – assessment template for health facilities
- WHO Maldives report on assessment of biosafety, Ministry of Environment Waste Management regulation
- Health Services Act (2015)

Immunization

- Vaccine coverage data 2015-2016
- Disease surveillance that showed Vaccine Preventable Disease surveillance

National laboratory system

- Communicable Disease Reporting Guidelines 2015
- Accreditation Certificate till 2018
- Laboratory Inspection report
- National Infection Control Guideline
- Zika laboratory surveillance guideline 2017

Real-time surveillance

- Communicable Disease reporting guidelines 2015
- Influenza Surveillance annual report 2015
- Event based surveillance guideline

Reporting

- None identified

Workforce development

- Draft HRH plan indicating the country's progress in workforce development.
- Epidemiologists and other specialized public health personnel

Preparedness

- Emergency Risk Management Framework (four modules)
- Emergency Response Plan and SOPs

- Pandemic Preparedness Plan
- Plans and SOPs for Ebola, MERS-CoV, Zika
- Hospital Emergency Response Plans
- MoH Emergency Teams Manual / Policy
- Disaster Response Plan (national disaster management centre)

Emergency response operations

- Health Sector Emergency Risk Management Framework 2014
- Disaster Management Act 2015
- Maldives Inter-Agency Contingency Plan (draft) 2016
- Maldives Pandemic Preparedness Plan 2007
- SOPs on Ebola

Linking public health and security authorities

- The Public Health Act 7/2012
- Protocol for dealing with persons with communicable diseases in an aircraft
- MERS-CoV response at airports: level 2
- National Air Transport Facilitation Committee meeting record dated 15/04/2014

Medical countermeasures and personnel deployment

- Emergency Risk Management Framework
- Pandemic Preparedness Plan
- Emergency Response Plan

Risk communication

- Emergency Risk Management Framework (four modules)
- Emergency Response plans
- Hospital Emergency Response Plans

Points of entry

- Emergency Response plans,
- Pandemic Preparedness Plan,
- Standard Operating Procedures (SOPs) developed for Ebola preparation, Middle East Respiratory Syndrome Coronavirus (MERS-CoV) plans etc. are available

Chemical events

- Maldives National Chemical Profile 2015
- National healthcare waste management policy 2016

Radiation emergencies

- None identified