

JOINT EXTERNAL EVALUATION
OF IHR CORE CAPACITIES
of the

**REPUBLIC OF
THE MARSHALL ISLANDS**

Mission report:
23–26 September 2019



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ABBREVIATIONS

AARs	After Action Reviews
AMR	Antimicrobial Resistance
CDC	Centers for Disease Control and Prevention
DDM	Data for Decision Making
EOC	Emergency Operations Centre
EPA	Environmental Protection Authority
EPINet	Exposure Prevention Information Network
EWARS	Early Warning and Response System
FAO	Food & Agriculture Organization
GAP	Global Action Plan
HIV	Human Immunodeficiency Virus
IAEA	International Atomic Energy Agency
IATA	International Air Transport Association
IHR	International Health Regulations
INFOSAN	International Food Safety Authorities Network
IPC	Infection Prevention and Control
ISO	International Organization for Standardization
IT	Information technology
MCMs	Medical countermeasures
MOHHS	Ministry of Health and Human Services
NDMO	National Disaster Management Office
NFP	National IHR Focal point
NRC	Ministry of Natural Resources and Commerce
NRD	Ministry of Natural Resources and Development
OIE	World Organization for Animal Health
PHEIC	Public Health Emergency of International Concern
PIHOA	Pacific Islands Health Officer Association
PIO	Public Information Officer
PoE	Points of Entry
PPE	Personal Protective Equipment
PPHSN	Pacific Public Health Surveillance Network
PVS	Performance of Veterinary Services
RMIEPA	Marshall Islands Environmental Protection Authority
SOPs	Standard Operation Procedures
SPC	Pacific Community
SNS	Strategic National Stockpile
USA	United States of America
UNICEF	United Nations Children's Fund
WAHIS	World Animal Health Information System
WebIZ	National Immunization Information System
WHO	World Health Organization

EXECUTIVE SUMMARY

The Joint External Evaluation (JEE) team would like to express its appreciation to the Republic of the Marshall Islands for volunteering for a Joint External Evaluation. This shows a commitment, foresight and leadership from senior levels of government that will be critical to success in building and maintaining the Republic of the Marshall Islands' core capacities under the International Health Regulations (IHR (2005)).

The International Health Regulations (2005) (IHR) are the legal framework for global health security with all State Parties required to develop minimum core capacities to detect, prevent and respond to public health events and emergencies. The Joint External Evaluation (JEE) is one of the four components of the updated IHR (2005) monitoring and evaluation framework, along with mandatory annual reporting, after action reviews (AARs), and simulation exercises. The JEE provides a unique, voluntary opportunity for multi-sectoral teamwork within a country, supported by international partners, to assess IHR implementation. It promotes transparency, mutual accountability, international collaboration and confidence.

The Joint External Evaluation is designed to examine the implementation of the IHR core capacities across 19 technical areas. The JEE is a peer-to-peer collaboration, conducted jointly by the country and an international team of experts. This report is the product of the JEE in the Republic of the Marshall Islands in 2019.

In the Republic of the Marshall Islands, an orientation workshop on IHR and the JEE process was conducted in January 2019, followed by the multi-sectoral self-assessment in May to June 2019, both supported by the World Health Organization (WHO). From 23 to 26 September 2019, a multi-sectoral team of international and national experts jointly reviewed the Republic of the Marshall Islands' capacities across the 19 technical areas of the JEE tool. This report summarizes the findings of this JEE and provides recommended priority actions for each of the 19 technical areas.

Findings from the joint external evaluation

The national team in the Republic of the Marshall Islands showed great commitment to strengthening their health security system as well as to the JEE process. The JEE team was impressed with the dynamic and well-trained young workforce and many of the technical areas were considered fit for purpose and appropriate for this small island setting.

The JEE team found many strengths in the Republic of the Marshalls Islands, particularly:

- Excellent coordination and collaboration within the Ministry of Health and Human Services (MOHHS) and between sectors, with a cohesive and resilient workforce that can recognize when to utilise existing international partnerships to supplement country response capacities.
- A well-established national emergency preparedness and response system that uses the incident command structure and encompasses all sectors.
- A workforce committed to quality improvement and assurance.
- A dedicated multi-disciplinary Exposure Prevention Information Network (EpiNET) team with the flexibility to manage concurrent events and reallocate human resources to take on the functions of the incident command structure as required.
- Innovation to address issues by utilising adaptive approaches that are proportionate to risk and inclusive of the outer islands.
- A strong surveillance system with the capacity to collect, collate and report surveillance data within the country and to external partners.
- The existing quest for improvement in the health security system as evidenced by recent actions, such as establishing an environmental health unit and the Health Security Taskforce.

The overarching recommendations of the JEE team were to:

- Complete a comprehensive national multi-hazard risk assessment to prioritize emergency preparedness planning and map resources appropriately.
- Incorporate new legislation and revisions into a comprehensive and practical multi-sectoral legislative strategy for implementation.
- Consolidate, finalize, approve and validate all IHR-related documents that underpin the health security system, including cross sector coordination arrangements.
- Encourage the incorporation of key JEE recommended actions into multi-sectoral planning and budgeting cycles.
- Develop and implement a comprehensive national human resources plan to recruit, retain and develop health personnel to implement, sustain and advance activities to comply with IHR provisions.
- Strengthen emergency administrative procedures, e.g. for risk communication, procurement and financing, and review periodically.

Conclusions

The Republic of the Marshall Islands have made good progress in implementing the capacities of the International Health Regulations, applicable to their small island status. Their strong commitment to improving health security, and the momentum from conducting the State Party Annual Report for 2018 and this JEE, can further strengthen their health security system. Improving IHR capacities also contributes to health system strengthening, with co-benefits including stronger surveillance, laboratory, infection, prevention and control and health information systems. In addition, improving health security builds health system resilience through emergency preparedness, exercises and after-action-reviews.

The outcomes of this JEE can be used to develop a national action plan for health security. Using the Asia Pacific Strategy for Emerging Diseases and Public Health Emergencies as the roadmap, and with oversight provided by the Health Security Taskforce, all JEE recommendations can be translated into action. The Republic of the Marshall Islands should continue to meet the mandatory requirements for IHR reporting and consider other reporting as necessary (e.g. potential public health emergencies of international concern as outlined in IHR Annex 2).

The JEE team has appreciated the peer to peer discussions and learnings throughout the JEE process, and the transparent interaction with the dynamic Republic of the Marshall Islands colleagues. In closing, the JEE team wishes to thank the Republic of the Marshall Islands for their preparation and active participation throughout this evaluation.

The table below is the summary of the final scores for each technical area (further details are shown in the respective report chapters), as agreed by the national and external JEE teams. The principles of the scoring system are described in the JEE tool, available from:

http://www.who.int/ihr/publications/WHO_HSE_GCR_2016_2/en/

Briefly, the scoring is a 5-step Likert Scale in which a score of 1 designates no capacity, and incremental obligatory criteria for each indicator must be fulfilled to reach the next level. A score of 5 designates that the country has the required capacity and is able to sustain it. Indicators are proxies and are chosen with the aim of representing a probable wider capability than the actual measured factor.

For ease of overview, a "traffic light" colouring system is used, whereby scores of 1 are shown as red; scores of 2 and 3 are yellow; and 4 and 5 are green.

Note on scoring of technical areas of the JEE tool

The JEE process is a peer-to-peer review and a collaborative effort between host country experts and JEE team members. In completing the self-evaluation, the first step in the JEE process, and as part of preparing for an external evaluation, host countries are asked to focus on providing information on their capabilities based on the indicators and technical questions included in the JEE tool.

The host country may score their self-evaluation or propose a score during the onsite visit with the JEE team. The entire external evaluation, including the discussions around the score, strengths/best practices, the areas that need strengthening, challenges and the priority actions, is done in a collaborative manner, with the JEE team members and host country experts seeking agreement.

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

SCORES AND PRIORITY ACTIONS

Technical areas	Indicator no.	Indicator	Score	Priority Actions
PREVENT				
National legisla- tion, policy and financing	P.1.1	The State has as- sessed, adjusted and aligned its do- mestic legislation, policies and admin- istrative arrange- ments in all relevant sectors to enable compliance with the IHR	2	<ul style="list-style-type: none"> • Develop emergency administrative procedures for rapid procurement and financing for public health emergencies.
	P.1.2	Financing is avail- able for the imple- mentation of IHR capacities	2	
	P.1.3	A financing mecha- nism and funds are available for timely response to public health emergencies	2	
IHR coordi- nation, communi- cation and advocacy	P.2.1	A functional mecha- nism established for the coordination and integration of relevant sectors in the implementation of IHR	3	<ul style="list-style-type: none"> • Conduct an evaluation of the National IHR focal point (NFP) functionality, terms of reference, in- teroperability and training needs for NFP team.
Antimicro- bial resis- tance	P.3.1	Effective multi-sec- toral coordination on AMR	2	<ul style="list-style-type: none"> • Finalize and endorse the National Multi-sectoral Plan on Antimicrobial Resistance for the Marshall Islands 2018-2022. • Strengthen Infection Prevention and Control (IPC) in all health facilities and personal appearance services including training, inspections, infrastruc- ture, provision of resources, staff immunization and post exposure prophylaxis. • Strengthen the laboratory information system and ensure that antibiogram software (e.g. WHONET) is integrated and includes a clear list of reportable multi resistant organisms. • Develop antibiotic stewardship by enforcing the antimicrobial guidelines in all health clinics.
	P.3.2	Surveillance of AMR	2	
	P.3.3	Infection prevention and control	2	
	P.3.4	Optimize use of antimicrobial medi- cines in human and animal health and agriculture	2	

Technical areas	Indicator no.	Indicator	Score	Priority Actions
Zoonotic diseases	P.4.1	Coordinated surveillance systems in place in the animal health and public health sectors for zoonotic diseases/pathogens identified as joint priorities	2	<ul style="list-style-type: none"> Formalize ad hoc reporting for animal health of unexplained clusters of animal illness and deaths to a focal point, especially for swine, domestic and wild poultry and companion animals. Establish a mechanism for regular information-sharing between human and animal health sectors for timely risk assessment, risk communication, risk reduction and coordinated response Develop policies and protocols for the management of zoonotic events including consideration for compensation of loss to complement existing all-hazard emergencies plans.
	P.4.2	Mechanisms for responding to infectious and potential zoonotic diseases established and functional	2	
Food safety	P.5.1	Surveillance systems in place for the detection and monitoring of foodborne diseases and food contamination	2	<ul style="list-style-type: none"> Review and amend Food Safety regulations to empower food inspectors and increase their capacity to adequately implement food safety measures. Provide technical and operational training in food safety to the National Food and Drug Safety Taskforce members. Develop and endorse a national environmental health plan that incorporates food safety procedures and specifies food safety event triggers, response, communications, and the roles and responsibilities of the National Food and Drug Safety Taskforce.
	P.5.2	Mechanisms are established and functioning for the response and management of food safety emergencies	2	
Biosafety and biosecurity	P.6.1	Whole-of-government biosafety and biosecurity system in place for all sectors (including human, animal and agriculture facilities)	1	<ul style="list-style-type: none"> Complete the process to enact the draft Biosecurity Bill 2008. Form a multi-sectoral committee to oversee biosecurity and biosafety activities in human health, animal health, points of entry, marine, environment protection and agriculture sector. Conduct assessments of current biosafety and biosecurity practices, procedures, equipment and supplies and use this information to inform continuous improvement with evaluation and monitoring.
	P.6.2	Biosafety and biosecurity training and practices in all relevant sectors (including human, animal and agriculture)	1	
Immuni- zation	P.7.1	Vaccine coverage (measles) as part of national programme	3	<ul style="list-style-type: none"> Ensure implementation of the Effective Vaccine Management Improvement Plan nationwide; include improving vaccine access by strengthening storage capacity in additional outer islands and conducting opportunistic immunization of outer islands children during visits to Majuro and Ebeye to reduce outreach visits (may include establishing immunization services at domestic air and sea ports and implementing standing orders for immunization during hospital outpatient clinic and emergency visits and before discharge from hospital as appropriate).

Technical areas	Indicator no.	Indicator	Score	Priority Actions
	P.7.2	National vaccine access and delivery	4	<ul style="list-style-type: none"> • Explore options to conduct vaccine coverage surveys to improve coverage level estimates in remote mobile populations while also developing and validating the national electronic immunization register to be the single most accurate source of coverage estimates in RMI. • Consider diversifying funding for the immunization programme through the national government and other partners such as United Nations Children's Fund (UNICEF) to future-proof immunization services against funding uncertainty.
DETECT				
National laboratory system	D.1.1	Laboratory testing for detection of priority diseases	3	<ul style="list-style-type: none"> • Improve human resource capacities and capabilities in the laboratory service including employing a microbiologist for the Majuro hospital
	D.1.2	Specimen referral and transport system	5	<ul style="list-style-type: none"> • Systematically implement the 12 essential elements of laboratory quality management system as a roadmap towards International Organization for Standardization (ISO) accreditation and conducting relevant training
	D.1.3	Effective national diagnostic network	2	<ul style="list-style-type: none"> • Collaborate with partners and other island countries towards accreditation of the hospital laboratories in line with the regional approach.
	D.1.4	Laboratory quality system	1	
Real -time Surveillance	D.2.1	Surveillance systems	4	<ul style="list-style-type: none"> • Streamline the reportable conditions list; improve syndromic and indicator-based reporting from the outer islands, specialty clinics and laboratories; and include all surveillance data into the centralized database.
	D.2.2	Use of electronic tools	2	<ul style="list-style-type: none"> • Strengthen the event base surveillance system by encouraging reporting from additional sources such as the Environmental Protection Agency (EPA) and the National Disaster Management Office (NDMO) and improving the database.
	D.2.3	Analysis of surveillance data	4	<ul style="list-style-type: none"> • Establish a laboratory information system to provide electronic data directly into the centralized database.
Reporting	D.3.1	System for efficient reporting to FAO, OIE and WHO	4	<ul style="list-style-type: none"> • Sustain competence of the NFP team through training and regular exercises.
	D.3.2	Reporting network and protocols in country	3	<ul style="list-style-type: none"> • Increase awareness among notifiers of the public health events that need to be urgently reported to the NFP for assessment.

Technical areas	Indicator no.	Indicator	Score	Priority Actions
Workforce development (animal and human health sectors)	D.4.1	An up-to-date multi-sectoral workforce strategy is in place	2	<ul style="list-style-type: none"> Develop and retain a multi-disciplinary and multi-sectoral workforce linked to IHR capacity and provide ongoing professional development through coaching, mentoring and participation in regional public health events. Develop a multi-sectoral workforce strategy linked to IHR capacities that includes epidemiologists, veterinarians, laboratory assistants and specialists, information technology (IT) specialists, social scientists, doctors, nurses, and environmental specialists, in consultation with relevant government and external stakeholders, that includes surge capacity and considers forecasting areas of need. Strengthen mechanisms to improve recruitment of staff in a timely manner with transparent administrative processes.
	D.4.2	Human resources are available to effectively implement IHR	3	
	D.4.3	In-service trainings are available	2	
	D.4.4	Field Epidemiology Training Programme or other applied epidemiology training programme in place	3	
RESPOND				
Emergency preparedness	R.1.1	Strategic emergency risk assessments conducted and emergency resources identified and mapped	2	<ul style="list-style-type: none"> Align emergency preparedness plans from each sector to ensure consistency and strengthen the incident command system through multi-sectoral training and exercises
	R.1.2	National multi-sectoral multi-hazard emergency preparedness measures, including emergency response plans, are developed, implemented and tested	2	
Emergency response operations	R.2.1	Emergency response coordination	4	<ul style="list-style-type: none"> Strengthen communication and coordination between the National Emergency Operations Center and the Hospital Emergency Operations Center through aligned procedures and exercises. Identify new, and strengthen existing, communication, training and technological opportunities to enhance national support to emergencies in the outer islands. Develop a multi-sectoral exercise management programme for emergency operations that includes a public health scenario such as an influenza pandemic to increase the capacity of governmental and non-governmental agencies Share experiences and lessons learnt from exercises and real events with the region.
	R.2.2	Emergency operations centre capacities, procedures and plans	3	
	R.2.3	Emergency Exercise Management Programme	4	
Linking public health and security authorities	R.3.1	Public health and security authorities (e.g. law enforcement, border control, customs) linked during a suspect or confirmed biological, chemical or radiological event	3	<ul style="list-style-type: none"> Finalize and endorse the Memorandum of Understanding between MOHHS and Ministry of Justice, Immigration and Labor based on the emergency medical services Agreement and establish a national 911 service. Sustain regular joint drills, exercises and training programmes to strengthen and maintain functional, efficient and adequate cross-sector coordination between MOHHS and security authorities.

Technical areas	Indicator no.	Indicator	Score	Priority Actions
Medical counter-measures and personnel deployment	R.4.1	System in place for activating and coordinating medical countermeasures during a public health emergency	4	<ul style="list-style-type: none"> Finalize and periodically test the medical countermeasures plan, including case management for relevant IHR hazards. Maintain an up to date multi-sectoral and multidisciplinary roster of experienced current and retired staff in the country for future deployment and ensure readiness through training and simulation exercises. Document and apply lessons learnt from previous personnel deployments to improve future deployments, including collaboration among sectors and communication between the Hospital Emergency Operations Center and frontline responders.
	R.4.2	System in place for activating and coordinating health personnel during a public health emergency	4	
	R.4.3	Case management procedures implemented for IHR relevant hazards	4	
Risk communication	R.5.1	Risk communication systems for unusual/unexpected events and emergencies	2	<ul style="list-style-type: none"> Develop risk communication capacity to respond to public health emergencies across all emergency response sectors; strengthen human resources, including Public Information Officer recruitment, at the MOHHS; and identify sustainable funding sources. Develop a national multi-sectoral, all-hazards risk communication plan by formalizing existing risk communication guidance and operating procedures for operational, media and community engagement; incorporate templates for key information products and protocols for the timely approval, translation, release and dissemination of risk communications. Conduct and evaluate multi-sectoral and multi-agency risk communication simulation exercises and after action reviews (AARs) covering a range of hazards (including pandemic influenza, food, chemical events, radiation emergencies and natural and technological disasters). Plan and budget for resources to address social media risk communication and community risk perception, risky behaviours and misinformation.
	R.5.2	Internal and partner coordination for emergency risk communication	4	
	R.5.3	Public communication for emergencies	3	
	R.5.4	Communication engagement with affected communities	2	
	R.5.5	Addressing perceptions, risky behaviours and misinformation	1	

Technical areas	Indicator no.	Indicator	Score	Priority Actions
IHR-RELATED HAZARDS AND POINTS OF ENTRY				
Points of entry	PoE.1	Routine capacities established at points of entry	2	<ul style="list-style-type: none"> Accelerate the approval and endorsement of the Communicable Disease Response Plan and Mass Response Operations Plan, share with relevant Point of Entry stakeholders and supplement with plans for all public health hazards at points of entry. Periodically train crafts (air and sea) boarding parties to recognize public health threats and the process to notify medical or public health authorities. Conduct periodic multi-sectoral public health exercises at points of entry to maintain and increase IHR capacity, such as an ill traveler scenario. Establish all routine capacities at points of entry as identified in Annex 1B, 1 "At all times", to ensure a safe environment for travelers.
	PoE.2	Effective public health response at points of entry	3	
Chemical events	CE.1	Mechanisms established and functioning for detecting and responding to chemical events or emergencies	2	<ul style="list-style-type: none"> Develop procedures for risk assessment, monitoring and response to chemical emergencies to complement existing all-hazard emergency preparedness and response plans. Ensure access to guidelines and protocols, and provide training opportunities for relevant personnel, for diagnosis and case management of chemical events, intoxication and poisoning. Establish a focal point for accessing and providing poison information.
	CE.2	Enabling environment in place for management of chemical events	2	
Radiation emergencies	RE.1	Mechanisms established and functioning for detecting and responding to radiological and nuclear emergencies	1	<ul style="list-style-type: none"> Establish the national legal and regulatory framework for radiation protection and safety for all exposure situations and consider endorsing the international emergency conventions on early notification and assistance in case of nuclear or radiological emergencies. Develop capabilities for the detection, assessment, and response to radiation emergencies to complement existing all-hazard emergency preparedness and response plans. Establish a mechanism for accessing international technical assistance, information and expertise for radiation emergencies.
	RE.2	Enabling environment in place for management of radiological and nuclear emergencies	1	

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

PREVENT

NATIONAL LEGISLATION, POLICY AND FINANCING

INTRODUCTION

The International Health Regulations (IHR) (2005) provide obligations and rights for State Parties. In some State Parties, implementation of the IHR (2005) may require new or modified legislation. Even if new or revised legislation may not be specifically required, States may still choose to revise some regulations or other instruments in order to facilitate IHR implementation and maintenance. Implementing legislation could serve to institutionalize and strengthen the role of IHR (2005) and operations within the State Party. It can also facilitate coordination among the different entities involved in their implementation. See detailed guidance on IHR (2005) implementation in national legislation 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 State Parties to support and enable the implementation of all their obligations and rights made by the IHR. Development of new or modified legislation in some State Parties for the implementation of the Regulations. Where new or revised legislation may not be specifically required under a State Party's legal system, the State may revise some legislation, regulations or other instruments in order to facilitate their implementation in a more efficient, effective or beneficial manner. State Parties ensure provision of adequate funding for IHR implementation through the national budget or other mechanisms. Country has access to financial resources for the implementation of IHR capacities. Financing that can be accessed on time and distributed in response to public health emergencies, is available.

REPUBLIC OF THE MARSHALL ISLANDS LEVEL OF CAPABILITIES

The Republic of the Marshall Islands became a Member State of the World Health Organization (WHO), and therefore a signatory constituent to the IHR agreement, in 1991. The Republic of the Marshall Islands is committed to the implementation of the IHR core capacities and has appropriate legislative and financing mechanisms.

The Republic of the Marshall Islands Parliament, the Nitijela, is the highest legislative body, and all national legislation is available on its website (<https://rmiparliament.org/cms/legislation.html>). The principle legislation that provides authority to the Ministry of Health and Human Services (MOHHS) is Title 7 - Public Health, Safety, and Welfare Act: Chapter 1 – Public Health and Sanitation. This Act serves to “provide for the health, safety, and welfare of the people of the Republic of the Marshall Islands through the establishment of health services, and control of sanitation, and related matters.” The roles and responsibilities outlined in the Act are delegated to the Secretary of Health and Human Services.

The legislative process to promulgate new, and update existing legislation, requires the leading sector to draft the legislation, in conjunction with relevant stakeholders, have it reviewed by a legal counsel and approved by Nitijela. Once approved, the leading sector and relevant stakeholders are responsible for implementation. Policies undergo the same process; however, the Minister of the leading sector has the final approval.

Multiple sectors are involved in IHR-related legislation, including the Attorney General's Office; Parliament; MOHHS; Ministry of Finance, Banking, and Postal Services; National Disaster Management Office (NDMO); Ministry of Natural Resources and Commerce (NRC); and the Environmental Protection Authority (EPA).

While the legal framework allows for the implementation of most IHR capacities, the current legislation does not address all hazards to human health, such as animal health, chemical events and radiation emergencies. There is no current risk profile of threats and hazards to the country; the last risk assessment and profile was completed prior to 2008.

Financing of IHR implementation is managed at the national level, with the MOHHS overseeing and administering the allocation of funds to implement some IHR activities. Though funds are available to address public health activities, their distribution, especially a rapid response for a public health emergency, is not supported by an emergency financing process.

Indicators and scores

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

Strengths and best practices

- The Republic of the Marshall Islands is committed to implementing the IHR and the MOHHS has a good understanding of its rights and obligations of the IHR.
- The current legal framework in the country supports the implementation of most IHR capacities.
- The Republic of the Marshall Islands recently reviewed their public health legislation and an electronic platform for national legislation is available.

Areas that need strengthening and challenges

- Legislation among all sectors involved in the implementation of the IHR, e.g. animal health and the EPA, to reflect current arrangements.
- Having a comprehensive risk assessment that identifies threats and hazards to guide and inform legislative actions for all IHR hazards.
- Updating the Public Health, Safety and Welfare Act.
- Having a comprehensive national plan for IHR implementation.

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

Strengths and best practices

- The Republic of Marshall Islands is committed to finance activities to implement the IHR.
- The lead sector, MOHHS, is engaged and committed to ensure funding to implement IHR core capacities.

Areas that need strengthening and challenges

- The heavy reliance on external sources of financing and technical expertise for responding to public health emergencies.
- Having a current risk profile to guide national budget decisions.

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

Strengths and best practices

- There is an existing financing mechanism to fund the response to public health emergencies.
- There are adequate funds, including the MOHHS federal grants and the Government Contingency Fund, to support a public health emergency response.

Areas that need strengthening and challenges

- A more flexible mechanism to rapidly distribute resources during a public health emergency.
- Ensuring that the Government Contingency Fund and Disaster Assistance Emergency Fund, shared across all Government sectors, is able to support multiple disasters or public health emergencies that occur simultaneously.

Recommendations for priority actions

- Develop emergency administrative procedures for rapid procurement and financing for public health emergencies.

IHR COORDINATION, COMMUNICATION AND ADVOCACY

INTRODUCTION

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

Target

Multi-sectoral /multidisciplinary approaches through national partnerships that allow efficient, alert and response 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 communications which is a key obligation of the IHR – that is accessible at all times. State Parties provide WHO with contact details of National IHR Focal Points, continuously update and annually confirm them.

REPUBLIC OF THE MARSHALL ISLANDS LEVEL OF CAPABILITIES

The Republic of the Marshall Islands National IHR Focal Point (NFP) comprises key members of the national EpiNet team, led by the Secretary of Health and Human Services. The IHR Focal Point is responsible in reporting to WHO every year as mandated, as well as other reporting as necessary (e.g., potential public health emergencies of international concern [PHEIC] as outlined in IHR Annex 2). The communication and coordination contact list of the NFP is available, however this needs to be updated and shared with the WHO.

The NFP completed the State Party Assessment Report from 2010 to 2014 and in 2018; during 2015-2017 there was no reporting. This gap in reporting and turnover of staff resulted in a significant loss of experience and practices in the NFP.

The multi-sectoral Exposure Prevention Information Network (EpiNet) team has participated in the WHO Western Pacific regional "IHR Crystal" simulation exercise, which tests the ability of the NFP to report potential public health events of international concerns to WHO.

Although After-Action-Reviews are conducted after exercises and real events (e.g. Hepatitis A outbreak), there is no action plan to address the outcomes of these reviews. There is also no action plan that incorporates lessons learnt from multi-sectoral and multidisciplinary coordination and communication mechanisms.

Indicators and scores

P.2.1 A functional mechanism established for the coordination and integration of relevant sectors in the implementation of IHR - Score 3.

Strengths and best practices

- Good communication and information-sharing between the NFP and WHO, and other international partners including Pacific Islands Health Officer Association (PIHOA), Pacific Community (SPC), US Centers for Disease Control and Prevention (CDC).
- Regular weekly syndromic surveillance reports are shared through the Pacific Public Health Surveillance Network (PPHSN).
- A new contact directory for the NFP and EpiNet team was released to country partners in 2019.
- The EpiNet Team is officially recognized by the President, Cabinet members and National Disaster Management Office as the NFP team.
- After Action Reviews (AARs) and related reports have been conducted for every exercise, outbreak or emergency situation.

Areas that need strengthening and challenges

- Updating the EpiNet team directory to include the animal health sector (e.g. NRC).
- Clarification of the roles and communication lines between the NDMO and EpiNet for public health preparedness.
- Evaluating the effectiveness of the NFP function.

Recommendations for priority actions

- Conduct an evaluation of the NFP functionality, terms of reference, interoperability and training needs for NFP team.

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 is evolving at an alarming rate and is outpacing the development of new countermeasures capable of thwarting infections in humans. This situation threatens patient care, economic growth, public health, agriculture, economic security and national security.

Target

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

- a) Multi-sectoral work spanning human, animal, crops, food safety and environmental aspects. This comprises developing and implementing a national action plan to combat AMR, consistent with the Global Action Plan (GAP) on AMR.*
- b) Surveillance capacity for AMR and antimicrobial use at the national level, following and using internationally agreed systems such as the WHO Global Antimicrobial Resistance Surveillance System and the OIE global database on use of antimicrobial agents in animals.*
- c) Prevention of AMR in health care facilities, food production and the community, through infection prevention and control measures.*
- d) Ensuring appropriate use of antimicrobials, including assuring quality of available medicines, conservation of existing treatments and access to appropriate antimicrobials when needed, while reducing inappropriate use.*

REPUBLIC OF THE MARSHALL ISLANDS LEVEL OF CAPABILITIES

The Republic of the Marshall Islands is committed to developing a national plan for antimicrobial resistance (AMR) after endorsement of the 2015 Global Action Plan on AMR. This process was initiated in 2017 and the AMR National Action Plan is expected to be finalised and endorsed in 2019. There are four main principles in the AMR National Action Plan: (1.)whole society engagement, (2.)prevention first; (3.)access to effective treatment and (4.)sustainability. The multi-sectoral coordination for AMR has been effective during the development of the plan. It is unclear how the plan will address animal food production sectors when it is implemented.

The two hospital laboratories in Majuro and Ebeye perform AMR testing and reporting when requested by clinicians. AMR testing capacity and capability, however, is limited due to a weak supply system and human resource capacities. The laboratories participate in quality assurance and external quality assessments, but the results are not routinely reviewed to assess the quality of testing performance and corrective measures. There is no antibiogram to systematically collate and analyse antibiotic resistant pattern and no alert system for when AMR is detected.

Country priority diseases and causative pathogens have been identified; however, a comprehensive list of reportable priority, multi-resistant organisms, has not been confirmed. AMR surveillance is limited with little data produced by the two laboratories and no national coordination or quality management.

Guidelines for infection prevention and control (IPC) in humans have been developed but implemented only in Majuro hospital. These include environmental cleaning and waste, sterilization and disinfection, waste disposal management, prevention of Hepatitis virus transmission, prevention of human immunodeficiency virus transmission, transmission of nosocomial infections and active staff immunization. There is one private general practitioner and one pharmacy, and both are covered by the AMR and IPC plans.

Environmental health and water, sanitation and hygiene standards exist and are monitored by the EPA, although they are not fully implemented. There is no national policy or plan for IPC in animal health care, despite there being fish, pig and chicken farms and backyard livestock. Specimen collection from animals and shipment to reference laboratories is being considered with the support from the national laboratory, but there is no clear agreement or standard operating procedures (SOPs) on how to proceed.

Guidelines for the appropriate use of antimicrobials are partially available, and practices for appropriate use of antimicrobials are developed in Majuro hospital and Ebye Hospital. There is a reserved antibiotic list and optimal use of antimicrobial medicines is implemented for human health only. Pharmaceuticals are bought from Australia, New Zealand and the United States, in the public sector. Inspections of IPC practices are also conducted in the personal appearance sector (beauty parlours, tattooists, people performing other skin penetration). There is no legislation or regulation on the use of antimicrobials.

Indicators and scores

P.3.1 Effective multi-sector coordination on AMR - Score 2.

Strengths and best practices

- The AMR National Action Plan has been developed with multi-sectoral coordination between the MOHHS, Ministry of Education, NRC, Customs Authority, EPA and private sector representatives.
- The AMR National Action Plan was endorsed at the end of 2019 with external support from WHO.

Areas that need strengthening and challenges

- Improving awareness and understanding of AMR across all institutions and sectors.
- Sensitization and cooperation of the AMR committee members.
- Regular monitoring and evaluation of the AMR National Action Plan implementation.
- Identifying funding sources for AMR implementation and related activities.

P.3.2 Surveillance of AMR - Score 2.

Strengths and best practices

- There is microbiological culture and antimicrobial sensitivity (resistance) testing used for the surveillance of infections in the two hospital laboratories.

Areas that need strengthening and challenges

- Including all health facilities in the national AMR surveillance system and having a strong reference laboratory.
- Compiling, analysing and reporting AMR data to relevant stakeholders.
- Laboratory staff capacity in microbiology and quality antimicrobial susceptibility testing.
- Laboratory capacity and infrastructure for AMR surveillance (antibiogram) and a sample referral system that includes all laboratories in the country.

P.3.3 Infection prevention and control - Score 2.*Strengths and best practices*

- IPC guidelines exist and a programme is established at the Majuro hospital using best practice in surveillance and implementation of IPC policy guidelines.
- Waste disposal monitoring, environmental hygiene and safe injection practices are practiced.

Areas that need strengthening and challenges

- Establishing an IPC programme at the national level that includes all health facilities.
- Staff availability to conduct IPC and IPC training to all sectors to encourage multi-sectoral communication and implementation of the AMR National Action Plan.
- Ensuring adequate supplies of IPC equipment and consumables.
- A plan to develop a surveillance system for AMR in animals, with the involvement of the environmental and animal livestock breeding sectors.

P.3.4 Optimize use of antimicrobial medicines in human and animal health and agriculture - Score 2.*Strengths and best practices*

- Antimicrobial treatment guidelines are used at the Majuro hospital.

Areas that need strengthening and challenges

- Availability, prequalification, procurement and supply of antimicrobials.
- Establishing antibiotic audit data or report.

Recommendations for priority actions

- Finalize and endorse the National Action Plan on AMR for the Republic of the Marshall Islands 2018-2022.
- Strengthen IPC in all health facilities and personal appearance services including training, inspections, infrastructure, provision of resources, staff immunization and post exposure prophylaxis.
- Strengthen the laboratory information system and ensure that antibiogram software (e.g. WHONET) is integrated and includes a clear list of reportable multi-resistant organisms.
- Develop antibiotic stewardship by enforcing the antimicrobial guidelines in all health clinics.

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

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

REPUBLIC OF THE MARSHALL ISLANDS LEVEL OF CAPABILITIES

In the Republic of Marshall Islands, the Ministry of Natural Resources and Commerce (NRC) and the Ministry of Health and Human Services (MOHHS) are the responsible government sectors for the surveillance and response to zoonotic diseases in animals and humans respectively. The animal population is small, comprising pigs and chickens raised on private premises and a pig farm in Majuro run by the Taiwan Mission to the Republic of the Marshall Islands. Therefore, reports of zoonotic diseases are infrequent. There is no formal multi-sectoral policy or national multi-sectoral coordination committee for zoonotic diseases and no exercises on responding to zoonotic diseases conducted in the past two years. The Zika virus outbreak in 2016, led by the Vector Control Unit in MOHHS, was the most recent time the multi-sectoral coordination mechanism was tested.

The priority list of zoonotic diseases – leptospirosis, scrub typhus, African swine fever, influenza A (H1N1 or H3N1), salmonellosis, toxoplasmosis, ciguatera or scombroid and rabies – was developed through consultation with the MOHHS national epidemiologist, other Public Health staff and the lead veterinarian of the Taiwan Mission. There are control policies for swine flu, avian influenza, rabies, leptospirosis and brucellosis which focus on reducing their spread into the human populations. These control policies are implemented by the NRC and include border and pre-border inspection, inter-island surveillance, reporting and monitoring of imported animals and products. There are plans to encourage public reporting of animal disease through weekly radio programme announcements.

The current operational mechanism for the detection and response to outbreaks of zoonotic diseases by human, animal and wildlife sectors requires improvement. This strengthening includes human resources training ; developing infrastructure at the national laboratory to test for zoonotic diseases; developing collaboration and coordination mechanisms for surveillance activities; improving the sharing of epidemiological information between the human and animal health sectors; increasing awareness of zoonotic diseases within the human and animal sectors; and developing strong preparedness and response plans for prioritized zoonotic diseases.

Routine reporting of zoonotic diseases to the World Organization for Animal Health (OIE) occurs every six months, with all being zero reports, and these have not been shared with human health surveillance.

Indicators and scores

P.4.1 Coordinated surveillance systems in place in the animal health and public health sectors for zoonotic diseases/pathogens identified as joint priorities - Score 2.

Strengths and best practices

- There is a prioritized list of zoonotic diseases agreed by the relevant sectors.
- The national surveillance system allows for detection and reporting of suspect cases of zoonotic diseases in humans.

Areas that need strengthening and challenges

- Mechanisms to link surveillance activities between the human and animal health sectors and awareness within the both sectors of this mechanism.
- A system for recording reported animal diseases that is linked to the human surveillance sector.
- Adequate testing for zoonotic diseases.

P.4.2 Mechanisms for responding to infectious and potential zoonotic diseases established and functional - Score 2.

Strengths and best practices

- The EpiNet team provides the response mechanism for zoonotic diseases and events with coordination across the human and animal health sectors.

Areas that need strengthening and challenges

- A multi-sectoral coordination mechanism for the management of zoonotic events in human and animal populations in the outer islands.
- Strong preparedness policies and guidelines with clear sector roles and responsibilities to respond to zoonotic disease detection, verification and control.
- Response capacity for human and animal health personnel for zoonotic disease events.

Recommendations for priority actions

- Formalize ad hoc reporting for animal health of unexplained clusters of animal illness and deaths to a focal point, especially for swine, domestic and wild poultry and companion animals.
- Establish a mechanism for regular information sharing between human and animal health sectors for timely risk assessment, risk communication, risk reduction and coordinated response.
- Develop policies and protocols for the management of zoonotic events, including consideration for compensation of loss, to complement existing all-hazard emergencies plans.

FOOD SAFETY

INTRODUCTION

Food- and water-borne diarrhoeal diseases are the 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 with regard to control throughout the food chain continuum must be developed. If epidemiological analysis identifies food as the source of an event, based on a risk assessment, suitable risk management options that ensure the prevention of human cases (or further cases) need to be put in place.

Target

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

REPUBLIC OF THE MARSHALL ISLANDS LEVEL OF CAPABILITIES

The Food Safety Act 2010 constitutes the key legislation governing food safety control in the Republic of the Marshall Islands, with the power to implement food safety measures and response vested in MOHHS. In the event of a foodborne disease outbreak, the draft Public Health Emergency Operations Plan would be activated. The Environmental Health Unit of the MOHHS was approved and developed in 2019 in conjunction with external expertise to plan, coordinate and respond to environmental health events including vector control and food safety.

The multi-sectoral National Food and Drug Safety Taskforce, formed in 2018, implements and monitors food safety. Taskforce members include the MOHHS; Majuro Atoll local government; EPA; Department of Quarantine in the NRC; the Department of Customs in the Ministry of Finance, Banking, and Postal Services; the Marshall Islands Marine Resources Authority; and the Wellness Center (a non-government organisation). Although each agency has their own legal and administrative structures, as the Taskforce, they are developing a long-term action plan for food safety. The Food Safety Act enables the Minister and the Secretary of Health and Human Services to delegate responsibilities to other agencies to function as food inspectors and members of the National Food and Drug Safety Taskforce. Taskforce members have undergone food safety training on conducting risk-based food safety inspections, provided by external technical experts. Draft regulations to enable enforcement of the Food Safety Act are yet to be endorsed.

The Republic of the Marshall Islands has systems to monitor trends and to detect foodborne events through syndromic (diarrheal illness), indicator and event-based surveillance systems that include foodborne diseases. Laboratory services to diagnose illness in people during foodborne disease outbreaks are outsourced to regional laboratories. Food sample collection for hazard identification is not conducted. When a foodborne disease outbreak or event is detected, the response is co-ordinated through the national multidisciplinary EpiNet team that functions as a rapid response team. Relevant members of the National Food and Drug Safety Taskforce join the EpiNet team for each event.

The designated International Food Safety Authorities Network (INFOSAN) Emergency Contact Point, appointed in 2018, has a central coordination mechanism in the National Food and Drug Safety Taskforce and in the EpiNet team. However, participation of the animal health sector is weak.

Indicators and scores

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

Strengths and best practices

- The Republic of the Marshall Islands has the essential food safety legislation policies and draft regulations to develop programmes to address food safety and foodborne diseases.
- Multi-sectoral involvement in food safety events and outbreak response is through the EpiNet team and the National Food and Drug Safety Taskforce. The taskforce has received relevant training to manage food safety issues and outbreaks.
- There is close collaboration between the National Food and Drug Safety Taskforce and the surveillance team, including the MOHHS epidemiologist.
- Foodborne diseases are part of the indicator-based surveillance system; the syndromic surveillance system includes diarrhoeal illness, a common presentation of foodborne disease; and outbreaks of foodborne disease can also be reported through the event-based surveillance system.

Areas that need strengthening and challenges

- The Food Regulations (2014), guidelines and procedures for food inspection, have not been endorsed.
- Management of food safety issues and inspections are not risk-based according to Codex guidelines.
- Members of the Food and Drug Safety Taskforce and those involved in outbreak response are not trained in the correct procedures for food sample collection, storage, transport and shipment for laboratory analysis.
- The food safety programme does not include many of the outer islands.

P.5.2 Mechanisms are established and functioning for the response and management of food safety emergencies - Score 2.

Strengths and best practices

- There are draft food safety plans and policies, however, these need to be updated and endorsed.
- The draft Public Health Emergency Operations Plan specifies that the MOHHS is to provide environmental health support in the event of a public health emergency.
- During a foodborne outbreak, relevant additional members of the Food and Drug Safety Taskforce join the EpiNet team to manage the response.
- The INFOSAN contact point shares international notifications for food safety issues, foodborne disease events or food recalls.
- Recall of food products have been undertaken.

Areas that need strengthening and challenges

- Giving authority to the National Food and Drug Safety Taskforce members to exercise their roles and responsibilities during foodborne disease outbreaks, including conducting inspections, investigations and food recalls.
- The significant delays in responding to foodborne disease events due to limited laboratory capacity; not having a dedicated or trained microbiologist; and limited environmental and food sampling and testing.
- Coordination of stakeholders to develop the roles and responsibilities of food inspections and the mechanism for routine inspections.
- Defining the communication and coordination mechanisms between responsible Ministries and key stakeholders during a food related emergency response.

Recommendations for priority actions

- Review and amend Food Safety regulations to authorize food inspectors and increase their capacity to adequately implement food safety measures.
- Provide technical and operational training in food safety to the National Food and Drug Safety Taskforce members.
- Develop and endorse a national environmental health plan that incorporates food safety procedures and specifies food safety event triggers, response and communications and the roles and responsibilities of the National Food and Drug Safety Taskforce.

BIOSAFETY AND BIOSECURITY

INTRODUCTION

Biosafety and biosecurity are fundamental elements of effective laboratory services and public health systems in the global fight against infectious diseases. Despite this central role, many laboratories still lack effective biosafety practices, equipment and infrastructure to conduct diagnostic and surveillance activities in a safe and secure manner. These circumstances not only present a risk to laboratory-acquired infections among healthcare workers, but also present a risk of release of infectious agents back into the surrounding community and environment preventing efforts to contain and control infectious diseases.

To address these concerns, it will require national authorities to integrate biosafety into national policies and standards, to improve sustainable laboratory infrastructure and equipment, and to increase biorisk management skills and competencies among those working with infectious diseases. National biosafety systems include the "whole of government" (e.g. human, animal, and security) and are anchored in policies, standards and guidelines that control and inform the management of biological risks to lower the risk of exposure at all stages in the healthcare system where biological agents may present a risk to workers (e.g. sample collection in the field, transport, laboratory, hospital, and disposal).

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

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

Target

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

REPUBLIC OF THE MARSHALL ISLANDS LEVEL OF CAPABILITIES

There is minimal capacity and capability for biosecurity and biosafety in the Republic of the Marshall Islands. The draft Biosecurity Bill of 2008 remains under review, therefore there is no comprehensive biosecurity regulatory framework. Other regulations, such as the Solid Waste Regulation 1989 and Plant and Animal Quarantine Regulations, address some aspects of biosecurity and biosafety.

The two hospital laboratories have a class 1 biosafety cabinet for handling risk group 2 microorganisms for diagnostic purposes only. These cabinets have not been certified as fit for use on a routine basis nor are they routinely maintained. There are no policies or procedures for the local storage of highly pathogenic Risk group 3 or 4 microorganisms or toxins and no inventory of stored microorganisms exist in the laboratories.

There is a specimen referral system in the Pacific Islands Health Officer Association (PIHOA) laboratory network for referral of priority organisms for further characterization and possibly storage in the Hawaii state laboratory and Guam Public health Laboratory. Laboratory staff are trained and certified every two years as shippers of infectious substance according to International Air Transport Association (IATA) regulations.

The Majuro hospital laboratory has a draft Biosafety policy that needs to be endorsed, however, there is no dedicated financing mechanism to support biosafety and biosecurity activities in this policy. The animal and agriculture facilities have biosafety and biosecurity capabilities to a lesser extent. There are no academic institutions that offers biosafety and biosecurity in country. Personnel of the MOHHS and NRC occasionally attend basic biosafety training locally and abroad.

Indicators and scores

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

Strengths and best practices

- The Majuro Hospital Laboratory has a draft biosafety policy and has shared these with the Ebeye Hospital Laboratory.
- Communication with other sectors on biosecurity and biosafety has been initiated by the MOHHS with the biosafety regulations shared with NRC.
- There is a laboratory safety manual, and monitoring of biosafety is the responsibility of the laboratory manager, section heads and each individual staff on duty.
- There is access to transport providers for national and international transportation of infectious substances through an agreement with courier companies in Hawaii and Guam.
- There is a national waste management policy under the Environment Regulations that includes dangerous pathogens.

Areas that need strengthening and challenges

- There is no record or inventory of human pathogens and toxins that can be used for bioterrorism, and collection of pathogens are not identified.
- The laboratory safety manual does not include biosecurity.
- There is no monitoring and no third-party assessment for biosafety or biosecurity.
- There is no mechanism to ensure that personnel are suitable and competent, i.e. if they have successfully completed training or mentorship programmes and can work unsupervised.
- There is no local service contract for biosafety cabinets. There are insufficient national financial and human resources to ensure proper and timely maintenance of facilities and equipment. Protective material is insufficient, especially in Ebeye.

P.6.2 Biosafety and biosecurity training and practices in all relevant sectors (including human, animal and agriculture) - Score 1.

Strengths and best practices

- Biosafety and biosecurity trainings for the NRC are available in Guam annually, with one to two persons trained each year. The contents of the trainings include biosecurity related to plant and animal health.
- There is an annual training needs assessment and adequate funding for both NRC and Ministry of Health.

Areas that need strengthening and challenges

- Regular training activities with international providers.
- Systematic testing for trained staff after receiving training to ensure staff are performing adequately.

Recommendations for priority actions

- Complete the process to enact the draft Biosecurity Bill 2008.
- Form a multi-sectoral committee to oversee biosecurity and biosafety activities in human health, animal health, points of entry, marine, environment protection and agriculture sector.
- Conduct assessments of current biosafety and biosecurity practices, procedures, equipment and supplies and use this information to inform continuous improvement with evaluation and monitoring.

IMMUNIZATION

INTRODUCTION

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

Target

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

REPUBLIC OF THE MARSHALL ISLANDS LEVEL OF CAPABILITIES

The National Immunization Programme in the Republic of the Marshall Islands operates under the Bureau of Primary Health Services in the MOHHS, and supplies vaccines to Majuro, Ebeye and the outer islands (21 atolls and islands). Vaccination is free and voluntary; however, the School Immunization Act 1981 mandates that all children complete their vaccination schedule before school enrolment, and this includes nursery school, day care centres and child care facilities.

The Republic of the Marshall Islands drafted a National Immunization Programme Manual in 2016 with review in 2019; however, the document has not been finalised. In collaboration with United Nations Children's Fund (UNICEF), the Republic of the Marshall Islands has developed a comprehensive Effective Vaccine Management Improvement Plan, detailing a roadmap and strategic actions for 2019-2023, and aligned to the Global Vaccine Action Plan 2011-2020 and the Western Pacific Region immunization target of 95% or higher for measles containing vaccine.

The Republic of the Marshall Islands receives funding and technical assistance to deliver a comprehensive childhood immunization programme through a US CDC Cooperative Agreement, and provides vaccination against hepatitis B, diphtheria, pertussis, tetanus, Haemophilus influenzae type b, measles, mumps, rubella, pneumococcal meningitis, human papilloma virus, seasonal influenza, meningococcal meningitis, polio and rotavirus. Bacillus Calmette–Guérin vaccine for tuberculosis is provided by UNICEF through the Vaccine Independence Initiative. The Republic of the Marshall Islands has adopted a whole-of-life approach to immunization, providing tetanus, diphtheria and pertussis vaccine every 10 years after age 19 and pneumococcal and annual seasonal influenza vaccine to individuals 50 years and over.

The national Immunization Information System (WebIZ) obtains birth cohort data from the two hospitals where 80-90% of births occur, and from the outer islands during a monthly call with Majuro. The WebIZ generates regular reports of individual patient immunization status, as well as disaggregated population-based coverage rates that identify areas with low vaccination coverage. The coverage rate of the 12-month-old population that has received at least one dose of measles, mumps and rubella vaccine ranges from 70–89% (aggregated from Majuro, Ebeye and outer islands). This coverage rate is based on administrative data and therefore includes those who have moved elsewhere, possibly underestimating the true vaccine coverage.

The most recent supplementary immunization activity was conducted in response to the mumps outbreak in 2017. Mass vaccinations were delivered to Majuro, Ebeye and the five outer islands that reported probable cases of mumps.

Vaccinations are delivered at the Majuro and in Ebeye Hospitals and the 54 health centres across the 21 outer islands. Vaccines can only be stored in six health facilities in the outer islands and vaccine delivery is available in all islands at least once a year through outreach vaccination conducted by nurses in these isolated communities. Delivering vaccination to the outer islands is challenging as many are small remote islands with no electricity supply making maintaining the cold chain and ensuring potent vaccines challenging. Considering high population mobility, it is estimated that 60–79% of the target population in the country has access to vaccines under appropriate cold chain conditions.

Vaccine procurement and forecasting is supported by the US CDC, resulting in no stock-outs at the central level in Majuro and rare stock-outs at the six outer island clinics.

Public perception about vaccination is monitored primarily through face-to-face contact during clinical encounters and is not generally of concern. Very few parents have refused vaccination for their children. Low coverage rates are due to remoteness and access to services, not vaccine refusal.

While external funding support has helped the Republic of the Marshall Islands build a strong immunization programme, additional avenues of support for the national immunization programme may be required in the coming years.

Indicators and scores

P.7.1 Vaccine coverage (measles) as part of national programme - Score 3.

Strengths and best practices

- The National Immunization Programme is supported by the US CDC Cooperative Agreement, with funding and vaccine supply provided.
- Vaccination is free of charge for all vaccines on the whole-of-life immunization schedule.
- Immunization programme staff are experienced and are continuously trained by US CDC, UNICEF and WHO in immunization programme best practices, including cold chain management.

Areas that need strengthening and challenges

- Ensuring cold chain for vaccine supply management in the outer islands where vaccination relies on outreach work through mobile vaccination visits.
- Using surveys to validate the administrative data on vaccination coverage.
- Staff involved in immunization activities may support multiple programmes which can compromise their availability.

P.7.2 National vaccine access and delivery - Score 4.

Strengths and best practices

- The immunization programme is monitored through monthly inventory reviews, supply and demand plans, and ordering procedures.
- Vaccines are routinely shipped to Ebeye, the second largest atoll with a population of approximately 13,000 people.
- With the assistance from UNICEF, the immunization programme drafted the Effective Vaccine Management Improvement Plan for 2019–2023.

Areas that need strengthening and challenges

- Implementing the Effective Vaccine Management Improvement Plan in the outer islands.
- Determining reliable vaccine coverage estimates for the highly mobile population of the outer islands using updated population figures to identify vulnerable population groups and geographical areas.

Recommendations for priority actions

- Ensure implementation of the Effective Vaccine Management Improvement Plan nationwide; include improving vaccine access by strengthening storage capacity in additional outer islands and conducting opportunistic immunization of outer islands children during visits to Majuro and Ebeye to reduce outreach visits which may include establishing immunization services at domestic air and sea ports or implementing standing orders for immunization during hospital outpatient clinic and emergency visits and before discharge from hospital, as appropriate.
- Explore options to conduct vaccine coverage surveys to improve coverage level estimates in remote mobile populations while also developing and validating the national electronic immunization register to be the single most accurate source of coverage estimates in the Republic of the Marshall Islands.
- Consider diversifying funding for the immunization programme through the national government and other partners such as UNICEF to future-proof immunization services against funding uncertainty.

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

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

REPUBLIC OF THE MARSHALL ISLANDS LEVEL OF CAPABILITIES

There are two hospital laboratories (not accredited) and an environmental laboratory in the Republic of Marshall Islands, all with limited capacity. Priority diseases have been identified and of these, typhoid (*Salmonella* culture), tuberculosis (microscopy and molecular), dengue (rapid diagnostic test), cholera (culture), human immunodeficiency virus (HIV) (serology), and chlamydia (molecular) are tested in-country.

There is an established referral system with two reference laboratories located in Hawaii (state and private) that have the capacity to test for *Salmonella*, *Shigella*, *Yersinia*, cholera, influenza A, influenza B, dengue virus, chikungunya virus, zika virus, mumps virus, norovirus, rotavirus, measles and hepatitis A virus. Specimens are also referred to reference laboratories in Guam, Japan and Australia as required.

There is no public health laboratory in the Republic of the Marshall Islands; the two hospital laboratories provide testing for priority diseases but are not overseen by a national body for internal quality monitoring. Both laboratories are enrolled in the external quality assurance programme for the tests performed for priority diseases provided by the Pacific Pathology Training Centre in New Zealand (a WHO-Collaborating Centre) and the US CDC Tuberculosis Elimination Programme in collaboration with the Queensland Mycobacterial Reference Laboratory for bacteriology, serology, biochemistry, haematology, parasitology and transfusion medicine.

There is currently no formal system that oversees human, animal and environmental health testing activities relating to the priority diseases. Communication and coordination among these sectors is weak, although the initiation of the AMR National Action Plan in 2017 has strengthened this. Training on biosafety, preparedness and response is accessible to the medical laboratory staff in both hospitals.

Clinicians are accustomed to processes and guidelines to collect specimens and request testing for specific diseases including during outbreaks. However, there are no updated SOPs or policies for sharing results with other key stakeholders to enhance activities that prevent the spread of infection, encourage early detection of cases and to prevent the emergence and spread of antimicrobial resistance.

Establishing a national laboratory system is a priority, including the standardization of test methods and initiation of laboratory accreditation. Key human resources (including microbiologists) are required to lead the laboratory teams and support the surveillance system. Maintaining and managing quality laboratory data generated for the priority diseases are needed in both hospital laboratories. Laboratory testing capacities and capabilities of laboratory staff to detect outbreaks and the systematic reporting and sharing of priority diseases need to be enhanced.

Indicators and scores

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

Strengths and best practices

- There are eight priority diseases identified in the country: influenza, tuberculosis, dengue, typhoid, chlamydia, HIV, leptospirosis, and cholera.
- There are arrangements with external reference laboratories to provide further confirmation of priority diseases and a plan to acquire testing capability for the remaining priority diseases.
- Both hospital laboratories participate in external quality assessment programmes for bacteriology, AMR testing, detection of dengue virus, HIV and to monitor proficiency in testing.
- Personal protective equipment (PPE) is available at the two hospital laboratories with supplies tracked manually by physical count. Some staff were trained in utilising PPE in 2015, and Majuro hospital laboratory staff underwent N-95 respirator "Fit-Test" in 2019.

Areas that need strengthening and challenges

- Establishing a national laboratory system with standardized testing methods and the initiation of the accreditation process for both hospital laboratories.
- Reviewing and endorsing the draft national health laboratory policy as the framework for laboratory strengthening.
- Routine review of external quality assessment results and the appropriate implementation of corrective measures.

D.1.2 Specimen referral and transport system - Score 5.

Strengths and best practices

- A well-functioning referral system for specimens of priority diseases with SOPs available in both hospital laboratories.
- The two hospital laboratories have courier arrangements to ship specimens to overseas laboratories with vehicles available for urgent transport of specimens to the airport.
- There is an efficient manual documenting the process for overseas referred specimens.
- Laboratory staff are trained, tested and re-certified every two years on IATA regulations for shipping infectious substances.
- Guidelines for transit times and the relevant laboratory staff are aware of written specimen transport procedures.

Areas that need strengthening and challenges

- Having phlebotomists to obtain specimens from the wards and laboratory outpatients, as currently laboratory staff are used for phlebotomy services, which delays testing and release of results.
- Training health workers visiting outer islands on venepuncture, and how to pack and send specimens to the laboratories, rather than sending patients from outer islands for phlebotomy service in the hospital laboratory.
- Policies and procedures to fast-track the transfer of high-priority specimens (e.g. suspect dengue cases), to the laboratories.

- Regulations, agreements or a memorandum of understanding with the NRC for the referral of specimens from the animal health sector.

D.1.3 Effective national diagnostic network - Score 2.

Strengths and best practices

- The two hospital laboratories are members of the US Affiliated Pacific Islands Laboratory Network.
- Procurement processes for media and test reagents using government funding for core laboratory testing is available at the two laboratories.
- Advanced molecular testing exists for the detection and confirmation of tuberculosis, chlamydia and HIV.

Areas that need strengthening and challenges

- Strategies and a testing algorithm for tier-specific diagnostics to address testing capabilities in central and peripheral health facilities, such as point of care testing.
- Strategies and capacities for conducting point-of-care and farm-based diagnostics in the animal health sector.

D.1.4 Laboratory quality system - Score 1.

Strengths and best practices

- The National Medical Licensing Board has the authority to license laboratory personnel.
- The two hospital laboratories are enrolled in external quality assessment programmes.

Areas that need strengthening and challenges

- Systematic implementation of all aspects of a laboratory quality management system.
- Standardized supervision tools for laboratory procedures.
- Coordination and monitoring of internal quality controls and external quality assessment results in both laboratories and the utilization of these results for quality improvement.

Recommendations for priority actions

- Improve human resource capacities and capabilities in the laboratory service including employing a microbiologist for the Majuro hospital
- Systematically implement the 12 essential elements of laboratory quality management system as a roadmap towards International Organization for Standardization (ISO) accreditation and conducting relevant training
- Collaborate with partners and other island countries towards accreditation of the hospital laboratories in line with the regional approach.

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 surveillance effort that facilitates early warning and situational awareness of all IHR hazard-related events.

Target

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

REPUBLIC OF THE MARSHALL ISLANDS LEVEL OF CAPABILITIES

The Communicable Disease Surveillance System in the Republic of the Marshall Islands includes syndromic surveillance for four conditions recommended by WHO – diarrhoea, acute fever and rash, influenza like illness and prolonged fever – with thresholds set to trigger a response. There is also a list of 60 reportable conditions that form the indicator-based surveillance system and a functioning event-based surveillance system. Surveillance data is obtained from the electronic health information system in the Majuro hospital and via email or phone reports from Ebeye hospital, health clinics in the outer islands, the MOHHS laboratories and external reference laboratories. Laboratory data is manually linked to case data. Active case finding and chart reviews are conducted to validate the surveillance data. The surveillance systems are not currently linked in one national surveillance database.

There is a national epidemiologist in Majuro, a physician trained in epidemiology in Ebeye, and a surveillance officer in Majuro with a post graduate Certificate in Field Epidemiology from the Data for Decision Making (DDM) course. Analysis of surveillance data is conducted through regular review of syndromic conditions, encounter and other event-based data for accuracy and potential clustering, and further case chart review to confirm if necessary. Laboratory confirmation of cases and contact tracing is conducted by public health nurses. Regular reporting occurs through standardised weekly surveillance reports to MOHHS staff, other government stakeholders and the public. Syndromic surveillance data is shared electronically with regional partners and the Pacific Public Health Surveillance Network (PPHSN) via the Early Warning and Response System (EWARS). The MOHHS has utilized technical assistance from WHO, US CDC and Pacific Islands Health Officer Association (PIHOA), to train and hire epidemiological staff.

When outbreaks are detected, information is shared and assessed during EpiNet team meetings and regular situation reports are distributed to MOHHS staff, EpiNet team members, stakeholders (including WHO, US CDC, PIHOA) and the public. Zoonotic diseases are included in the indicator-based surveillance system, for example leptospirosis, however there is no animal disease surveillance system.

Indicators and scores

D.2.1 Surveillance systems - Score 4.

Strengths and best practices

- The Communicable Disease Surveillance System includes both indicator-based (syndromic and reportable diseases) and event-based surveillance at the national, regional and local levels, with clear guidance provided in the SOP. The four reported syndromic conditions have set thresholds for action; the list of 60 reportable diseases was developed by clinical staff to be of local and international relevance.
- Surveillance reports are generated and distributed weekly, and in some instances more frequently, to local, regional and international stakeholders, including the public.
- Outbreak response is well defined among the health system, led by the EpiNet team which includes both government and non-government members.
- The Communicable Disease Surveillance and Response SOPs is reviewed annually, with all health practitioners alerted to changes through a case definition manual and protocol.

Areas that need strengthening and challenges

- Rapid confirmation of several reportable diseases is unavailable within the country, requiring specimens be sent to the reference laboratory in Hawaii, which delays the confirmation of diseases.
- Having a systematic method of sending laboratory test results to the surveillance team to prevent potential data errors from the manual matching of test results.
- Completeness of syndromic surveillance reporting on the patient encounter form to reduce active case finding and chart reviews to obtain the data.
- Reporting of animal diseases to the human surveillance system.
- Including other sectors as sources for event-based surveillance, such as EPA and NDMO.
- Staffing for event-based surveillance, especially at local clinic levels and for data analysis.

D.2.2 Use of electronic tools - Score 2.

Strengths and best practices

- Surveillance data are entered into the hospital health information systems and Excel is used to receive laboratory and outer island health center data. The data is collected, collated and analysed using Excel spreadsheets.
- Syndromic surveillance data is reported electronically to the PPHSN weekly via the EWARS system.
- Alerts are provided to the public via various public announcements and social media.

Areas that need strengthening and challenges

- There is no central electronic database for syndromic and indicator-based surveillance data, although one is currently being developed with external partners.
- Having an electronic laboratory information system that can be integrated with the Communicable Disease Surveillance System.

D.2.3 Analysis of surveillance data - Score 4.

Strengths and best practices

- The Communicable Disease Surveillance and Response SOP provides guidance on the analysis required for surveillance data.
- Risk assessment is conducted on a regular basis and conveyed to public health leaders for appropriate response activities.
- When an outbreak occurs, case report forms are used to collect clinical and exposure information from cases and an outbreak database is developed to collate information. Laboratory data is received via email.
- Regular epidemiological reports are disseminated weekly within the MOHHS and to other ministries, as well as to international groups such as WHO, PacNet, US CDC and PIHOA.
- Situation reports are produced regularly during outbreaks and disseminated widely among MOHHS, other ministries and to the public.

Areas that need strengthening and challenges

- Additional staff that are trained to perform data collection and analysis.

Recommendations for priority actions

- Streamline the reportable conditions list; improve syndromic and indicator-based surveillance reporting from the outer islands, specialty clinics and laboratories; and include all surveillance data into the centralized database.
- Strengthen the event-based surveillance system by encouraging reporting from additional sources such as the EPA and NDMO and improving the database.
- Establish a laboratory information system to provide electronic data directly into the centralized database

REPORTING

INTRODUCTION

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

Target

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

REPUBLIC OF THE MARSHALL ISLANDS LEVEL OF CAPABILITIES

The NFP of the Republic of the Marshall Islands was designated in 2007 and is supported by the Health Emergency Operations Center located in the Majuro Hospital. The Secretary of Health and Human Services, and the EpiNet team collaboratively manage the response to potential PHEICs. The reporting and multi-sectoral coordination process to report potential PHEICs to WHO is established, and continually tested, with experience of timely reporting of a potential PHEIC to WHO and US CDC.

The Republic of the Marshall Islands has participated in the annual WHO Regional Office of the Western Pacific “IHR Crystal” exercise to test and enhance current IHR reporting capabilities. The NFP conducts regular routine meetings to follow up infectious disease outbreaks. Situation reports for outbreaks, the weekly syndromic surveillance report and immediate reporting of unusual diseases are communicated in a timely manner through the PPHSN, as well as directly to US CDC and WHO.

Although there is not an OIE delegate assigned, the six monthly and annual reporting of OIE listed diseases are consistently reported to the OIE by the NRC.

Indicators and scores

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

Strengths and best practices

- The NFP is assigned at the Secretary level in the MOHHS, the highest level of delegation, and reports directly to the Minister of Health and Human Services.
- Reporting to WHO and US CDC has been tested through both real public health emergencies and exercises.
- Epidemiological data are regularly shared through the PPHSN, enabling a regional analysis and approach for action.

Areas that need strengthening and challenges

- Further training of the NFP team, the Public Health department of the MOHHS and EpiNet members to ensure technical capacity in IHR reporting.
- Regular coordination of reports to FAO, OIE and WHO.

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

Strengths and best practices

- The Communicable Diseases Surveillance SOPs have been endorsed and implemented and include the updated Reportable Disease List and timelines of reporting.
- EpiNet, which provides the functional multi-sectoral incident command team for the health sector.
- Communication and coordination with international partners including WHO, the Pacific Community (SPC) and US CDC.
- EpiTechs that have graduated from the DDM course assist in surveillance and reporting.

Areas that need strengthening and challenges

- Legislation, regulations and SOPs for reporting animal health data within the country and to OIE.
- Non-timely confirmation of causative agent in outbreaks, mostly due to needing off-island laboratory testing.
- Increasing awareness of the EpiNet team, health providers and health facility staff in the outer islands of what needs to be reported to the NFP for assessment of a potential PHEIC.

Recommendations for priority actions

- Sustain competence of the NFP team through training and regular exercises.
- Increase awareness among notifiers of the public health events that need to be urgently reported to the NFP for assessment.

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. Health workers includes nurses and midwives, physicians, public health and environmental specialists, social scientists, communication, occupational health, laboratory scientists/technicians, biostatisticians, information technology (IT) specialists and biomedical technicians and a corresponding workforce in the animal sector: veterinarians, animal health professionals, para-veterinarians, epidemiologists, IT specialists etc.

The recommended density of doctors, nurses and midwives per 1,000 populations for operational routine services is 4.45 plus 30% surge capacity. The optimal target for surveillance is one trained (field) epidemiologist (or equivalent) per 200,000 populations who can systematically cooperate to meet relevant IHR and Performance of Veterinary Services (PVS) core competencies. One trained epidemiologist is needed per rapid response team.

Target

State 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).

REPUBLIC OF THE MARSHALL ISLANDS LEVEL OF CAPABILITIES

The Human Resources Office of the Office of Administration, Personnel and Finance in the MOHHS is responsible for human resources monitoring and development. These well-trained professionals conduct planning, implementation and monitoring of health workforce development (including medical administrator, medical officer, nursing staff and allied staff officers). There is a formal performance appraisal process within the human resources structure of the MOHHS. The Human Resources for Health Taskforce Report from 2011 outlines the strategy for workforce and health sector human resource development, with a focus on physicians, nurses, pharmacists and dentists. Human resources across all IHR sectors, including social scientists, veterinarians, livestock specialists and IT specialists, based on risk, are yet to be determined.

There are adequate human resources for epidemic preparedness and control at the national level. The national multi-disciplinary EpiNet team, a Pacific regional approach for the investigation of potential outbreaks, provides the main workforce for IHR implementation and meets weekly to discuss routine surveillance. The EpiNet team also forms the Incident Command System for the public health response to outbreaks and other emergency events. Human resources during public health emergencies in the outer islands relies on the deployment of teams, including nurses and public health officials, from Majuro.

Continued professional education is available through scholarships and ad hoc in-service training courses for various professions through disease-specific programmes (including tuberculosis and Leprosy). There are also targeted initiatives through the Taiwan University, the University of the South Pacific, PIHOA and SPC. Training through these ad-hoc in-service training needs to be recognised and reflected in salaries and incentives.

The size of the country might not favour establishing a national field epidemiology training programme, however staff from MOHHS have completed the DDM public health epidemiology training. The DDM programme is accredited by Fiji National University, and results in a graduate certificate in field epidemiology. Graduates from the MOHHS include people working in public health response already, and several plan to attend the next level of training to achieve a diploma. Health sector staff also periodically participate in training organised by SPC and PIHOA, in-country or in the region.

Indicators and scores

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

Strengths and best practices

- The workforce structure of the MOHHS is monitored by the assistant secretaries and the Human Resources Office.
- Public health workforce retention is encouraged through career pathways, paid annual leave, pension plans, scholarships for graduate studies and other continuous education opportunities.
- The Republic of the Marshall Islands have agreements with external partners for technical assistance not available in country.

Areas that need strengthening and challenges

- The recruitment process can be delayed, resulting in human resource capacities being understaffed.
- There is no multi-sectoral workforce strategy that includes all human, animal and environmental health sectors involved in IHR implementation.
- Career pathways for animal health sector and environmental health professionals (e.g. veterinarians, ecologists) are not currently established.

D.4.2 Human resources are available to effectively implement IHR - Score 3.

Strengths and best practices

- There is an epidemiologist at the national level in Majuro and a physician certified in general epidemiology in Ebeye.
- The EpiNet team comprises staff with graduate certificates in field epidemiology through the DDM programme and there are ongoing plans to continue with this programme.
- There is surge capacity within MOHHS with the capability to deploy public health personnel (e.g. EpiNet team members, epidemiologists and surveillance officers) to outer islands during health emergencies.
- There is a network of stakeholders at all levels (national, district and divisional levels), with communication for urgent personnel deployment conducted through an established notification system, (radio and telephone contacts, media, emails).
- There are combined, external and internal funding sources to support public health and IHR capacity implementation.

Areas that need strengthening and challenges

- Human resources to support IHR implementation capacity in Ebeye and the outer islands relies on support and deployment from the central level in Majuro.
- Limited training for epidemiological skill development is available on island.
- There are no animal health professionals in Marshall Islands, although the requirements for these needs to be determined through a risk assessment.

D.4.3. In-service training is available - Score 2.*Strengths and best practices*

- The College of the Marshall Islands and University of South Pacific are present in the country.
- There is access to professional development and scholarships for Master's degree programmes for clinical physician and medical administration (mainly through Taiwan University, University of South Pacific and other educational institutions in the United States of America).
- There are various internal and external funding sources to support continued professional education overseas.
- There are plans to update the 2011 Human Resources for Health Taskforce Report.

Areas that need strengthening and challenges

- Incentives for continuous professional development are not standardised and their completion is not recognised by the health administration.
- Limited training for public health skill development is available in Marshall Islands and there are difficulties in identifying short- and long-term training opportunities for all health professionals.
- There are no long-term training programmes for health professionals or mechanisms to be informed of new professional development opportunities.

D.4.4 Field Epidemiology Training Programme or other applied epidemiology training programme in place - Score 3.*Strengths and best practices*

- MOHHS has access to the DDM course and plans to continue training staff through this course, including having graduates continue to the Diploma level as part of the Strengthening Health Interventions in the Pacific Programme.
- The epidemiologist in Majuro organises annual in-service training. There are external training programmes to support continued professional education on epidemiology training for the health workforce.
- Graduates of the DDM course are used as surge capacity in public health emergencies.
- There are various funding opportunities to enrol public health professionals in epidemiology training.

Areas that need strengthening and challenges

- There is no workforce development strategy for human and animal health, and limited continuous education development for epidemiologists.
- In-service human resources skill development and mentorship plan for the graduates of the DDM course.

Recommendations for priority actions

- Develop and retain a multi-disciplinary and multi-sectoral workforce linked to IHR capacity and provide ongoing professional development through coaching, mentoring and participation in regional public health events.
- Develop a multi-sectoral workforce strategy linked to IHR capacities that includes epidemiologists, veterinarians, laboratory assistants and specialists, IT specialists, social scientists, doctors, nurses, and environmental specialists, in consultation with relevant government and external stakeholders, that includes surge capacity and considers forecasting areas of need.
- Strengthen mechanisms to improve recruitment of staff in a timely manner with transparent administrative processes.

RESPOND

EMERGENCY PREPAREDNESS

INTRODUCTION

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

Target

Emergency preparedness includes the development and maintenance of national, intermediate and local or primary response level public health emergency response plans for relevant biological, chemical, radiological and nuclear hazards. These will cover mapping of potential hazards, identification and maintenance of available resources – including national stockpiles – and the capacity to support operations at intermediate and local or primary response levels during a public health emergency.

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

REPUBLIC OF THE MARSHALL ISLANDS LEVEL OF CAPABILITIES

The National Disaster Management Office (NDMO) in the Office of the Chief Secretary is the agency responsible for the implementation of the Disaster Risk Management National Action Plan through the National Disaster Committee. The National Disaster Committee is organized using the United Nations cluster system and the incident command structure. When activated, the MOHHS leads the Health Cluster through the EpiNet team, with the Secretary of Health and Human Services serving as the Health Incident Commander.

For public health emergencies, the MOHSS is the lead agency and activates the draft Public Health Emergency Operations Plan. This plan complements the National Emergency Response Plan and may also be activated during a national emergency for the public health component of a response. For public health emergencies that are communicable in nature, the draft Communicable Disease Response Plan also guides response.

Human resources and funding to support coordination and implementation of emergency preparedness measures by animal health does not currently exist.

There are legislation, regulations and planning documents for disaster preparedness, response, and early recovery, which are currently undergoing updates and revision. External partners, and the MOHHS, are currently involved in projects to complement the National Disaster Management Office (NDMO) effort to update emergency response plans, e.g. the 2010 National Emergency Response Plan. The current SOPs under the National Emergency Response Plan 2010 is also being updated in close collaboration with the International Organization for Migration.

The National Action Plan for Disaster Risk Management 2008-2018 was developed to address increasing natural and human-induced vulnerabilities among communities. The plan included a risk profile of threats and hazards, ten-year goals and objectives, a plan for implementation, monitoring and evaluation, and a communications strategy. An updated national emergency risk profile, based on a strategic multi-hazard emergency risk assessment, that maps multi-sectoral resources for emergency response in all relevant sectors, is planned for mid-2020, in coordination with the World Food Programme.

A plan for the management and distribution of national stockpiles has been drafted and is currently undergoing review.

Indicators and scores

R.1.1 Strategic emergency risk assessments conducted, and emergency resources identified and mapped - Score 2.

Strengths and best practices

- The Republic of the Marshall Islands uses the cluster system approach, managed by the NDMO and comprising relevant stakeholders.
- Risk assessments to determine disaster response needs have been conducted.
- External organisations have committed to support emergency preparedness activities, e.g. the World Food Programme is to assist the National Logistic Cluster develop the cluster Terms of Reference and SOPs, and the World Food Programme will assist with mapping the national stockpile of assets for disaster response.
- There are existing assessment tools (e.g. forms and templates) across all sectors including health, which have been implemented in the outer islands through the 24 focal points of the NDMO.

Areas that need strengthening and challenges

- The conduct of a current multi-hazard, multi-sectoral risk assessment to identify threats and hazards to the country.
- Advocacy among all involved sectors and ministries to ensure that the roles, responsibilities and practices during disaster response are conducted according to the agreed NDMO plan.
- Continuous training in all aspects of emergency response, including training on maintenance and equipment used during emergency responses.
- Retention of human resources that have trained in NDMO risk assessment tools and procedures.

R.1.2 National multi-sectoral multi-hazard emergency preparedness measures, including emergency response plans, are developed, implemented and tested - Score 2.

Strengths and best practices

- The National Emergency Response Plan is complemented by the draft Public Health Emergency Operations Plan and the draft Communicable Disease Response Plan, which are to be harmonized into a multi-hazard emergency preparedness plan.
- The National Emergency Response Plan is currently undergoing review and updates to incorporate lessons learned from several recent disasters and outbreaks.
- Using the cluster system in disaster management is very practical for managing emergencies.

Areas that need strengthening and challenges

- Emergency preparedness arrangements, especially the roles and responsibilities for each sector, need to be understood among all cluster members.
- Exercises to strengthen the Incident Command System and to validate the roles and responsibilities between NDMO, MOHHS and the other clusters.
- Multi-sectoral revision, finalisation, endorsement, testing and implementation of the draft Public Health Emergency Operations Plan, draft Communicable Disease Response Plan and draft Majuro Hospital Emergency Operations Plan.

Recommendations for priority actions

- Align emergency preparedness plans from each sector to ensure consistency and strengthen the incident command system through multi-sectoral training and exercises.

EMERGENCY RESPONSE OPERATIONS

INTRODUCTION

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

Target

Countries will have a coordination mechanism, incident management systems, exercise management programmes and public health emergency operation centre (EOC) functioning according to minimum common standards; maintaining trained, functioning, multi-sectoral 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.

REPUBLIC OF THE MARSHALL ISLANDS LEVEL OF CAPABILITIES

The Republic of the Marshall Islands has a functioning and well-tested emergency response coordination mechanism. The NDMO is the lead agency to coordinate emergency response through various clusters in declared national disaster emergencies. The National Emergency Operations Centre has SOPs for activation, coordination and deactivation aligned to cabinet instruction. During an emergency event, the health sector is part of the national response, and functions within the National Emergency Operating Center as lead of the Health Cluster. For a public health event, the Public Health Emergency Operations Centre is activated with health personnel taking the lead. The EpiNet team forms the Health Cluster with health partners to respond to any public health emergency. These emergency response mechanisms have been tested and proven to be effective through real events, such as drought and the 2019 dengue fever outbreak.

The National Emergency Response Plan (2010) is planned for review in partnership with a World Bank funded project; "Pacific Resilience Programme Phase 2". The International Organization for Migration has consulted stakeholders to update the existing national SOPs. The NDMO has a business continuity plan and has supported the private sector to develop their business continuity plans.

Health sector plans include the draft Public Health Emergency Operations Plan, the draft Majuro Hospital Emergency Operations Plan and the Medical Countermeasures Plan (2019) while the draft Communicable Disease Response Plan is a joint plan between the MOHHS and Port Authority.

Although there are no emergency operations centres on the outer islands, there are 24 outer island focal points integrated into the national response mechanism. Many of these focal points have been trained and are incorporated into national exercises.

There have been many national emergency exercises conducted to test the emergency management system; however, there is a recognised need for a multi-sectoral exercise for an infectious hazard such as pandemic influenza.

Indicators and scores

R.2.1 Emergency Response Coordination - Score 4.

Strengths and best practices

- The disaster management arrangements follow the cluster system that is coordinated out of a National Emergency Operating Center.
- Emergency operations plans and SOPs have been used for repeated disasters in the country.
- The EpiNet team provides the public health emergency response mechanism and leads the Health Cluster as required.

Areas that need strengthening and challenges

- Communication between the Public Health Emergency Operations Center and National Emergency Operating Center can lead to duplication and confusion with the other clusters. The roles of each emergency operations center requires clarification.

R.2.2 Emergency Operations Centre Capacities, Procedures and Plans - Score 3.

Strengths and best practices

- A functional well-equipped National Emergency Operating Center has coordinated effectively in national emergencies over the last five years.
- The Public Health Emergency Operations Center has a clear incident command system that coordinates public health emergencies.
- Exercises are conducted to raise awareness about plans and procedures.
- After action reviews (AARs) are conducted following exercises to allow identification of lessons learnt.

Areas that need strengthening and challenges

- Providing national support to the outer islands during an emergency due to fractured communication and distance.

R.2.3 Emergency Exercise Management Programme- Score 4.

Strengths and best practices

- International and regional partners are delivering regular emergency exercises and the outcomes have provided opportunities to develop and refine SOPs.

Areas that need strengthening and challenges

- There is currently no exercise management programme that enhances coordination between the National Emergency Operating Center and Public Health Emergency Operations Center to increase their capacity.
- Exercises conducted for the national emergency management system have not considered a public health scenario to ensure integration between the Hospital Public Health Emergency Operations Center and National Emergency Operating Center.
- Funding to finance implementation of an exercise programme is reliant on external providers.

Recommendations for priority actions

- Strengthen communication and coordination between the National Emergency Operating Center and the Public Health Emergency Operations Center through procedures and exercises.
- Identify new, and strengthen existing, communication, training and technological opportunities to enhance national support to emergencies in the outer islands.
- Develop a multi-sectoral exercise management programme for emergency operations that includes a public health scenario such as an influenza pandemic to increase the capacity of governmental and non-governmental agencies
- Share experiences and lessons learnt from exercises and real events with the region.

LINKING PUBLIC HEALTH AND SECURITY AUTHORITIES

INTRODUCTION

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

Target

Country conducts a rapid, multi-sectoral response 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 timely international assistance, such as to investigate alleged use events.

REPUBLIC OF THE MARSHALL ISLANDS LEVEL OF CAPABILITIES

In the Republic of the Marshall Islands, there are established links between public health and security-relevant authorities that respond to a potential security incident, emergency or disaster. This include the Port Authority; Division of Immigration in the Ministry of Justice, Immigration and Labour; Division of Quarantine and Agriculture of the Ministry of Natural Resources and Development (NRD), the Division of Customs in the Ministry of Finance, Banking, and Postal Services; and the Department of Public Safety. These links are described in the National Emergency Response Plan; the draft Public Health Emergency Operations Plan; and the draft Communicable Disease Response Plan. These plans elaborate on the roles and responsibilities of each authority in the response to an emergency event and their roles during an emergency.

All responses to past events were based on ad hoc informal arrangements and the knowledge of each individual's own roles and responsibilities, especially with regards to policies and procedures as first responders. These interactions need to be formalized. Currently, the MOHHS is in the process of drafting a Memorandum of Understanding with the Ministry of Justice, Immigration, and Labour for an established Emergency Medical Services (911) agreement for the two parties to refer to in case of an event.

The Republic of the Marshall Islands also have bilateral arrangements with the US government, and national preparedness and response is being improved via joint exercises, such as those conducted by the US Navy and Coast Guard in March 2019.

Indicators and scores

R.3.1 Public health and security authorities (e.g. law enforcement, border control, customs) linked during a suspect or confirmed biological, chemical or radiological event - Score 3.

Strengths and best practices

- The National Emergency Response Plan describes the respective roles and responsibilities of all relevant agencies that collaborate and respond to a public health threat in a coordinated fashion.
- Training to identify and inspect an ill passenger is regularly conducted with point of entry authorities as well as with Marshall Islands Police Department, Fire Department and the Majuro Atoll local government.
- The airport Air Rescue and Fire Fighting crew are trained emergency responders and work with the MOHHS in emergency response efforts.

Areas that need strengthening and challenges

- Formalizing communication channels between public health and security authorities, supplemented by up-to-date contacts list and scenario-based SOPs, that are exercised on a regular basis.
- Including security authorities in joint training and joint exercises on all-hazard preparedness

Recommendations for priority actions

- Finalize and endorse the Memorandum of Understanding between MOHHS and Ministry of Justice, Immigration and Labor based on the emergency medical services Agreement and establish a national 911 service.
- Sustain regular joint drills, exercises and training programmes to strengthen and maintain functional, efficient and adequate cross-sector coordination between MOHHS and security authorities.

MEDICAL COUNTERMEASURES AND PERSONNEL DEPLOYMENT

INTRODUCTION

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

Target

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

REPUBLIC OF THE MARSHALL ISLANDS LEVEL OF CAPABILITIES

The MOHHS has legislation and response mechanisms to address medical countermeasures and personnel deployment. The Republic of the Marshall Islands has a limited stockpile of medical countermeasures but has a formal agreement with the US for receiving medical countermeasures through the Strategic National Stockpile (SNS). The Public Health Preparedness Programme under the Office of Health Planning, Policy, Preparedness and Epidemiology manages the SNS protocols which cover the entire logistic chain. When a state of emergency is declared, under the draft Public Health Emergency Operations Plan, the Secretary of Health and Human Services, or a designee, can request the deployment of medical countermeasures from the US or other partners based on risk assessment and anticipated needs.

The country has internal mechanisms to deploy personnel to support response efforts in Majuro and the outer islands. There is a pool of local staff, including volunteers and retired health professionals, that can be deployed during emergencies. When this capacity is exceeded, or the required expertise is not available, international support is requested. There are written protocols to expedite the registration and licensing of international deployments to the country.

The country conducted an exercise last year using a typhoon scenario which included aspects of receiving medical countermeasures and health personnel. Actual request and deployment were conducted during the Zika outbreak in 2016, mumps outbreak in 2017, Hepatitis A outbreak in 2018 and the current 2019 dengue outbreak response.

Indicators and scores

R.4.1 System in place for activating and coordinating medical countermeasures during a public health emergency - Score 4.

Strengths and best practices

- The Republic of the Marshall Islands has both practiced and conducted the request, receipt, and distribution of the SNS.
- The Republic of the Marshall Islands can provide coordinated management of medical countermeasures (MCMs) or SNS assets through the designated Points of Dispensing in schools and outer island dispensaries.
- There is an annex to the draft Public Health Emergency Operations Plan for medical countermeasures that includes fast track mechanisms for the import of medical countermeasures during emergencies.
- The Republic of the Marshall Islands has an initial in-country supply of medical countermeasures.

Areas that need strengthening and challenges

- The draft Public Health Emergency Operations Plan, including the annex on the management of medical countermeasures, requires finalisation, endorsement, implementation and testing through exercises.
- Collaboration between EpiNet and partners to manage resources when responding to public health emergencies.
- Communication between members of the EpiNet structure in the health emergency operation centre and deployed frontline responders.
- Faster procurement processes for obtaining countermeasures during emergencies.

R.4.2 System in place for activating and coordinating health personnel during a public health emergency - Score 4.

Strengths and best practices

- The MOHHS can identify and deploy additional staff and volunteers with outbreak response experience.
- The Republic of the Marshall Islands has practiced the request, receipt, and coordination of international health personnel during outbreaks in the last two years.

Areas that need strengthening and challenges

- Coordination with other sectors to include provisions for the deployment of experts for radiation emergencies and chemical events.
- Maintaining high level response capacities in all sectors, by having and updating a roster of experienced staff from the community that can be used for surge capacity.
- Develop training and orientation packages for both local and international experts to be deployed for emergencies.

R.4.3 Case management procedures implemented for IHR relevant hazards - 4

Strengths and best practices

- The Communicable Disease Response Plan has been drafted with multi-sectoral consultation and includes procedures to manage IHR relevant hazards. The document is currently being reviewed.
- Case management, patient referral and transport of potentially infectious patients are implemented according to guidelines.

Areas that need strengthening and challenges

- Implementing an exercise plan to operationalise the case management procedures.

Recommendations for priority actions

- Finalize and periodically test the medical countermeasures plan, including case management for relevant IHR hazards.
- Maintain an up-to-date multi-sectoral and multidisciplinary roster of experienced current and retired staff in the country for future deployment and ensure readiness through training and simulation exercises.
- Document and apply lessons learnt from previous personnel deployments to improve future deployments, including collaboration among sectors and communication between the Public Health Emergency Operations Center and frontline responders.

RISK COMMUNICATION

INTRODUCTION

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

Target

State Parties use 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.

REPUBLIC OF THE MARSHALL ISLANDS LEVEL OF CAPABILITIES

The MOHHS and the NDMO are the lead authorities for risk communication for health and national emergencies respectively, as per the National Emergency Response Plan, the draft Public Health Emergency Operations Plan and the draft Majuro Hospital Emergency Operations Plan. MOHHS and the NDMO have established formal arrangements and support systems for risk communication during public health emergencies and disasters, delivered through the EpiNet and Incident Command structures, respectively. Both agencies have considerable experience in risk communication from managing outbreaks and disasters.

The National Emergency Operations Centre is responsible for maintaining effective communication and information systems during emergencies, with the National Disaster Coordinator responsible for coordinating the issuance of public information, liaison arrangements with the media and operational communications between agencies. Risk and operational communications are referenced in the National Emergency Response Plan, the draft Public Health Emergency Operations Plan, the draft Majuro Hospital Emergency Operations Plan and the Medical Countermeasures Plan. Principles for risk communication, including dealing with uncertainty, are included in the draft Majuro Hospital Emergency Operations Plan.

Collaboration between stakeholders for risk communications during public health emergencies is well established and has been tested during tabletop exercises and during outbreaks over the last few years, including outbreaks of Zika virus, hepatitis A, influenza B, rotavirus and dengue. The MOHHS and the NDMO work closely with key stakeholders to deliver risk communications in the national and local government, non-government and private sectors, civil society, public school system and community groups.

The risk communication capability of the MOHHS includes a Public Information Officer (PIO) position, currently unfilled; multi-language approaches to information dissemination; establishment of hotlines; funding; and mechanisms to fast track public information during emergencies. The PIO function works closely with the Health Incident Commander during emergencies to develop messages, agree on distribution methods and the clearance process for messages to the public. In the absence of a PIO, the Health Promotion Director serves as the PIO.

Indicators and scores

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

Strengths and best practices

- Clear roles, responsibilities and authority for the Health Promotion Director and Public Information Officer (PIO).
- Collaboration and cooperation between ministries in public health emergencies.

Areas that need strengthening and challenges

- Clarification of communication procedures for public health emergencies during national disasters in the National Emergency Response Plan.
- Clear feedback mechanisms for risk communications during unusual and unexpected events.
- Improved orientation and briefings of the risk communication function due to the frequent turnover of communications focal points in ministries.
- Translation and interpretation of all public health communications into Marshallese language.
- Sharing resources and joint action plans with partners and stakeholders.
- Timely public communication involving the media and proactive engagement with affected communities.

R.5.2 Internal and partner coordination for emergency risk communication - Score 4.

Strengths and best practices

- During public health emergencies, the EpiNet team conducts weekly multi-sectoral updates to share information and respond to risk communication needs.
- Risk communication has been exercised and tested in emergencies during the last two years.

Areas that need strengthening and challenges

- SOPs that define the role of partners and stakeholders and the steps to be taken for risk communications.
- A formal mechanism to target specific community groups for targeted risk communications.
- The limited budget for risk communications during public health emergencies, for exercises and for strengthening coordination of communications with external partners and stakeholders.

R.5.3 Public communication for emergencies - Score 3.

Strengths and best practices

- Translation services are available to communicate during emergencies in both English and Marshallese, as well as other languages where appropriate.
- Cultural sensitivity and evidence-based information are given equal consideration during risk communications.

Areas that need strengthening and challenges

- The current approval processes for communication products delay timely health information dissemination.
- Research on whether risk communications reach the target audience and their effectiveness.
- Having a formalised risk communication strategy that is agreed to by stakeholders.

R.5.4 Communication engagement with affected communities - Score 2.

Strengths and best practices

- Collaboration with a wide range of non-government organisations and civil society stakeholders that facilitates effective risk communications and acceptance by communities.

Areas that need strengthening and challenges

- The limited financial and human resources for health promotion.
- Training provided by experienced community engagement experts to volunteers and the community, with planning for surge capacity during emergencies.

R.5.5 Addressing perceptions, risky behaviours and misinformation - Score 1.

Strengths and best practices

- Community acceptance of risk communications.

Areas that need strengthening and challenges

- Having a formal communication function to monitor, detect and address public perception of risk, unfounded beliefs, risky behaviours and misinformation and the effectiveness of risk communications used to address them.

Recommendations for priority actions

- Develop risk communication capacity to respond to public health emergencies across all emergency response sectors, including recruitment of a Public Information Officer (PIO), strengthening human resources at the MOHHS and identifying sustainable funding sources.
- Develop a national multi-sectoral, all-hazards risk communication plan by formalising existing risk communication guidance and operating procedures for operational, media and behaviour change communications/community engagement; incorporate templates for key information products and protocols for the timely approval, translation, release and dissemination of risk communications.
- Conduct and evaluate multi-sectoral and multiagency risk communication simulation exercises and after action reviews covering a range of hazards (including pandemic influenza, food, chemical and radiation emergencies and natural and technological disasters).
- Plan and budget for resources to address social media risk communication and community risk perception, risky behaviours and misinformation.

IHR-RELATED HAZARDS AND POINTS OF ENTRY

POINTS OF ENTRY

INTRODUCTION

All core capacities and potential hazards apply to “points of entry” (PoE), and thus enable the effective application of health measures to prevent international spread of diseases. State 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

State 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.

REPUBLIC OF THE MARSHALL ISLANDS LEVEL OF CAPABILITIES

The Republic of the Marshall Islands have six international sea and airports, four of which are designated points of entry under the IHR - Majuro Port, Majuro Airport, Ebeye Port and Ebeye Airport. The primary public health risk at the points of entry is infectious disease, and there are systems to manage public health threats at the points of entry that are commensurate to risk. The operational delivery of border health services is distributed among several governmental agencies; MOHHS, NRC, EPA, and the quarantine, immigration, and port authorities. Most border health functions appear to be addressed by these agencies. MOHHS is responsible for the border health role to ensure coordination of efforts.

IHR core capacities for the points of entry are achieved through various legislation and plans, including the Ports of Entry Act, Port Authority Act 2003, draft Communicable Disease Response Plan and Mass Response Operation Plan. The latter two are currently in draft and need to be endorsed, shared and enacted between the various stakeholders. Although these plans are sufficient to respond to an ill traveller and a mass casualty scenario, they do not consider the response to wider public health hazards such as a chemical event.

Routine capacities to be provided 'at all times' for points of entry as per the IHR Annex 1 are partially achieved by the Republic of the Marshall Islands. Although there are concerns for the introduction and transmission of mosquito vectors, there are no mosquito surveillance or control activities routinely conducted at the points of entry.

The Airport Rescue and Fire Fighters are trained emergency medical technicians that provide the first response to a medical emergency at the points of entry. They communicate with the relevant hospital to request further medical personnel and equipment as required. The transport of sick travellers to an appropriate medical facility is also established, fulfilling the required medical routine capacities 'at all times' at the points of entry.

The Quarantine Division board all inbound international sea and aircraft to conduct disinfecting, derating, disinfecting, decontaminating or to treat baggage, cargo, containers, conveyances, goods or postal parcels. The boarding parties established for the inspection of any crafts (air and sea) comprise several agencies, although have no MOHHS representation.

Indicators and scores

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

Strengths and best practices

- The points of entry have established response plans that are tested as required via full scale emergency exercises, table-top exercises, drills and functional exercises.
- Points of entry are inspected, assessed and validated for compliance with international SOPs by regulators and the capacity level is reported to WHO annually.
- The points of entry maintain an emergency call-down list of all stakeholders and mutual-aid partners to ensure continuous communication and control in times of emergency.
- The required medical routine capacities 'at all times' at the points of entry are in place.

Areas that need strengthening and challenges

- Resources and skills to conduct mosquito vector surveillance and rodent control at points of entry.
- Communications at the points of entry that rely on radios can become overloaded, as mariners, locals and others use the same frequencies.
- Staff training to all point of entry stakeholders to increase routine IHR capacity at the points of entry.

PoE.2 Effective public health response at points of entry - Score 3.*Strengths and best practices*

- The points of entry have received a new X-Ray machine that will be used by the Quarantine Division to screen inbound cargo, baggage, containers, conveyances, goods and postal parcels.
- The Quarantine Division partners with the Vector Control Office to ensure that all preventive actions, (disinfecting, derating, disinfecting, decontaminating), are being conducted.

Areas that need strengthening and challenges

- The draft Communicable Disease Response Plan and Mass Response Operations Plan are currently under review by the point of entry stakeholders.
- Upon finalization of these plans and approval by all stakeholders, exercises are required to test the effectiveness and efficiencies to meet minimum requirements, including the provision of after action reviews.

Recommendations for priority actions

- Accelerate the approval and endorsement of the draft Communicable Disease Response Plan and Mass Response Operations plan, share with relevant points of entry stakeholders, and supplement with plans for all public health hazards at points of entry.
- Periodically train crafts (air and sea) boarding parties to recognize public health threats and the process to notify medical or public health authorities.
- Conduct periodic multi-sectoral public health exercises at points of entry to maintain and increase IHR capacity, such as an ill traveller scenario.
- Establish all routine capacities at points of entry as identified in IHR (2005) Annex 1B, 1 "At all times", to ensure a safe environment for travellers.

CHEMICAL EVENTS

INTRODUCTION

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

Target

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

REPUBLIC OF THE MARSHALL ISLANDS LEVEL OF CAPABILITIES

The key agency responsible for chemical safety in the Republic of the Marshall Islands is the Marshall Islands Environmental Protection Authority (RMIEPA) which was established through the National Environmental Protection Act of 1984. The RMIEPA enforces the Persistent Organic Pollutants Regulations (2004) which controls the importation, distribution, sale, and use of pesticides by persons within the Republic of the Marshall Islands, and bans or restricts twelve highly toxic persistent organic pollutants – nine pesticides, one industrial chemical and two unintentional chemical by-products – as per the United Nations Stockholm Convention on Persistent Organic Pollutants. The RMIEPA also enforces the Ozone Depleting Substances Regulations (2004) that controls the importation, exportation, manufacture and sale of Chloro-fluoro-Carbons, Halons, Methyl-chloroform, Hydro-bromo-fluoro-carbons and other ozone depleting substances in accordance with the obligations under the Montreal Protocol and Vienna Convention.

Both regulations have not been revised or updated however, the list of chemicals in the Stockholm Convention and Montreal Protocol have been updated. Under these regulations, all imported chemicals and hazardous substances should be registered and their use, transportation and disposal by industry, trade and commercial sector should be regulated.

The National Action Plan for Disaster Risk Management 2008–2018 has an all-hazard approach, however, there is no specific mention of disasters related to chemical events. The 2010 National Emergency Response Plan includes the response to manmade hazards, such as contaminated water supply and exposure to hazardous wastes and marine oil spills and provides the plan for a multi-sectoral coordinated response. The draft Majuro Hospital Emergency Operational Plan also includes procedures for chemical incidences and disasters and the EPA strategic plan for 2018-2021 addresses the management of marine pollution by oil spills.

Currently, there are no established guidelines and procedures for the surveillance, assessment and management of chemical events, intoxication or poisoning. The EPA monitors drinking water quality for selected chemicals and harbour and coast monitoring for oil spillage and ship groundings as these are the only types of chemical events that have occurred in the country. Water and air testing are conducted in laboratories overseas on an ad-hoc basis.

There is no database or documentation of chemical events that have occurred in the Republic of the Marshall Islands. The public health syndromic surveillance system could detect chemical events related to intoxication and poisonings, but there is no clinical and laboratory toxicology capacity in the country.

Communication and collaboration among sectors responsible for chemical safety is insufficient.

Indicators and scores

CE.1 Mechanisms established and functioning for detecting and responding to chemical events or emergencies - Score 2.

Strengths and best practices

- There is project-based environmental monitoring of water and air, with collected samples being analysed overseas.
- Permits are issued by the RMIEPA for imported chemicals, with annual obligatory reporting under the Persistent Organic Pollutants Regulations 2004 and the Ozone Depleting Substances Regulations 2004.
- The RMIEPA monitors companies that use imported chemicals.
- The syndromic surveillance system allows for identifying acute health outcomes related to chemical events.
- There is monitoring of the waste dump site.

Areas that need strengthening and challenges

- Developing guidelines and functional procedures for the surveillance, assessment and management of chemical events, intoxication and poisoning.
- Capacity for monitoring consumer products for chemical hazards.
- Developing capacities and procedures for risk assessment of chemical events identified through surveillance and monitoring for a timely response.
- Developing laboratory capacity for the systematic analysis of environmental samples either in country or by accessing overseas reference laboratories.
- Toxicology capabilities in national health care facilities and access to a poison information centre.
- Revising and updating current regulations to include newly introduced chemicals to the existing conventions.
- Multi-sectoral approach and coordination in controlling and monitoring imported hazardous chemicals.
- Improving the limited finance resources.

CE.2 Enabling environment is in place for management of chemical events - Score 2.

Strengths and best practices

- There is a basic regulatory framework to address chemical safety at the national level with regulations to enforce the Stockholm Convention and the Montreal Protocol.
- There are plans to address marine pollution from oil spills and water contamination.
- Environmental management plans are often required as part of the formal RMIEPA licensing process.
- The Solid Waste Regulations 1989 does not permit disposal of hazardous waste into the environment.

Areas that need strengthening and challenges

- Developing land-use policies which define designated area(s) for chemical or hazardous waste storage and management.
- Establishing a national coordinating committee for the assessment and management of chemicals and a multi-sectoral coordination mechanisms for chemical safety.
- Developing a public health plan specific for chemical incidents and emergencies, which may be incorporated into existing plans.
- Improving human resources, capacity development and finance resources.

Recommendations for priority actions

- Develop procedures for risk assessment, monitoring and response to chemical emergencies to complement existing all-hazard emergency preparedness and response plans.
- Ensure access to guidelines and protocols, and provide training opportunities for relevant personnel, for diagnosis and case management of chemical events, intoxication and poisoning.
- Establish a focal point for accessing and providing poison information.

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

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

REPUBLIC OF THE MARSHALL ISLANDS LEVEL OF CAPABILITIES

The National Environmental Protection Act 1984 states that regulations shall be put in place to monitor the storage and disposal of nuclear, radioactive and other hazardous wastes, granting responsibility and authority to the EPA. However, such regulations have not been established and there is no regulatory body.

The Republic of the Marshall Islands reports that no radioactive sources are currently present in the country and risk mapping exercises have not been conducted. There is limited use of radiology services at the Majuro hospital (X-ray, CT-scan, and fluorography machines), but neither radiotherapy service, nor medical physicist positions are available. The Republic of the Marshall Islands was a site of nuclear testing from 1946 through 1958 by the United States, and during this time 67 nuclear tests were conducted on Bikini and Enewetak Atolls.

The RMIEPA does not have the human resources, nor technical capacity to monitor radiation in the environment or the effects on human health. The Republic of the Marshall Islands is a member state of the International Atomic Energy Agency (IAEA) and is involved in IAEA capacity-building projects under the Agency's Technical Cooperation mechanism. The scope of current projects includes developing national capacity in monitoring radionuclides in the environment and support for the eventual establishment of the national radiation safety infrastructure, including laboratory capacity for isotope identification and assessing radiation exposure in case of a radiation emergency in the country.

Environmental and bioassay monitoring are conducted on an ad hoc basis by the US Department of Energy, under existing bilateral arrangements, to address the long-term radiological surveillance needs in the atolls that were nuclear tests sites. A health follow-up programme monitors the health consequences of the nuclear fallout in the affected local population, however the applicability of these arrangements for radiation emergency in the future is not clear.

There are no specific policies, plans or procedures available for the detection, assessment, response and recovery after radiation emergencies; currently it is unclear if there is a national agency responsible for radiation surveillance and monitoring in the Republic of the Marshall Islands.

Indicators and scores

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

Strengths and best practices

- Ongoing technical cooperation and financial support from the IAEA for building national capacity for monitoring radionuclides in the environment and radiation safety.

- Under the IAEA project, two EPA staff were trained on the use of the Canberra Food Screen equipment provided by IAEA to monitor foodstuffs and the environment for certain radionuclides of concern.

Areas that need strengthening and challenges

- Developing policies, regulations, plans and procedures for the detection, assessment, response and recovery after radiation emergencies and providing more training and capacity-building programmes.
- Establishing designated healthcare facilities for the medical response to radiation emergencies.
- Developing protocols and guidelines for case management of persons over-exposed to ionizing radiation.
- Developing human resources capacity with required expertise in the field of radiation safety, emergency preparedness and response.
- Mobilizing resources to finance programmes or activities that oversee radiation emergencies at national level.

RE.2 Enabling environment in place for management of radiological and nuclear emergencies - Score 1.

Strengths and best practices

- Being a non-nuclear small island state, the actual risk of a nuclear emergency in the Republic of the Marshall Islands is low.
- The Republic of the Marshall Islands is a member state of the IAEA and therefore has access to technical resources, as well as to IAEA guides and manuals on radiation safety policy development, regulations, safe practices, etc.
- Ongoing international cooperation with IAEA to support for national capacity building.
- Specialists regularly attend IAEA workshops, training, and technical meetings, which provides opportunities to learn and establish collaborative contacts with other Member States.

Areas that need strengthening and challenges

- Establishing national legal and regulatory framework for radiation safety and radiation protection.
- Establishing or designating a national body responsible for environmental radiation monitoring and a designated focal point for coordination and communication with public health and the NFP.
- Developing policies, regulations, plans and procedures for ensuring safe use of radiation equipment in the country.
- Establishing a multi-sectoral mechanism for coordinating preparedness and response to radiological and nuclear emergencies.
- Developing emergency response plan with specific SOPs for radiological and nuclear emergencies.
- Ensuring access to the relevant expertise overseas and develop functional procedures to enable this access.

Recommendations for priority actions

- Establish the national legal and regulatory framework for radiation protection and safety for all exposure situations and consider endorsing the international emergency conventions on early notification and assistance in case of nuclear or radiological emergencies.
- Develop capabilities for the detection, assessment, and response to radiation emergencies to complement existing all-hazard emergency preparedness and response plans.
- Establish a mechanism for accessing international technical assistance, information and expertise for radiation emergencies.

ANNEX: JEE BACKGROUND

Mission place and dates

Majuro, Republic of the Marshall Islands; 23 to 26 September 2019

Mission team members:

Ms Suz Halligan, New Zealand, Senior Advisor, Environmental and Border Health, Ministry of Health (Team Lead)

Dr Angela Merianos, Team Coordinator, Pacific Health Security & Communicable Diseases, WHO Division of Pacific Support

Dr Emily Fearnley, Australia, OzFoodNet Epidemiologist, Department for Health and Wellbeing, Government of South Australia Health

Dr Eka Buadromo, Fiji, Senior Laboratory Adviser, Pacific Community

Dr Jennifer Brooks, United States of America, Associate Director for Policy, Office of Laboratory Science and Safety, US CDC

Dr Zhanat Carr, Scientist, Environment and Social Determinants, WHO Headquarters

Dr Anthony Eshofonie, Epidemiologist, Country Health Emergency Preparedness and IHR, WHO Regional Office for the Western Pacific

Observers

Ms Alison Sio, Manager, Public Health Emergency and Surveillance Unit, Ministry of Health and Medical Services, Solomon Islands

Mission Facilitation

Dr Eunyong Ko, WHO country Liaison Officer for Federated States of Micronesia, Palau and Republic of Marshall Islands

Ms Michelle McPherson, Consultant, WHO country Liaison Officer for Federated States of Micronesia, Palau and Republic of Marshall Islands

Objective

To assess the Republic of the Marshall Islands' capacities and capabilities relevant to the 19 technical areas of the JEE tool for providing baseline data to support (host country's) efforts to reform and improve their public health security.

The JEE process

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

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

Limitations and assumptions

- The evaluation was limited to one week, which limited the amount and depth of information that could be managed.
- It is assumed that the results of this evaluation will be publicly available.
- The evaluation is not just an audit. Information provided by the Republic of the Marshall Islands 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

Republic of the Marshall Islands lead representatives

- Jack Niedenthal, Secretary for Health and Human Services, MOHHS
- Francyne Wase-Jacklick, Deputy Secretary, MOHHS
- Neri Wase, Finance Director, MOHHS
- Ricky Domingo, Human Resource Director, MOHHS
- Albert Ben, Hospital Preparedness Programme Coordinator, MOHHS
- Daisy Pedro, Immunization Programme Manager, MOHHS
- Philmar Mendoza-Kabua, Health Promotion and Disease Prevention Director, MOHHS
- Rachel Bigler, Preparedness Director, MOHHS
- Anram Kemem, Deputy Director, Ports Authority
- Paul Lalita, Majuro Hospital Laboratory Manager, MOHHS
- Ciara Mae Reyes, Majuro Hospital Pharmacy Director, MOHHS
- Earlynta Chutaro, Environmental Health Programme Manager, MOHHS
- Timmy Langrine, Director, National Disaster Management Office
- Edlen J. Anzures, Health Informatics Director, MOHHS
- Tuvuki Ketedromo, Deputy Director, Environmental Protection Agency
- Byrelson Jacklick, Quality Inspector

Participating institutions

Ministry of Health and Human Services (MOHHS)

- Bureau of Primary Health Care Services
- Bureau of Majuro Hospital Care Services
- Bureau of Kwajalein Health Care Services
- Bureau of Oral Health Services
- Office of Administration, Personnel & Finance
- Office of Health Planning, Policy, Preparedness & Epidemiology
- Medical Referral Office

Office of the President

- Public Information Office

Attorney General's Office (AG)

National Disaster Management Office (NDMO)

National Disaster Committee (NDC)

Marshall Islands Environmental Protection Authority (RMIEPA)

Ministry of Justice (MOJ)

- Bureau of Public Safety
- Bureau of Foreign Labor and Immigration
- Division of Marine Law Enforcement

Ministry of Natural Resources & Commerce (NRC)

- Bureau of Agriculture
- Bureau of Tourism
- Bureau of Marine Resources
- Division of Biosecurity

Ministry of Finance, Banking and Postal Services (MOFBS)

- Bureau of Customs and Border Protection
- Bureau of Budget and Planning
- Division of Property and Supply

Ministry of Public Works Infrastructure, Industries (MoPWI)

- Bureau of Aviation
- Bureau of Commercial Development
- Division of Transportation
- Bureau of Public Works

Ministry of Foreign Affairs and Trade

- Bureau of Foreign Affairs and Trade
- Bureau of Domestic Affairs

Ministry of Cultural & Internal Affairs (MoCIA)

Ministry of Education, Sports and Training

- Public School System

RMI EPINET / Healthcare Coalition (HCC)

National Weather Service Office

Marshall Islands Mayors Association (MIMA)

Marshall Islands Visitor's Authority (MIVA)

RMI Farmer's Association

Marshall Islands National Telecommunications Communications (MINTA)

Majuro Medical Clinic

Medisource Pharmacy

Marshall Islands Red Cross Society

Regional and International

- US Centers for Disease Control and Prevention (US CDC)
- The Pacific Community (SPC)
- Hawaii State Laboratories Division
- Guam Public Health Laboratory
- US Affiliated Pacific Islands Regional Lab Network
- Pacific Island Health Officers Association (PIHOA)
- Pacific Public Health Surveillance Network (PPHSN)
- World Health Organization (WHO)

Supporting documentation provided by host country

National legislation, policy and financing

- Emergencies Act 1979; Title 7 – Public Health, Safety and Welfare and Title 11 – Emergencies
- Disaster Assistance Act 1987; Title 7 – Public Health, Safety and Welfare and Chapter 10 - Disaster Assistance
- Procurement Code Act 1988; Title 44 – Government procurement
- Public Health, Safety and Welfare Act 2004; Title 7 – Public Health, Safety and Welfare
- Appropriation Act of 2018, Nitijela of the Republic of the Marshalls Islands, 2018
- US CDC Notice of Award for Marshall Islands Hospital Preparedness Programme and Public Health Emergency Programme 2017-2022
- Office of the Chief Secretary Financial Year 2019 Budget Circular, 2018
- Grants Management, MOHHS, 2017
- Medium Term Budget Framework FY2019-2021, MOHHS.
- Ministry of Finance, Banking, and Postal Services Procurement, MOHHS, 2017
- Public Health Emergency Preparedness cooperative agreement with US CDC, 2017-2022

IHR coordination, communication and advocacy

- State Party Self-Assessment Annual Reporting Tool for the Republic of the Marshall Islands, 2019
- Communicable Disease Response Plan (in draft; 2019)
- Marshall Islands Arrangements for Disaster Risk Management: The Way Forward for Hazard-Specific Standard Operating Procedures, International Organization for Migration, 2019

- MOHHS Emergency/Disaster Preparedness, Response, Relief, and Recovery Standard Operating Procedure for a Generic Rapid Onset Hazard, 2019
- National Emergency Response Plan (NERF) Annex: National Disaster Management Authority, 2018
- Republic of the Marshalls Islands EPINet Team members, from the Directory of PPHSN Resources, 2019
- After Action Report: Detection and Response to an Outbreak of Hepatitis A Virus, RMI, 2018

Antimicrobial resistance

- Republic of the Marshall Islands Antimicrobial Guidelines, MOHHS, 2018
- National Multi-sectoral Plan on Antimicrobial Resistance for the Republic of Marshall Island 2018-2022 (in draft; 2018)
- Republic of the Marshall Islands Infection Prevention and Control Guidelines (in draft)

Zoonotic diseases

- Communicable Disease Response Plan (in draft; 2019)
- Memorandum to Cabinet to re-establish the National Food and Drug Taskforce, 2018
- Food Safety Act 2010; Title 7 – Public Health, Safety and Welfare and Chapter 19 – Food Safety
- Animal and Plant Inspection Act 2014; Title 8. - Animal Quarantine and Protection of Endangered Species
- The Republic of the Marshall Islands Biodiversity Strategy and Action Plan, 2000
- One Health Consultative Workshop, Pacific Community, 2018 – Agenda, Objectives and expected outcomes and List of participants
- Travel report from the One Health Consultative Workshop, 2018
- OIE Annual animal health reports, 2016-2018

Food safety

- Food Safety Regulations, 2014 (in draft)
- Memorandum to Cabinet to re-establish the National Food and Drug Taskforce, 2018
- Memorandum to Cabinet to establish the Human Services Environmental Health Unit, 2019.
- African Swine Flu Surveillance Team Meeting minutes, Friday February 22, 2019
- FAO Food Inspection Training Workshop agenda and invitation, October 2017
- Recall Inspection Report for Pinguin frozen corn recall, MOHHS, 2018
- Letter to INFOSAN regarding Republic of the Marshall Islands Official Designation of INFOSAN Focal Point, 2018
- List of reportable diseases/syndromes and their case definitions, July 2018
- Guidelines and Procedures for Food Inspection, 2017

Biosafety and biosecurity

- Pesticides and Persistent Organic Pollutants Regulations, EPA, 2014
- Solid waste regulations, EPA, 1989
- Quarantine Services Operations Manual, 1998
- Republic of The Marshall Islands Biosecurity Bill 2008 (in draft)
- Majuro Hospital Laboratory Safety Policy, 2019

- Short term contract between MOHHS and Pacific Paramedical Training Centre for the strengthening of laboratory capacity in biosafety and quality management services in Majuro and Ebeye hospital laboratories, 2019
- Registration form for the Pacific Paramedical Training Centre's Regional External Quality Assessment Programme, 2017
- PHIOA Regional Laboratory Network Shipping Protocol for all Infectious Disease Testing for the US-Affiliated Pacific Island Laboratories, 2016
- Memorandum of Understanding between MOHHS and PIHOA for the payment for shipment for specimens to Public Health Reference/Confirmatory Lab Testing at the Hawaii State Laboratory, CDC Laboratory (Atlanta), and/or Guam Public Health Laboratory, 2015
- Hospital injury report form

Immunization

- National Immunization Programme Handbook 2016 (in draft)
- Effective Vaccine Management Improvement Plan 2019-2023

National laboratory system

- Pacific Public Health Surveillance Network (PPHSN) LabNet catalog, 2015
- Ebola biosafety plan, 2016-17
- Majuro Hospital Laboratory Biosafety Assessment Report, PIHOA, 2017
- A Report on the 2017 PIHOA Regional Biosafety Training and the 5th PIHOA Regional Laboratory Network and 5th Association of USAPI Laboratories (AUL) Meeting
- Invitation to MOH staff for Biosecurity training, August 2017
- Letter of agreement between Diagnostic Laboratory Services and the Majuro Atoll Health Care Services, 2010
- Results from Pacific Paramedical Training Centre External quality assessment programme, 2018
- Laboratory Safety and Quality Officer Job Description
- Registration form for the Pacific Paramedical Training Centre's Regional External Quality Assessment Programme, 2017 and 2019
- Public Health Laboratory Risk Assessment for Ebola Virus Disease (EVD) Testing, PIHOA, 2017
- Majuro Hospital Laboratory Safety Policy, 2019

Real-time surveillance

- Communicable Diseases Prevention and Control Act 1988; Title 7 – Public Health, Safety and Welfare and Chapter 15 - Communicable Diseases Prevention and Control
- Public Health Emergency Operations Plan 2019 (in draft)
- Communicable Disease Response Plan (in draft; 2019)
- Reporting Protocol for Providers for Syndromic Surveillance and Reportable Disease Surveillance
- Republic of the Marshall Islands Communicable Disease Surveillance and response Standard Operating Procedure- 2019
- Republic of the Marshall Islands Event based Surveillance Guide and Protocol
- Republic of the Marshall Islands Reportable diseases lists, December 2018 and Case Definitions (25 conditions)
- MOHHS Reporting Requirements for Medical Providers
- Marshall Islands EpiNet team members 2019

- Republic of the Marshall Islands Weekly Communicable Diseases Surveillance report (Week 20)
- Pacific Syndromic Surveillance System (PSSS) Weekly Bulletin W20 2019 (May 13-May 19)
- Guide to strengthen Early Warning Surveillance in Republic of the Marshall Islands, 2015
- Ebeye surveillance guidelines
- Weekly outer islands surveillance worksheet, May 2019
- Data validation list, 2019
- Surveillance reporting form
- Majuro and Ebeye hospital encounter forms
- Event-based surveillance notification; Jaluit - unusual death, February 2019
- Sitrep: MUMPS in Republic of the Marshall Islands, 2016-2018, February 2018
- Sitrep: Diarrhea in Majuro Atoll, Republic of the Marshall Islands, May 2019
- After Action Report: Detection and Response to an Outbreak of Hepatitis A Virus, 2018
- EpiNet meeting minutes for Influenza B outbreak, May 2019

Reporting

- National Emergency Response Plan 2010
- Public Health Emergency Operations Plan 2019 (in draft)
- Disaster Risk Management National Action Plan 2008-2018
- Communicable Disease Surveillance and Response Standard Operating Procedure
- Republic of the Marshalls Islands EPINet Team members, from the Directory of PPHSN Resources, 2019
- After Action Report: Detection and Response to an Outbreak of Hepatitis A Virus, 2018
- Sitrep: Diarrhea in Majuro Atoll, Republic of the Marshall Islands, May 2019
- EpiNet meeting minutes for Influenza B outbreak, May 2019

Workforce development

- Public Service Regulations of the Republic of the Marshall Islands, 2008
- Majuro Hospital Emergency Operations Plan, 2019 (in draft)
- Report of the Task Force on Human Resources for Health 2011-2023, 2011
- Medium Term Budget Framework FY2019-2021, MOHHS.
- Performance Evaluation, Office of the Public Service Commission
- Job Description; Technologist – Tuberculosis and Microbiology (Laboratory)
- Job description: Community Health Outreach Worker

Emergency preparedness

- National Action Plan for Disaster Risk Management 2008-2018, 2007
- National Emergency Response Plan 2010
- Public Health Emergency Operations Plan 2019 (in draft)
- Emergency/Disaster Preparedness, Response, Relief, and Recovery Standard Operating Procedure for a Generic Rapid Onset Hazard, MOHHS, 2018
- Outer Island Reporting Form
- Drought Situation Overview Form
- Initial Overview Form

Emergency response operations

- National Emergency Response Plan 2010
- Public Health Emergency Operations Plan 2019 (in draft)
- National Emergency Operations Centre Structure - Disaster Management Operational Arrangement - Draft

Linking public health and security authorities

- National Emergency Response Plan 2010
- Public Health Emergency Operations Plan 2019 (in draft)
- Public Health Emergency Operations Plan Job Action Sheets
- Communicable Disease Response Plan (in draft; 2019)
- National Emergency Operations Centre Structure - Disaster Management Operational Arrangement - Draft
- After action report; 2019 Majuro Airport Biennial Exercise
- After action report and presentation; Tropical Depression 01W, National Disaster Management Office, 2019
- Pacific partnership search and rescue exercise by the US Coast Guard, 2019

Medical countermeasures and personnel deployment

- Public Health Emergency Operations Plan 2019 (in draft)
- Communicable Disease Response Plan (in draft; 2019)
- Majuro Hospital Emergency Operations Plan, 2019 (in draft)
- Medical Countermeasures Plan, 2019 (in draft)

Risk communication

- National Emergency Response Plan 2010
- Public Health Emergency Operations Plan 2019 (in draft)
- Communicable Disease Response Plan (in draft; 2019)
- Majuro Hospital Emergency Operations Plan, 2019 (in draft)
- Factsheet: How to care for a patient with Dengue? (English, Marshallese and Chinese), 2019
- Dengue Medication Alert, 2019
- Dengue outbreak; mass text, 2019
- Dengue Fever Outbreak Alert (English and Marshallese), August 2019
- Health Bulletin on Dengue Fever Outbreak, August 19, 2019
- Travel Advisory on Dengue Fever Outbreak in Majuro, 2019

Points of entry

- Ports of Entry Act
- Communicable Disease Response Plan (in draft; 2019)
- Mass Rescue Operation Response Contingency Plan, 2019 (in draft)
- Assessment tool for core capacity of Points of Entry

Chemical events

- Environmental Impact Assessment Regulations 1994
- Marine Water Quality Regulations 1992
- National Environmental Protection Act 1984
- Persistent Organic Pollutants Regulation 2004
- Public Water Supply Regulations 1994
- Public Health, Safety & Welfare Act 2004
- Solid Waste Regulations 1989

Radiation emergencies

- National Nuclear Commission Act 2017
- Report from Radiation Protection Assessment Mission (RASIMS TSA 2), 2017
- Strengthening the National Infrastructure for Radiation Safety project summary, 2018
- Improving the Quality of Clinical Services in Radiology - Phase II project summary, 2018
- Thematic Safety Area RMI 1
- Thematic Safety Area RMI 2
- Thematic Safety Area RMI 3



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