JOINT EXTERNAL EVALUATION OF IHR CORE CAPACITIES

of the

REPUBLIC OF PALAU

Mission report:

29 July–2 August 2019

World Health Organization

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CONTENTS

Joint External Evaluation

ACKNOWLEDGEMENTS

ABBREVIATIONS

AAR	After action review
AMR	Antimicrobial resistance
AMR-NAP	Antimicrobial Resistance National Action Plan
BNH	Belau National Hospital
CDC	Centers for Disease Control and Prevention
CE	Chemical event
COFA	Compact of Free Association
DDM	Data for decision making
EMT	Emergency medical team
EOC	Emergency operations centre
EPA	Environmental Protection Agency
EQPB	Palau Environmental Quality Protection Board
ESAR-VHP	Emergency System for Advance Registration of Volunteer Health Professionals
FAO	Food and Agriculture Organization of the United Nations
HCC	Healthcare Coalition
HIV	Human immunodeficiency virus
HPV	Human papillomavirus
HVA	Hazard vulnerability assessment
IAEA	International Atomic Energy Agency
	International Health Regulations (2005)
IHR NFP	National IHR focal point
IIS	Immunization information system
INFOSAN	International Food Safety Authorities Network
IPC	Infection prevention and control
IPCC	Infection Prevention and Control Committee
JEE	Joint external evaluation
LRF	Laboratory Revolving Fund
MCM	Medical countermeasure
MOH	Ministry of Health
MOU	Memorandum of Understanding
NAPHS	National Action Plan for Health Security
NDRMF	National Disaster Risk Management Framework
NEC	National Emergency Committee
NEMO	National Emergency Management Office
NEOC	National Emergency Operations Centre
OIE	World Organisation for Animal Health
PCC	Palau Community College
PCR	Polymerase chain reaction
PDTC	Pharmacy, Drugs and Therapeutics Committee
PHEIC	Public health emergency of international concern
PIHOA	Pacific Island Health Officers' Association
PIO	Public information officer
POE	Point of entry
POP	Persistent organic pollutant
PPE	Personal protective equipment
PPHSN	Pacific Public Health Surveillance Network
SNS	Strategic National Stockpile
SOP	Standard operating procedure
SPAR	State Party Annual Reporting
SPC	the Pacific Community (formerly "South Pacific Commission")
UNICEF	United Nations Children's Fund
WHO	World Health Organization

EXECUTIVE SUMMARY

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

Main Findings

The Republic of Palau acknowledges the importance of communicable disease control, surveillance and response, and has legislation and policies for different sectors that directly or indirectly address the IHR (2005). Since 2015 the country has held a series of workshops and exercises to raise awareness and strengthen linkages between relevant stakeholders in order to meet the requirements of the IHR (2005). Palau has a dedicated and capable workforce with centrally coordinated multi-level, multidisciplinary and multisectoral capacity to respond to emergencies, as well as access to international communication and coordination mechanisms that have been developed under the IHR framework.

In the Pacific, limited human and financial resources, geographical remoteness and limited economies of scale highlight the need to ensure access to IHR capacities through sharing scarce, highly specialized resources, partnerships and networks. In recognition of the challenges faced by small island states, the updated IHR MEF tools such as the IHR State Party Annual Reporting (SPAR) and the second edition of the JEE tool make specific provision for including access to core capacities when assessing progress against IHR indicators. Where relevant, access to these capacities – rather than their domestic development – is already reflected in the higher scores for the SPAR indicators assigned by some Pacific island countries with well-established links to off-shore technical institutions and agencies (e.g. laboratory capacities).

During the JEE mission, Palau's capacities in 19 technical areas were evaluated through a peer-to-peer, collaborative process that brought subject matter experts together with members of the JEE team and observers for a week of discussion and field visits. This process led to consensus on scores and priority actions in those 19 areas.

Once the JEE process is concluded, these priority actions should be captured in a National Action Plan for Health Security (NAPHS), with detailed costing of activities.

Five overarching recommendations emerged from the week. These are intended to address cross-cutting challenges affecting Palau's capacities across many of the different technical areas that were explored in greater depth in the JEE process. These overarching recommendations are outlined below.

1. Ensure that the national coordination of IHR-relevant activities is made comprehensive, with a clear legislative basis and/or standard operating procedures (SOPs) that define the roles and responsibilities of all stakeholders, including those in the private sector and the animal health, marine and wildlife sectors. Include these considerations in a costed, funded NAPHS, and use the IHR SPAR process to monitor its implementation.

Palau boasts an impressive multisectoral capacity for health emergency and crisis management, especially so given its small population of just over 17 600 people. Various state bodies have closely related responsibilities for emergency response, and these bodies coordinate their actions effectively. In order to improve coordination of these actions further, and to ensure that IHR-related activities involve all relevant stakeholders, Palau should review the distribution of managerial and operational responsibilities in case of emergencies, ensuring that private sector providers and stakeholders in the animal health, marine and wildlife sectors are included in building and maintaining core capacities under the IHR (2005). This review should be reflected in the NAPHS.

2. **Implement and regulate a One Health approach to the prevention and mitigation of antimicrobial resistance in Palau. This should include action on antibiotic stewardship, strengthened infection prevention and control, and biosecurity in the public and private human health and animal, agriculture and aquaculture sectors.**

WHO has declared antimicrobial resistance (AMR) as one of the top 10 threats to global public health in 2019. Although Palau has systems in place to prevent, detect and respond to AMR, including through implementation of good practice in infection prevention and control, the fact that the private health care and animal health sectors are not covered by the existing regulatory framework is a significant gap.

3. **While the workforce of Palau is dedicated and highly capable, there is insufficient sustainable human capacity across many technical areas, particularly from the One Health and epidemiological perspectives. A comprehensive workforce strategy, including a pay scale review and development plan, is needed. In doing so, it will be important to modernize the workforce towards a multidisciplinary composition that can face new challenges, keep up with developments, and recruit and retain skilled staff. This should include increased investment in training and scholarships for the IHR workforce.**

Workforce training/development and retention of skilled staff comprise an overarching challenge, and Palau would benefit from a comprehensive, strategic workforce development plan. Training is required in many technical areas, including public health, animal health, veterinary and para-veterinary roles, leadership and management, and hospital administration. Development of the plan should be preceded by a gap analysis to examine how weaknesses can be most effectively countered, mapping how best to leverage existing resources for maximum benefit.

4. **Strengthen capacity for early detection and response across sectors, including incorporating private sector providers and building and strengthening capacities for event-based surveillance following WHO guidelines.**

Detection is an area with the potential for improvement in both the animal and the human sectors. Palau has surveillance capacity, but this could be stronger, and could include stakeholders that are currently not fully integrated – including private sector health facilities, animal health and wildlife stakeholders, and others. Strengthening in this area would yield greater detail about the origins and causes of outbreaks, thereby enabling quicker, more effective responses.

5. **Review the sustainability of existing funding and plan accordingly. Ensure that contingency funds are in place for all areas of IHR capacity.**

A considerable proportion of Palau's IHR capacities are funded by the government of the United States of America under Palau's current Compact of Free Association, and the sustainability of this funding is not certain. Palau should review this situation and plan for a range of optional funding outcomes in the coming years, including identifying opportunities for the diversification of external funding sources and national budget allocations for the implementation of IHR (2005) core capacities.

Republic of Palau scores and priority actions

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 done on 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 proxy measures 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.

SCORES AND PRIORITY ACTIONS

Technical areas	Indicator no.	Indicator	Score	Priority Actions
PREVENT				
National legislation, policy and financing	**P.1.1**	The State has assessed, adjusted and aligned its domestic legislation, policies and administrative arrangements in all relevant sectors to enable compliance with the IHR	**3**	• Complete the IHR implementation review of existing mechanisms with all the relevant ministries and develop One Health policies that address health threats at the animal-human-environment interface. • Establish a budget line for core capacity development and implementation of the IHR (2005). • Expand and diversify the base for timely funding in case of a health emergency.
	P.1.2	Financing is available for the implementation of IHR capacities	**2**	
	P.1.3	A financing mechanism and funds are available for timely response to public health emergencies	**4**	
IHR coordination, communication and advocacy	**P.2.1**	A functional mechanism established for the coordination and integration of relevant sectors in the implementation of IHR	**3**	• Strengthen IHR advocacy to all relevant sectors and stakeholders, and continue to strengthen communication and coordination between the national IHR focal point and other relevant government agencies (e.g. agencies responsible for One Health matters and stakeholders for chemical and radiation matters), ensuring timely and systematic exchange of information. • Formalize guidelines and/or SOPs for coordination between the national IHR focal point (IHR NFP) and other stakeholders. • Test and update the functions of the IHR NFP to achieve efficient management of event communications and coordination, using reviews of real events or joint simulation exercises.
Antimicrobial resistance	**P.3.1**	Effective multisectoral coordination on AMR	**2**	• Expedite the finalization and endorsement of the Antimicrobial Resistance National Action Plan and the Pharmacy Act in support of AMR mitigation and antimicrobial stewardship. • Implement the legal framework, policies and procedures needed to regulate the use and reporting of antimicrobial agents, and ensure that all health care providers adhere to national IPC guidelines, including through regular inspection. • Move quickly to implement the recommendations of the 2019 review of IPC practices at the Belau National Hospital (BNH). • Monitor and regulate the use of antimicrobial agents in terrestrial and aquatic animals and in animal feed. • Identify long-term solutions to provide veterinary expertise for Palau.
	P.3.2	Surveillance of AMR	**2**	
	P.3.3	Infection prevention and control (IPC)	**2**	
	P.3.4	Optimize use of antimicrobial medicines in human and animal health and agriculture	**1**	

Technical areas	Indicator no.	Indicator	Score	Priority Actions
Zoonotic disease	P.4.1	Coordinated surveillance systems in place in the animal health and public health sectors for zoonotic diseases/pathogens identified as joint priorities	2	• Identify priority zoonotic diseases and create awareness among all relevant stakeholders in the human health, agriculture, wildlife, fisheries and environment sectors, and others, as necessary. • Explore means of including the marine and wildlife sectors in the relevant activities of the Healthcare Coalition (HCC). • Set up mechanisms and capacities for enhanced coordination, communication and collaboration between the Bureau of Public Health, the Bureau of Agriculture and the marine and wildlife sectors on surveillance and early response to zoonotic diseases. Finalize the existing draft Memorandum of Understanding (MOU) for overarching collaboration in prevention and control of zoonotic disease. • Develop a zoonotic disease prevention and control plan (including to ensure availability of rabies post-exposure prophylaxis and personal protective equipment (PPE)). • Conduct regular tabletop simulation exercises for zoonotic disease events.
	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	4	• Strengthen inspection services and laboratory capacity to detect additional foodborne pathogens and selected residues in foods. • Enhance messaging for prevention of foodborne diseases for food operators and the general public, and for risk communication during outbreaks. • Develop case studies and simulation exercises to test and enhance capacities for outbreak investigation and response.
	P.5.2	Mechanisms are established and functioning for the response and management of food safety emergencies	3	
Biosafety and biosecurity	P.6.1	Whole-of-government biosafety and biosecurity system in place for all sectors (including human, animal and agriculture facilities)	2	• Implement biosafety officer oversight and training in all laboratory sectors including at the BNH, in community health centres and private human health facilities, and throughout the animal and environment sectors. • Establish entry controls and security and inventory systems for areas handling or storing infectious and hazardous materials. • Implement, then review and revise the national biosafety and biosecurity regulations.
	P.6.2	Biosafety and biosecurity training and practices in all relevant sectors (including human, animal and agriculture)	2	

Technical areas	Indicator no.	Indicator	Score	Priority Actions
Immuni-zation	P.7.1	Vaccine coverage (measles) as part of national programme	5	• The Palau Ministry of Health (MOH) CORE immunization team should develop and execute a plan for more routine community outreach to identify and locate under-immunized children and bring their vaccinations up to date. • The MOH should work to identify additional sources of funding for vaccines and immunization staff through the national government (e.g. from the national insurance programme or from taxes on tobacco, alcohol or unhealthy food) and through development partners. • Efforts should be made to strengthen the vaccine cold chain, including through increased temperature monitoring at satellite sites and during vaccine transport, and regular testing of the system.
	P.7.2	National vaccine access and delivery	5	
DETECT				
National labora-tory sys-tem	D.1.1	Laboratory testing for detection of priority diseases	3	• Implement linkages between the human and animal health sectors, e.g. by establishing systems for information exchange and cooperation. • Accelerate approval and implementation of the national laboratory quality system. • Establish a laboratory accreditation system for national, community health centre and private laboratories.
	D.1.2	Specimen referral and transport system	4	
	D.1.3	Effective national diagnostic network	2	
	D.1.4	Laboratory quality system	2	
Surveil-lance	D.2.1	Surveillance systems	2	• Legislate for the notification of infectious diseases in both humans and animals. • Strengthen the event-based surveillance system to make it fully functional, including by implementing event-based surveillance in public and private facilities and in communities. • Review and streamline the existing surveillance system: revise SOPs and tools to ensure they reflect current best practice; improve reporting functions; and consider the planned transition to a system of electronic medical records. • Formalize a One Health working group to facilitate information sharing between the human, animal and environmental sectors. • Produce periodic epidemiological bulletins and disseminate them widely among relevant stakeholders.
	D.2.2	Use of electronic tools	3	
	D.2.3	Analysis of surveillance data	2	

Technical areas	Indicator no.	Indicator	Score	Priority Actions
Reporting	D.3.1	System for efficient reporting to FAO, OIE and WHO	3	• Develop protocol/training to assess and report potential public health emergencies of international concern, including through the use of the IHR Annex 2 Decision Instrument. • Ensure the national IHR focal point is available 24/7. • Empower backup officers to comply in a timely manner with IHR requirements for assessing and reporting potential public health emergencies of international concern. • Strengthen communication and collaboration for joint reporting by the animal and human health sectors, through the IHR NFP, the OIE focal point and emergency Food Safety Authorities Network (INFOSAN) focal point.
	D.3.2	Reporting network and protocols in country	2	
Human resources (animal and human health sectors)	D.4.1	An up-to-date multisectoral workforce strategy is in place	2	• Implement the draft public health workforce development plan, and ensure it is reviewed, tracked, updated and reported regularly (at least annually). • Develop training plans and conduct regular training, including on the One Health approach to meet the requirements of the IHR (2005) at all levels. • Encourage and facilitate relevant staff to access field epidemiology training to build capacity and lessen the load on current staff. Ensure that Palau has sufficient epidemiological capacity.
	D.4.2	Human resources are available to effectively implement IHR	2	
	D.4.3	In-service trainings are available	2	
	D.4.4	Field epidemiology training programme or other applied epidemiology training programme in place	2	
RESPOND				
Emergency Preparedness	R.1.1	Strategic emergency risk assessments conducted and emergency resources identified and mapped	4	• National multi-hazard emergency response plans must include appropriate coordination at and between national and state levels. • Plans must be regularly exercised through tabletop, field and full-scale simulation exercises. • The Public Health Emergency Operations Plan should be updated and aligned with or incorporated into the National Disaster Risk Management Framework. • Include risk mapping of animal-related emergencies in future plan and framework updates. • Develop a business continuity plan in the BNH and throughout all relevant sectors to enhance resilience.
	R.1.2	National multisectoral multi-hazard emergency preparedness measures, including emergency response plans, are developed, implemented and tested	3	
Emergency response operations	R.2.1	Emergency response coordination	5	• Update the Public Health Emergency Operations Plan to reflect lessons from exercises and real events. • Include the IHR's whole-of-government approach within National Emergency Committee (NEC) training to strengthen response capacities in public health emergencies.
	R.2.2	Emergency operations centre (EOC) capacities, procedures and plans	5	
	R.2.3	Emergency Exercise Management Programme	5	

Technical areas	Indicator no.	Indicator	Score	Priority Actions
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	2	• Assess the capacity of existing multisectoral mechanisms for information sharing and response through an exercise with a deliberate event scenario that may cause a potential public health emergency, in order to identify gaps between the public health and security sectors. • Develop a robust interface between the public health and security sectors by formalizing joint risk/threat assessment and investigation protocols, and carrying out joint training on potential deliberate biological, chemical and radiological events.
Medical countermeasures and personnel deployment	R.4.1	System in place for activating and coordinating medical countermeasures during a public health emergency	3	• Assess resources for medical countermeasures from a One Health perspective, with assistance from subject matter experts to determine their capacity to address all needs related to public health response. • Complete the national plan for receiving and sending health personnel to include full implementation of the Emergency System for Advance Registration of Volunteer Health Professionals (ESAR-VHP). The plan should also assess and address emergency medical team capacity. • Develop a system to recognize, treat and manage chemical and/or radiological incidents that includes training of local staff and utilization of regional and international subject matter expertise.
	R.4.2	System in place for activating and coordinating health personnel during a public health emergency	2	
	R.4.3	Case management procedures implemented for IHR relevant hazards	3	
Risk communication	R.5.1	Risk communication systems for unusual/unexpected events and emergencies	4	• The NEC should consider establishing a multisectoral communication hub or joint information centre to further strengthen the risk communication system during emergencies. • The NEC and the MOH should include risk communicators during risk assessments, recognising the importance of risk perception in maintaining trust, steering individual and community decisions about the acceptability of risks, and influencing behaviours before, during and after an emergency. • The MOH should look at options for strengthening community engagement, dynamic listening and the management of miscommunication during routine operations and emergency responses, including through developing targeted risk communications for vulnerable, marginalized and hard to reach groups. • All sectors should identify a diverse group of community leaders, peer leaders, volunteers and/or champions to leverage their personal and collective leadership and social influence for trusted communication engagement and social mobilization.
	R.5.2	Internal and partner coordination for emergency risk communication	4	
	R.5.3	Public communication for emergencies	4	
	R.5.4	Communication engagement with affected communities	4	
	R.5.5	Addressing perceptions, risky behaviours and misinformation	2	

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	3	• Provide facilities at points of entry that are equipped to assess suspected ill passengers or crew on aircraft and/or other vessels. Ensure these facilities have adequate space, staff and equipment. • Enhance existing control programmes for vectors and reservoirs at and around points of entry. • Legislate to establish capacities at points of entry to inspect conveyances and issue Ship Sanitation Certification.
	PoE.2	Effective public health response at points of entry	2	
Chemical events	CE.1	Mechanisms established and functioning for detecting and responding to chemical events or emergencies	3	• Develop a comprehensive framework for monitoring and managing chemical events, with an updated national chemical risk map and updated guidelines and plans for chemical management in line with the requirements of the IHR (2005). • Develop a task force, proportional to the need in Palau, with expertise covering all of the essential technical areas in monitoring and managing chemical events. • Develop laboratory capacity to monitor high-risk chemicals in food, water, consumer products and the environment.
	CE.2	Enabling environment in place for management of chemical events	3	
Radiation emergencies	RE.1	Mechanisms established and functioning for detecting and responding to radiological and nuclear emergencies	2	• Draft a practical emergency response plan for radiation and nuclear emergencies, and test it using a tabletop exercise. • Formalize the existing arrangements with the Philippine Nuclear Research Institute and other partners for laboratory services, training and assessment of contamination in case of radiation incidents. • Implement the Ionization Act which is currently in preparation.
	RE.2	Enabling environment in place for management of radiological and nuclear emergencies	2	

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

PREVENT

NATIONAL LEGISLATION, POLICY AND FINANCING

INTRODUCTION

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

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

LEVEL OF CAPABILITIES

The Republic of Palau has legislation and policies for different sectors that directly or indirectly address the IHR (2005), and since 2015 has held workshops and exercises to raise awareness and strengthen linkages among relevant stakeholders in order to meet the requirements of the IHR (2005). The Palau National Code provides extensive legislation covering the agricultural, environmental and health sectors (including public health) under Titles 9, 24 and 34 respectively. Point of entry (POE) functions are supported by Title 7 (Admiralty and Maritime), Title 8 (Aeronautics), and the Rules and Regulations (2019) of the Bureau of Immigration and Foreign Labor Division of Labor.

There is coordination between different sectors through well-established legal and regulatory frameworks such as the National Disaster Risk Management Framework (NDRMF). The IHR concept is shared with the agricultural and environmental sectors through the HCC, the MOH Emergency Programme, a multisectoral entity of which the National Emergency Management Office (NEMO) is a member. In addition, a MOU for the implementation of the IHR (2005) and a POE policy are in development to underpin fully the POE functions required by the IHR.

Palau has no direct funding for the development of IHR core capacities; but each relevant agency has its own funds with which to carry out tasks related to the IHR (2005) and minor health emergency response activities. In addition, public health emergency preparedness is financially supported by US Centers for Disease Control and Prevention (CDC) federal grants. When a national emergency is declared, local funds can be mobilized rapidly through the NEC, which has a financing team to manage, oversee and monitor funding and expenditure during emergency incidents. Under the US CDC Public Health Crisis Cooperative Agreement, contingency funding can be made available in case of a present or eminent public health emergency.

Existing laws and regulations are being reviewed to ensure the development of legislation that clarifies IHR implementation structures in Palau and identifies gaps in compliance for IHR implementation. The revision or adoption of new national legislation will fill gaps in implementation, further facilitate the understanding of the IHR (2005) throughout relevant ministries and help secure related funding.

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 3

Strengths and best practices

- Legislation and policies that directly or indirectly address IHR core capacities are in place for different sectors.
- The HCC ensures a multisectoral operational function, especially across the human and animal health sectors, as required for IHR reporting and public health emergency response.
- IHR policy for POE and related SOPs have been tested through a tabletop exercise with all relevant agencies and gaps have been identified through an after action review (AAR).

Areas that need strengthening and challenges

- The IHR concept and IHR-relevant sections of the Palau National Code, along with the related regulations and procedures, have not yet been recognised by all partners.
- The One Health concept is not yet fully incorporated in legislation, policies and regulations addressing issues that intersect human, animal and environmental health.

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

Strengths and best practices

- The Bureau of Public Health, which serves as the IHR NFP, is responsible for the financial planning of public health functions for health security.
- IHR implementation is funded in part through the budget allocations of each stakeholder agency.
- In the event of a declared national emergency, financing for response is made available through the NEC.

Areas that need strengthening and challenges

- Ministerial and/or agency budgets do not have specific, earmarked funding for IHR implementation.
- Current available capacities in several agencies are insufficient for comprehensive IHR implementation.

P.1.3 A financing mechanism and funds are available for the timely response to public health emergencies – Score 4

Strengths and best practices

- Under the US CDC Public Health Crisis Cooperative Agreement, a specific amount of emergency funding is secured and made available in case of an imminent or actual public health emergency.
- The NEC is able to secure financial and other resources locally or from regional and international organizations if a national emergency is declared.

Areas that need strengthening and challenges

- There is currently no domestic contingency funding available for emergencies.
- There is no budget line for IHR operations in the budget of the Bureau of Public Health, meaning there is no specific funding to act rapidly in incidents of potential concern that are not declared emergencies.
- There are currently no formal relations with regional health organizations for triggering financial and/or in-kind support during a health emergency.

Recommendations for priority actions

- Complete the IHR implementation review of existing mechanisms with all the relevant ministries and develop One Health policies that address health threats at the animal-human-environment interface.
- Establish a budget line for core capacity development and implementation of the IHR (2005).
- Expand and diversify the base for timely funding in case of a health emergency.

PREVENT

IHR COORDINATION, COMMUNICATION AND ADVOCACY

INTRODUCTION

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

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

LEVEL OF CAPABILITIES

Palau has several mechanisms in place to implement the IHR (2005), provide coordination and communication, and integrate relevant sectors for implementation. These include the HCC and the NEC. The Director of the Bureau of Public Health in the MOH is the IHR NFP, and is also a member of the NEC and Liaison Officer for the MOH EOC. The IHR NFP remains accessible 24/7 for communication with WHO IHR contact points (via e-mail) and other state public health officials. In her absence, she is backed up by three other officers from the Bureau of Public Health. Palau regularly updates the contact information for the national focal point, and at time of writing in July 2019, the most recent update was submitted on July 27, 2018; however, the IHR NFP contact list maintained by WHO's Regional Office for the Western Pacific has been given only one email address for Palau.

If a national emergency is declared, a decision made based on the severity of the emergency, the NEC coordinates the response under the NDRMF. If a health emergency occurs but is not declared a national emergency, then the MOH works directly with partners relevant to the incident, including but not limited to members of the HCC.

The NEC is composed of representatives from 38 organizations including ministries, agencies and non-governmental organizations. As the communication lines and distances between members are short, this committee can be activated within 60 minutes of the first notification of an incident. There are currently no SOPs or written guidance for coordination between the IHR NFP and other relevant sectors. While such documentation is important for the continuity and sustainability of processes, current informal communications and networking by the IHR NFP appear to be effective.

Palau runs, or participates in, regular joint exercises to test coordination and communication mechanisms between sectors, for example, the IHR Exercise Crystal run by the WHO regional office, and an IHR points of entry/pandemic influenza tabletop exercise run in 2018.

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

- The IHR NFP is a member of the NEC and also serves as the national public information officer (PIO) for health.

- In responding to the dengue outbreak taking place at time of the JEE mission, the MOH has collaborated successfully with the Ministry of Education on a dengue information video contest for elementary and high school/college students.

- Any event of public health concern at a mass gathering that overloads the MOH's resources and capacities necessitates the Director of Public Health to convene the NEC. The NEC then makes a recommendation to the President of the Republic of Palau regarding whether or not to make a formal declaration of a national emergency.

- AARs are compiled after each event and/or emergency, and incorporate an improvement plan section that designates actions that need to be taken and assigns focal points for each action. These corrective action plans are developed to incorporate lessons from multisectoral/ multidisciplinary coordination and communication actions.

Areas that need strengthening and challenges

- The IHR NFP contact list held by WHO should include a number of backup email addresses, ensuring access to those supporting the IHR NFP, and should preferably include one address that indicates affiliation with the IHR (along the lines of <IHRNFP@gov.state>).

- There should be an updated contact directory that includes all members of the IHR NFP.

- The function of the IHR NFP should be evaluated for effectiveness and should follow the WHO National IHR Focal Point Guide.

- Formal training on functions and terms of reference for IHR NFPs should be provided to backup members of the IHR NFP.

- There are no functional mechanisms for multisectoral collaboration and there is no timely, systematic information exchange between ministries and other relevant agencies.

- There are currently no SOPs or written guidance for coordination between the IHR NFP and other relevant sectors. Such documentation is important for the continuity and sustainability of processes.

- An action plan should be developed to incorporate lessons from multisectoral and multidisciplinary coordination and communication mechanisms.

Recommendations for priority actions

- Strengthen IHR advocacy to all relevant sectors and stakeholders, and continue to strengthen communication and coordination between the national IHR focal point and other relevant government agencies (e.g. agencies responsible for One Health matters and stakeholders for chemical and radiation matters), ensuring timely and systematic exchange of information.

- Formalize guidelines and/or SOPs for coordination between the IHR NFP and other stakeholders.

- Test and update the functions of the IHR NFP to achieve efficient management of event communications and coordination using reviews of real events or joint simulation exercises.

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 AMR with a One Health approach, including:*
>
> *a) Multisectoral work spanning human, animal, crops, food safety and environmental aspects. This comprises developing and implementing a national action plan to combat AMR, consistent with the Global Action Plan 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 IPC measures.*
>
> *d) Ensuring appropriate use of antimicrobials, including assuring quality of available medicines, conservation of existing treatments and access to appropriate antimicrobials when needed, while reducing inappropriate use.*

LEVEL OF CAPABILITIES

The Palau National AMR Committee is composed of representatives from the MOH; the Ministry of Natural Resources, Environment and Tourism's Bureau of Agriculture; the Ministry of Education; the Ministry of Community and Cultural Affairs; the Ministry of Finance's Bureau of Customs and Border Protection; the Environmental Quality Protection Board (EQPB); the Farmer's Association; the Aquaculture Association; Koror State Animal Shelter; and various other non-governmental organizations and observers. This multisectoral committee was formed to raise awareness and understanding of AMR, and to encourage collaboration to mitigate its risks.

The second draft of the AMR National Action Plan (AMR-NAP), which is based on the WHO Global Action Plan, is pending review by the committee. AMR stakeholders in Palau, including public and private health care workers, have received training and guidance on AMR prevention and mitigation, and infection prevention.

The laboratory at the BNH provides clinical and public health laboratory services in Palau including antibiotic sensitivity testing and generates monthly antibiograms. Community health centres managed by the MOH and private clinics send patients to the BNH laboratory for specimen collection and testing for AMR on an ad hoc basis. For testing to detect AMR pathogens that are beyond the capacity of the BNH laboratory, shipping and financing mechanisms are in place to arrange for reference testing at regional and international laboratories, including at the Guam Public Health Laboratory, the Hawaii

State Laboratories Division, the US CDC, the US Food and Drug Administration laboratories, and WHO reference laboratories and collaborating centres in the Philippines and Australia.

There is no national laboratory for animal health, but the Koror State Animal Shelter operates a laboratory that is able to perform basic laboratory services, mainly for companion animals. There is currently no major commercial activity for animal husbandry, though chicken, eggs and pigs are produced in subsistence backyard systems. There is a single poultry farm for egg production and the Animal Production Project of the Bureau of Agriculture, which is primarily aimed at enhancing Palau's food security through providing credit to small-scale egg and meat operations. The Palau National Slaughterhouse, close to the capital city, is mainly used for the slaughter of pigs for traditional ceremonies. Inspection of meat is done by a non-veterinarian working for the Bureau of Agriculture.

Nearly all meat and other animal products are imported, with the exception of fresh fish and local seafood products. There is limited information available on how the aquaculture industry works with private fish farms to control and regulate their antibiotic use, and it is not clear to what extent antibiotics are used in agriculture for animals and plants. The Koror Animal Shelter receives expired drugs from the hospital and uses them until up to six months after expiry, primarily for the treatment of dogs and cats at the shelter.

The MOH's Infection Prevention and Control Committee (IPCC) is part of the Infectious Disease Task Force, which is the under the leadership of the Directors of Health and which has responsibility for the control and prevention of infectious diseases within MOH facilities and the public at large. In 2012, the MOH's Pharmacy, Drugs and Therapeutics Committee developed and implemented antibiotic standard treatment guidelines that have been implemented in all public sector health facilities, and a BNH formulary has been in place since 2006. The IPCC developed core business processes in 2017, and in July 2019 a comprehensive external assessment of the infection prevention and control practices and procedures at the BNH was conducted in collaboration with WHO. An action plan has also been developed to implement the recommendations arising from that review.

Indicators and scores

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

Strengths and best practices
- A number of policies or regulations exist or have been drafted for the use of drugs and chemicals, including the draft AMR-NAP and a Pharmacy Act that is expected to be approved by the Palau National Congress in October 2019.
- The EQPB has pesticide regulations in place.
- A National AMR Committee is established for enhanced multisectoral coordination on AMR, with representation from the health, environment, education, agriculture and aquaculture sectors, as well as multiple environmental non-governmental organizations and Palau's private medical providers, some of whom see a large number of patients.
- The draft AMR-NAP is an integrated multisectoral plan jointly developed by the human health, animal health, food, agriculture and environment sectors following the One Health approach. It incorporates the principal areas identified in the global action plan on AMR, including awareness raising, surveillance, the rational use of antimicrobials in the human and animal health sectors and in agriculture, and antimicrobial stewardship. The AMR-NAP applies to all administrative levels in Palau.
- Funding of the AMR-NAP, once approved, will come directly from local funds appropriated by the Palau National Congress.

Areas that need strengthening and challenges

- Expedited approval of the AMR-NAP is needed in order to enable full-scale implementation of the activities outlined in the plan. In the absence of an approved plan, the decisions of the National AMR Committee have little authority.

- The AMR-NAP needs to be fully costed.

P.3.2 Surveillance of AMR – Score 2

Strengths and best practices

- Palau has some local capacity to detect, isolate and identify organisms from humans and food.

- Mechanisms are in place to send samples from the animal health and fisheries sectors to regional or international reference laboratories for further testing.

- The BNH laboratory has the capacity to conduct antimicrobial susceptibility testing and the results are used to produce a periodic hospital antibiogram.

- The BNH laboratory receives specimens from other laboratories and agencies within Palau, and coordinates sample shipment and testing services at international reference laboratories.

- In 2000, the MOH and the Ministry of Administration Bureau of Revenue, Customs and Taxation issued a joint public service announcement informing incoming passengers and importers about restrictions on the importation of pharmaceutical products, including antibiotics.

Areas that need strengthening and challenges

- There is a need to strengthen the generation and exchange of data between human, animal and environmental sources.

- There is no capacity for generating national reports detailing antimicrobial resistance levels over time.

- There is limited monitoring of antimicrobial use and/or consumption in humans, animals and food crops.

P.3.3 Infection prevention and control – Score 2

Strengths and best practices

- Palau has a functional IPCC that reviews the National Infection Prevention and Control Plan every five years (this was most recently done in 2017).

- The BNH has IPC guidelines in place, including for the routine monitoring and provision of feedback on health care practices according to IPC standards.

- The IPC Coordinator completes monitoring and evaluation on the following: methicillin-resistant Staphylococcus aureus, phlebitis (in intravenous catheters), other indwelling catheters and devices, cleaning standards, safe handling of sharps and food handling.

- Occupational health and safety requirements include vaccination and monitoring of staff for vaccine preventable diseases.

- The Biosecurity Act imposes vaccination requirements for animals, and SOPs for slaughtering are in place.

- In July 2019, the BNH, in collaboration with WHO, completed a comprehensive external assessment of IPC procedures and practices.

- The Division of Environmental Health in the MOH Bureau of Public Health regularly inspects premises that provide cosmetic services such as hairdressing, beauty therapy or skin penetration procedures (e.g. tattooing or piercing) to ensure their adherence to national IPC standards.

Areas that need strengthening and challenges

- There is only one dedicated IPC nurse at the BNH.

- One of the most important limitations of Palau's IPC system at this time is the lack of regulation of, and inspection of adherence to, IPC standards in the private health sector.

- There is currently no system in place to detect and investigate potential transmission of bloodborne viruses (hepatitis B, hepatitis C or HIV) in health care settings

- Other challenges include assurance of safe water, sanitation and hygiene standards in all nine community health centres, and the provision of regular IPC training to each health care facility.

- Fish farm standards and regulations need to be elaborated and implemented.

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

Strengths and best practices

- The Pharmacy, Drugs and Therapeutics Committee has developed standard antibiotic treatment guidelines.

- The IPCC has developed guidance for the BNH on the detection, containment and prevention of hospital-acquired infections and antimicrobial-resistant organisms.

- There is a national selection mechanism for recommended antibiotics and a reserve list of second line antibiotics for all MOH facilities. Antibiotic use follows national standard treatment guidelines.

- Training on the national IPC Guidelines is integrated into pre-service training and continuing professional education courses for all MOH health care workers.

- Prescriptions are required for antibiotic use in humans and are controlled through pharmacy records.

Areas that need strengthening and challenges

- There is a need to enhance monitoring of antibiotic use for human and animal health and for agricultural and environmental purposes.

- There is currently no regulation or oversight of the use of antimicrobial agents in the private sector, including for adherence to the reserved antibiotics list and/or indications for use. Private practitioners source antimicrobial agents from various manufacturers worldwide, and there is no requirement to provide evidence of good manufacturing practice.

- There are currently no regulations for prescribing antimicrobials in terrestrial and aquatic animals and/or animal feed.

- There is a lack of veterinary expertise to guide agriculture and aquaculture operations on the responsible and appropriate use of antibiotics.

Recommendations for priority actions

- Expedite the finalization and endorsement of the Antimicrobial Resistance National Action Plan and the Pharmacy Act in support of AMR mitigation and antimicrobial stewardship.

- Implement the legal framework, policies and procedures needed to regulate the use and reporting of antimicrobial agents, and ensure that all health care providers adhere to national IPC guidelines, including through regular inspection.

- Move quickly to implement the recommendations of the 2019 review of IPC practices at the BNH.

- Monitor and regulate the use of antimicrobial agents in terrestrial and aquatic animals and in animal feed.

- Identify long-term solutions to provide veterinary expertise for Palau.

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

LEVEL OF CAPABILITIES

Local agriculture in Palau is limited mainly to subsistence farming. The country relies heavily on the importation of fresh and frozen foods, primarily from Asia, the USA, Australia and New Zealand. Due to the competitive prices of imports, the livestock sector in Palau has not been able to develop commercially. Some chickens, eggs and pigs are produced in backyard systems, and animal health and production services are extremely limited. Besides livestock rearing, aquaculture is practiced in Palau.

Only one veterinarian, from outside Palau, is practicing at the Koror State Animal Shelter, mainly engaged in the treatment and sterilization of dogs and cats. The shelter is the only animal health laboratory in Palau and has limited capacities for disease diagnosis. When samples have to be shipped outside the country, the laboratory makes use of the shipping capacities of the hospital laboratory. Besides the veterinarian, there is a single veterinary para-professional working in the shelter, and 11 further para-professionals have been trained through the Pacific Community (SPC).

Overall, little is known about animal diseases in Palau. The role of wildlife in the transmission of zoonotic diseases is unknown. At present, there do not appear to be any significant animal or zoonotic diseases in Palau, with the exception of leptospirosis, cases of which are regularly found in humans and dogs. However, there is a real risk of introduction of important zoonotic diseases (e.g. highly pathogenic avian influenza) through migratory wild birds, or of rabies through the uncontrolled importation of dogs either by sea or air. The risk of rabies is particularly tangible in view of the number of vessels in the Pacific carrying unvaccinated dogs. If rabies were to be introduced into Palau, there is currently no laboratory capacity to diagnose it in humans or animals, and there is no rabies post-exposure prophylaxis for use in case of a bite from a suspected rabid animal. The consumption of wildlife, especially fruit bats, poses further risk of introduction and spread of dangerous zoonotic diseases.

There is currently a lack of both capacity and awareness regarding detection of and response to zoonotic diseases in the human and animal sectors (including wildlife and fisheries). This needs development.

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

- SOPs are in place to address outbreaks of highly pathogenic avian influenza.
- Sporadic cases of leptospirosis are identified through Palau's reportable disease surveillance system.
- Human and animal samples are sent for reference laboratory testing off-island via the BNH Laboratory, using the Pacific Island Health Officers Association (PIHOA) lab revolving fund (LRF).

Areas that need strengthening and challenges

- There is a need to strengthen risk assessment capacity for the introduction of zoonotic diseases (e.g. rabies, zoonotic influenza, Nipah and Ebola), and to prioritize zoonotic diseases for surveillance and preparedness.
- There is a need to develop laboratory capacity and formalize the exchange of epidemiological information between the MOH and the Bureau of Agriculture, as well as the wildlife and fisheries sectors.

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

Strengths and best practices

- A collaboration mechanism is in place between the MOH, the Ministry of Natural Resources, Environment and Tourism and others, through the HCC.
- Palau has demonstrated capacity to conduct a One Health field investigation for avian influenza.
- Intersectoral response mechanisms are in place that can also be activated for zoonotic events (the NEC and the NEMO).

Areas that need strengthening and challenges

- There is a need to raise awareness and build capacity to detect and respond to aquatic and terrestrial zoonotic diseases in a coordinated, One Health manner.
- Animal health services should be enhanced through capacity development of veterinary para-professionals and the hiring of additional veterinarians.
- Zoonotic disease should be incorporated more prominently into mainstream health activities, and a joint strategic plan should be designed for responding to zoonotic events.

Recommendations for priority actions

- Identify priority zoonotic diseases and create awareness among all relevant stakeholders as necessary in the human health, agriculture, wildlife, fisheries, animal shelter and environment sectors, and others.
- Explore possibilities for including the marine and wildlife sectors more substantively in the relevant activities of the HCC.
- Set up mechanisms and capacities for enhanced coordination, communication and collaboration between the Bureau of Public Health, the Bureau of Agriculture, and the marine and wildlife sectors on surveillance and early response to zoonotic diseases. Finalize the existing draft MOU for overarching collaboration in prevention and control of zoonotic disease.
- Develop a zoonotic disease prevention and control plan (including to ensure availability of rabies post-exposure prophylaxis and PPE).
- Conduct regular tabletop simulation exercises for zoonotic disease events.

FOOD SAFETY

INTRODUCTION

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

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

LEVEL OF CAPABILITIES

Palau has developed comprehensive environmental health regulations and guidelines on proper handling of food. The Division of Environmental Health is responsible for food safety, relying on a pool of well-trained staff from the MOH to enforce it.

Laboratory tests can be done in Palau for a range of food-related diseases, and reference laboratories outside the country can be accessed for the detection of contaminants or organisms that cannot be diagnosed in-country. Environmental Health Inspectors carry out food safety inspections (e.g. in grocery stores, catering facilities and restaurants), and also inspect a wide variety of other types of premises and businesses. Inspection services are currently hampered by a shortage of sufficiently trained staff. The training schedule for inspectors could be improved.

Due to the limited level of agricultural production in Palau, most of the food for the local population and the considerable number of tourists passing though the country is imported. Food products originate from various countries including Australia, Japan, Taiwan, China and the USA. Customs officers inspect certifications of goods that arrive at the national airport and commercial seaport.

A non-veterinarian conducts meat inspection at Palau's only slaughterhouse, which is located near the capital and is mainly used for the slaughter of pigs for traditional ceremonies. Animals slaughtered at household level do not undergo any inspection.

Although there has been a limited number of food safety incidents in recent years, past events have shown that the MOH has the capacity to identify and manage food safety risks. In the event of a food incident occurring at national scale, the NEC and the NEMO can be activated. The limited number of food safety incidents reported might reflect limited capacity for detection and risk assessment of those incidents.

The focal point for the International INFOSAN is the Chief of the Environmental Health Division of the MOH. Although Palau is not a member of OIE, the director of the Bureau of Agriculture reports the disease situation in Palau to the OIE through the SPC on a regular basis.

Indicators and scores

P.5.1 Surveillance systems in place for the detection and monitoring of foodborne diseases and food contamination – Score 4

Strengths and best practices

- The food safety system in Palau makes use of indicator-based surveillance of priority food-borne diseases and event-based surveillance in a national notifiable disease surveillance system.

- At the national level, a trained team is able to assess foodborne events, collect and transport appropriate specimens to a laboratory, and identify various aetiological agents.

- Within the MOH there is an effective mechanism for rapid information exchange throughout event investigations or during suspected outbreaks of foodborne disease.

Areas that need strengthening and challenges

- There is a need to strengthen inspection services, in terms of both human resources and procedures.

- Laboratory capacities should be expanded to include detection of a range of relevant residues and some additional foodborne microorganisms.

- A consumer reporting channel should be established for food safety events such as food product contamination, giving the general public a means of reporting relevant incidents.

P.5.2 Mechanisms are established and functioning for the response and management of food safety emergencies – Score 3

Strengths and best practices

- A food safety emergency plan is available, along with a number of manuals and guidelines produced by the MOH to reduce the risks presented by food safety threats.

- The NEC and the NEMO can be activated to assist in addressing national scale food safety incidents.

Areas that need strengthening and challenges

- A multisectoral collaboration platform on food safety should be established under the umbrella of the HCC to enhance communication and coordination with partners outside the MOH.

- There is a need to strengthen staff capacities and enhance procedures for investigating foodborne outbreaks, including for the trace back of implicated foods during food safety events, as well as reporting procedures for food safety events with international implications through INFOSAN.

Recommendations for priority actions

- Strengthen inspection services and laboratory capacity to detect additional foodborne pathogens and selected residues in foods.

- Enhance messaging for prevention of foodborne diseases for food operators and the general public, and for risk communication during outbreaks.

- Develop case studies and simulation exercises to test and enhance capacities for outbreak investigation and response.

BIOSAFETY AND BIOSECURITY

INTRODUCTION

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

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

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

LEVEL OF CAPABILITIES

The Palau Biosecurity Act came into effect in 2016 and contains comprehensive details covering border security, importation of goods, and clearance and management procedures. This system has utility for the laboratory sector, especially for import permit approvals – which may be relevant in the future for the importation of materials for external quality assessment programmes or other biological assay controls.

Palau has a single national laboratory, located at the BNH. The US CDC has provided biosafety training to national laboratory staff, and a comprehensive biosafety manual has been prepared but is yet to be officially implemented. Ongoing training for laboratory practices, international shipping and transportation of infectious substances and biosecurity are managed via online tools, regional training and local regulatory staff. Local training capacity for the national laboratory is provided by the MOH Biosafety Officer.

Biosafety practices have limited oversight and reach beyond the BNH. Other sectors, including community health centre laboratories, private laboratories, animal laboratories and environment laboratories, have limited capacity to engage with core biosafety requirements and carry out little ongoing training or education, due to their small scale. All elements of biosafety management related to human health are conducted at the BNH, community centres and private laboratories, while elements related to the animal and environmental sectors, though limited, are managed by the Bureau of Agriculture Division of Environmental Health and the EQPB.

Biosecurity and biosafety for human health is limited to infectious patient materials. No dangerous pathogens are cultured or stored in Palau (a reflection of the country's limited diagnostic and laboratory infrastructure and capacity). Biobanking of positive patient material is planned for the future, and considerations for appropriate storage, inventory and security are underway.

Key strengths include a comprehensive biosafety manual, biosafety training linkages to external facilities, and ongoing accreditation for international shipping.

Areas for consideration and strengthening include the interaction of local biosafety officers with community level and private laboratories; strengthening of the animal and environmental laboratory sectors; providing ongoing biosafety training opportunities and assessments; and improving the inventory of hazardous materials and toxins.

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 2

Strengths and best practices

- Palau carries out active pathogen monitoring and notifications to the MOH.
- A comprehensive Biosecurity Act was implemented in 2016.
- A biosafety manual has been drafted and submitted to the MOH for approval.
- A biosafety officer role has been established for the national laboratory, and self-assessment audits have been conducted.
- Staff at the national laboratory and animal shelter have been trained for international shipping and transport of infectious goods.
- A new facility for the agricultural sector/plant protection is nearing completion.
- Staff monitoring and post-exposure intervention and prophylaxis are promoted.

Areas that need strengthening and challenges

- There is a need to improve inventory and security plans for the proposed biobank for infectious patient materials.
- The national plan and regulation on biosafety should be applied to all of the human, animal and environmental laboratory sectors.
- Audit processes (from local and international sources) should be implemented.

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

Strengths and best practices

- Biosafety training has been provided to BNH laboratory staff via on-the-job training using US CDC guidance.
- A biosafety officer role has been established at the BNH laboratory.
- Staff from human and animal sectors have been trained on an international shipping course.
- There is annual training for staff at the Division of Biosecurity.

Areas that need strengthening and challenges

- There is a need for a biosafety officer role or other oversight mechanism for training in other laboratory and waste sectors, including community and private human health, animal health and the environment.
- The national laboratory biosafety manual should be approved and implemented as a guide at all laboratories.
- National biosafety and biosecurity regulations should be formally reviewed on a regular basis.
- Appropriate entry restrictions should be applied in areas handling or storing infectious materials, hazards or toxins.

Recommendations for priority actions

- Implement biosafety officer oversight and training in all laboratory sectors including at the BNH, in community health centres and private human health facilities, and throughout the animal and environment sectors.
- Establish entry controls and security and inventory systems for areas handling or storing infectious and hazardous materials.
- Implement, then review and revise the national biosafety and biosecurity regulations.

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.

LEVEL OF CAPABILITIES

Palau has a well-established and robust immunization programme. The Bureau of Public Health has a five-year strategic plan for 2015-2020 with objectives for immunization, as well as a comprehensive immunization workplan that includes specific goals and objectives addressing all aspects of programme operations. The country's small size and small population facilitate access to vaccination services, resulting in high immunization coverage rates. A testament to the success of Palau's immunization efforts is their recent certification by WHO for reaching the regional goal of <1% rate of hepatitis B among children. Palau's most recent vaccination coverage report from July 2019 showed that almost 98% of children had received at least one dose of measles containing vaccine. Recent outreach efforts have resulted in significant increases in immunization coverage.

Through a US CDC cooperative agreement, Palau receives funding and technical assistance to deliver a comprehensive childhood immunization programme that provides vaccination against: diphtheria; tetanus; pertussis; polio; measles; mumps; rubella; Haemophilus influenzae type b; hepatitis B; rotavirus; pneumococcal conjugate 13; and human papillomavirus (HPV). Immunization against influenza is also provided for frontline staff including health care workers, and immunocompromised individuals.

Nearly all births occur at the BNH, where neonates are automatically included in the national vaccine registry, or Immunization Information System (IIS). The IIS generates regular reports of individual patient immunization status, as well as population-based coverage rates and information that identifies areas with low vaccination coverage that might be vulnerable to outbreaks.

Public perceptions about vaccination are monitored primarily through face-to-face contact during clinical encounters and are not generally a topic of concern in Palau. Close-knit community bonds and public awareness of the advantages of immunization seem to outweigh negative perceptions. Very few parents in recent history have refused vaccination for their children.

While support from the United States of America has helped Palau build a strong immunization programme, the future is less clear due to the approaching end of the current Compact of Free Association (COFA) with the USA and the uncertain status of continued vaccine funding from CDC. Palau will need to explore new avenues of support for the immunization programme in the years to come.

Indicators and scores

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

Strengths and best practices

- Palau has a five-year vaccination work plan for the period up to 2023.
- Funding, technical support and vaccines are provided by the US CDC and follow the vaccination schedule of the US Advisory Committee on Immunization Practices.
- Vaccination is mandatory for school entry.
- An IIS generates monthly reports on patient vaccination status, as well as coverage data including identification of areas with low coverage rates. Data are entered in real time and are available to all immunization staff, facilitating opportunistic immunization and identification of unimmunized or under-immunized children in the event of outbreaks of vaccine-preventable disease.
- Strategic plans are in place and include vaccine-specific coverage targets.
- Catch up campaigns have increased childhood vaccination coverage.
- Collaboration with the Head Start Programme in schools and with parent teacher associations helps maintain preschool and school age coverage.
- The IIS has a disaster plan.
- Palau has established a cross-cutting immunization programme core team comprising stakeholders from different agencies and sectors.

Areas that need strengthening and challenges

- There is a need to address staffing gaps and build a stronger system for delivering vaccination services inside and outside the clinic setting.
- There is a need to improve outreach to families to facilitate follow-up and maintain current location and contact information for patients.

P.7.2 National vaccine access and delivery – Score 5

Strengths and best practices

- Palau has a single central vaccine storage facility at the BNH, equipped with a backup generator and constant temperature monitoring and recording.
- Robust and comprehensive vaccine storage and handling protocols are in place and were reviewed and approved by CDC subject matter experts in March 2019.
- Palau participates in a strong, reliable and well-established US CDC system for vaccine ordering and delivery.
- A school vaccination programme is in place that provides vaccination against HPV to all students, and vaccination against diphtheria, tetanus and pertussis if needed.
- A vaccination awareness campaign is run through school parent-teacher meetings.

Areas that need strengthening and challenges

- There is limited national funding of human and financial resources for programme delivery.
- A temperature measurement and monitoring system is required to allow long-term monitoring and analysis of the vaccine cold chain.
- There is a need to diversify funding sources and opportunities for pooled procurement of vaccines in case US government funding, provided under Palau's COFA, is not renewed. This could include, for example, the Vaccine Independence Initiative programme of the United Nations Children's Fund (UNICEF).

Recommendations for priority actions

- The Palau MOH CORE immunization team should develop and execute a plan for more routine community outreach to identify and locate under-immunized children and bring their vaccinations up to date.

- The MOH should work to identify additional sources of funding for vaccines and immunization staff through the national government (e.g. from the national insurance programme or from taxes on tobacco, alcohol or unhealthy food) and through development partners.

- Efforts should be made to strengthen the vaccine cold chain, including through increased temperature monitoring at satellite sites and during vaccine transport, and regular testing of the system.

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.*

LEVEL OF CAPABILITIES

The Palau laboratory system is comprised of a single national laboratory, located at the BNH. A small, tiered sub-national system exists, with limited laboratory capacity located in three private clinics and eight community health centres. The community health centres are linked to the hospital and refer samples accordingly.

The animal sector is poorly represented in the national laboratory system, but this reflects the extremely limited nature of Palau's livestock and animal sector industries, the latter of which is mostly related to domestic pets. There is some minor laboratory capacity at the Koror State Animal Shelter, but this is not related to infectious diseases.

Local human testing services have prioritised 10 core notifiable human diseases. Testing for the remainder is accessed through established referral pathways at the Hawaii State Laboratory and the Guam Public Health Laboratory. Palau's smaller laboratories provide point-of-care testing and limited serology, and one provides PCR testing for chlamydia and gonorrhoea, and some other basic tests.

Key strengths include a good level of laboratory service capacity despite a small population base; the existence of testing algorithms for core diagnostic capacities; established referral networks (out of country); the ability to perform key tests rapidly; and participation in external quality assurance programmes for targeted tests.

Key areas for strengthening include the implementation of a drafted national laboratory quality system; formalizing a national laboratory accreditation/licensing regulator or system; and implementing cross-sectoral engagement of human health and animal health linkages. Provision of additional priority testing services could be considered, in conjunction with MOH support to complement existing services.

Indicators and scores

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

Strengths and best practices

- National diagnostic testing algorithms are established for performance of core laboratory capacity.
- Seven of 10 priority diseases are tested locally.
- Established test referral pathways and arrangements exist with multiple international providers of services not available in Palau.

Areas that need strengthening and challenges

- There is a need to strengthen linkages between human and animal health sectors for laboratory diagnosis and/or information exchange.
- There is a need to establish equipment maintenance/service contracts.
- Procurement processes should be improved to guarantee reagent supply.

D.1.2 Specimen referral and transport system – Score 4

Strengths and best practices

- Well-established test referral pathways and arrangements exist with multiple international laboratories.
- Palau participates in regional laboratory networks (e.g. the United States Affiliated Pacific Islands Regional Lab Network) and has multiple trained international shippers in both the human and animal health sectors.

Areas that need strengthening and challenges

- The specimen transport referral system should be supported by both the MOH and the Ministry of Agriculture.
- Referral test options should be expanded with existing and additional reference laboratories.

D.1.3 Effective national diagnostic network – Score 2

Strengths and best practices

- Community health clinics and private clinics perform some core testing.
- Notifiable diseases are reported by the national laboratory and the community health clinics.

Areas that need strengthening and challenges

- Linkages should be implemented between the human and animal health sectors.
- Testing implementation should be expanded for MOH-prioritized diseases.
- Referral test options should be expanded to existing and additional offshore reference laboratories.

DETECT

D.1.4 Laboratory quality system – Score 2

Strengths and best practices

- The national laboratory participates in an external quality assessment programme provided by the Pacific Paramedical Training Centre in New Zealand.
- TB testing and verification and reference testing are facilitated through the PIHOA.

Areas that need strengthening and challenges

- Accelerate approval and implementation of the national laboratory quality system.
- Establish a laboratory accreditation system for national laboratories, community health centre laboratories and private laboratories.
- Implement qualification and registration programmes for in vitro diagnostic devices for use in national, community and private laboratories.

Recommendations for priority actions

- Implement linkages between the human and animal health sectors, for example, by establishing systems for information exchange and cooperation.

- Accelerate approval and implementation of the National Laboratory Quality System.

- Establish a laboratory accreditation system for national, community health centre and private laboratories.

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.*

LEVEL OF CAPABILITIES

Palau has two complementary infectious disease surveillance systems operated by the MOH: notifiable disease surveillance and syndromic surveillance. Thirty-eight priority infectious diseases are monitored as national notifiable diseases at the BNH, in community health centres and in private health clinics. The BNH uses a web-based electronic reporting system for notifiable diseases and carries out syndromic surveillance on six syndromes.

The MOH EpiNet Team, a multi-disciplinary group of clinical and public health professionals, coordinates surveillance and outbreak response activities and functions as a monitoring body for surveillance data, a facilitator of communication and a body to inform policy and planning.

Weekly syndromic surveillance reports and ad hoc situation reports on unusual events are being developed by the MOH and shared with relevant stakeholders including the Pacific Public Health Surveillance Network and WHO. The MOH participates in monthly US-Affiliated Pacific Islands Epi Rounds calls that facilitate peer-to-peer exchange of surveillance information and outbreak updates.

Monitoring of diseases in animals is conducted on an ad hoc basis by the Bureau of Agriculture, under the Ministry of Natural Resources, Tourism and Environment.

Indicators and scores

D.2.1 Surveillance systems – Score 2

Strengths and best practices

- Joint training is carried out with points of entry partners to improve disease surveillance and response at points of entry.
- Information is shared between the public health and environmental health sectors with regard to risk of water contamination and gastroenteritis outbreaks, informing actions in both sectors.

DETECT

Areas that need strengthening and challenges

- There is no public health law or regulation that explicitly requires reporting of notifiable diseases and conditions to the MOH.
- The event-based surveillance system needs to be strengthened in order to function in both the public and private health sectors.
- The introduction of event-based surveillance in community settings should be considered.
- Monitoring of animal diseases is done on an ad hoc basis.
- Information sharing between the public health, animal health and environmental health sectors should be formalized.

D.2.2 Use of electronic tools – Score 3

Strengths and best practices

- A web-based electronic reporting system for notifiable diseases has been set up at national level and includes laboratory information.
- The system was recently upgraded, and training was provided to relevant staff.
- Palau provides annual training on the surveillance system to MOH clinical staff to increase understanding around data collection.

Areas that need strengthening and challenges

- Electronic reporting should be extended to include community health centres and private health clinics.

D.2.3 Analysis of surveillance data – Score 2

Strengths and best practices

- The EpiNet team convenes periodically. It also convenes in response to potential health threats to conduct risk assessments and determine courses of action.
- Weekly syndromic surveillance reports and situation reports on unusual events are developed and shared with relevant stakeholders, including the Pacific Public Health Surveillance Network and WHO.

Areas that need strengthening and challenges

- Palau should conduct regular activities on analysing reported diseases and syndromes, performing risk assessments and disseminating surveillance data through epidemiological bulletins.

Recommendations for priority actions

- Legislate for the notification of infectious diseases in both humans and animals.
- Strengthen the event-based surveillance system to make it fully functional, including by implementing event-based surveillance in public and private facilities and in communities.
- Review and streamline the existing surveillance system: revise SOPs and tools to ensure they reflect current best practice; improve reporting functions; and consider the planned transition to a system of electronic medical records.
- Formalize a One Health working group to facilitate information sharing between the human, animal and environmental sectors.
- Produce periodic epidemiological bulletins and disseminate them widely among relevant stakeholders.

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, the OIE delegate, and World Animal Health Information System NFP 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 to/information of FAO and OIE.*

LEVEL OF CAPABILITIES

The Director of the Bureau of Public Health at the MOH serves as the IHR NFP. As a member of the NEC, the national focal point can consult on and coordinate issues concerning public health emergencies, in line with the WHO guide for IHR NFPs.

In 2009, Palau's IHR NFP notified WHO of a number of cases of pandemic influenza A(H1N1)pdm09. No further public health events have been notified through IHR communication channels since, although Palau shares information and consults with WHO on a range of public health events.

Palau also shares surveillance reports with other Pacific island countries and areas through the Pacific Public Health Surveillance Network (PPHSN), and regularly contributes to the Pacific Syndromic Surveillance System of the PPHSN.

The IHR NFP has participated actively in the annual IHR "Crystal" exercise organized by the WHO Regional Office for the Western Pacific, and has tested Palau's capacity for communication through IHR channels and ability to respond to international public health threats in coordination with relevant stakeholders. In 2018, the IHR NFP coordinated multisectoral participation in Exercise Crystal.

The Bureau of Agriculture of the Ministry of Natural Resources, Environment and Tourism serves as the national focal point for OIE, although Palau is not an official member of the OIE. Nonetheless, the country periodically shares animal disease information on a voluntary basis.

DETECT

Indicators and scores

D.3.1 System for efficient reporting to FAO, OIE and WHO – Score 3

Strengths and best practices

- The MOH Bureau of Public Health, together with relevant members of the NEC, participated in the Exercise Crystal in December 2018, testing the IHR NFP's role in reporting.

Areas that need strengthening and challenges

- Training is required on the process of assessing and reporting an event with the potential to be a PHEIC, including use of IHR Annex 2 (the use of which is also encouraged in day-to-day epidemiologic assessments of surveillance data).

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

Strengths and best practices

- The IHR NFP is a member of the NEC and is therefore able to consult on and coordinate public health emergency issues with the NEC's wide range of members.

Areas that need strengthening and challenges

- A protocol should be developed for assessing and reporting public health events of potential international concern.
- Terms of reference should be developed for the role of the IHR NFP, and these should be implemented during public health emergency response activities.
- The IHR (2005) Annex 2 Decision Instrument should be systematically used to assess the need for formal notification to WHO of public health events with the potential to spread within and beyond the Pacific region.

Recommendations for priority actions

- Develop protocol/training to assess and report potential public health emergencies of international concern, including through the use of the IHR Annex 2 Decision Instrument.

- Ensure the national IHR focal point is available 24/7. Empower backup officers to comply in a timely manner with IHR requirements for assessing and reporting potential public health emergencies of international concern.

- Strengthen communication and collaboration for joint reporting by the animal and human health sectors, through the IHR NFP, the OIE focal point and INFOSAN emergency contact point.

DETECT

HUMAN RESOURCES

INTRODUCTION

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

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

Target

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

LEVEL OF CAPABILITIES

The Palau health system workforce is commensurate with the needs of a country of 17 661 people. Most MOH staff remain in the ministry for more than 10 years. The workforce is financed both by revolving grants from the USA and by local funds. The MOH is trying to retain the public health workforce in a number of ways, for example, through providing merit and yearly incentives, off-island training through the Pacific Online Learning Health Network, and other off-island or online courses offered through WHO and the MOH which count towards a degree (and consequently better positions in the system).

Human resources for the IHR (2005) are in place, but there are shortages in certain specialties. For specialized roles such as epidemiologists and veterinarians there is often only one staff position available, meaning that these individuals have high workloads and disproportionate responsibility. In Palau, the majority of the health workforce are employed at the national level, as the country has only one hospital and nine community health centres. Any professionals working in the community health centres are able to communicate directly with chiefs and directors who are national level staff. Outbreak responses are run at national level.

Palau has the Palau Community College (PCC), but no university, and all staff need to gain their professional degrees off-island. Short and long-term training programmes are, however, available for various professions, including the Data for Decision Making (DDM) course, which is a product of the PPHSN. This programme originated as a set of outbreak epidemiology and response workshops created by the US CDC. Students who pass all five modules of the DDM course are awarded a postgraduate certificate in applied epidemiology from Fiji National University. The first cohort on this programme was part of a larger group from other islands, with three graduates from Palau; and the second cohort (of 12) was Palau-specific.

DETECT

Indicators and scores

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

Strengths and best practices

- Palau has a draft human resources for health strategy that covers the full range of tasks and services in the health sector.
- There are job descriptions for the various career tracks and positions within the health sector.
- Career progression is aided by clearly defined career ladders and competency standards, and regular performance appraisals.
- Occupational health and safety in the public health system covers all MOH staff.

Areas that need strengthening and challenges

- The draft workforce development plan needs to be implemented. A strategy to develop the health care workforce exists but does not include all relevant sectors of the public health professions.
- There is limited collaboration between the human and animal health workforces.

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

Strengths and best practices

- Current human resource capacity is sufficient for the size of the country.
- Outbreaks are always run from the national level, and Palau is able to request assistance if required from WHO, the US CDC and the US ESAR-VHP.

Areas that need strengthening and challenges

- The number of trained professionals able to respond to outbreaks and emergencies is limited.
- Specialized professionals are assigned only at a national level.
- The animal workforce needs to be strengthened, as do its linkages with the human health workforce.
- There is limited financing for specialized professionals.

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

Strengths and best practices

- There are continuous education programmes for the health workforce that include outbreak preparedness. The Licensing Board of Palau certifies the continuous education conducted for all staff.
- The PCC provides short- and long-term training programmes, including in surveillance and emergency preparedness.
- Off-island training for laboratory specialists and assistants is provided in the Republic of the Philippines.
- Health staff are regularly provided with training opportunities through the US CDC and other partners.

Areas that need strengthening and challenges

- While some training is available for various professions/teams through disease-specific programmes or targeted initiatives, these are mostly ad hoc.
- There is no continuous education for workers in the animal health sector.

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

Strengths and best practices

- Palau has access to training programmes in other countries – such as Australia, the Republic of Cuba, the Republic of Fiji, New Zealand, the Philippines, Taiwan, China and the USA – that provide professional qualifications. However, Palau would like to be self-sufficient.

- The US CDC and the PIHOA run a DDM course. This course is open to MOH staff interested in pursuing formal degrees in data and epidemiology.

Areas that need strengthening and challenges

- There is a need to establish a formal degree programme in the PCC.

- With only one epidemiologist in the country, managing a prolonged outbreak or simultaneous multiple outbreaks is going to be particularly challenging.

Recommendations for priority actions

- Implement the draft public health workforce development plan, and ensure it is reviewed, tracked, updated and reported regularly (at least annually).

- Develop training plans and conduct regular training, including on the One Health approach to meet the requirements of the IHR (2005) at all levels.

- Encourage and facilitate relevant staff to access field epidemiology training to build capacity and lessen the load on current staff. Ensure that Palau has sufficient epidemiological capacity.

DETECT

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

LEVEL OF CAPABILITIES

Palau can rely on a robust emergency preparedness system based on a NDRMF, most recently revised in 2016, which ensures the participation of an extensive range of national partners. Representatives of various national entities, the health sector among them, meet every quarter under the chair of Palau's Vice-President as the NEC. In this forum they exchange experiences and discuss actual events and near-emergencies. The system is financed through the national budget and is supported by funding through the COFA agreement between Palau and the USA as well as other foreign grants.

The NDRMF outlines the national risk profile in detail, explains the roles and responsibilities of each member of the NEC, and lists response agencies with lead or supporting roles during declared emergencies and disasters. Operational activities are coordinated through the NEMO, using the National Emergency Operations Centre (NEOC).

The Bureau of Public Health is the lead agency during health emergencies within the context of the IHR (2005) and has built substantial capacity in public health emergency preparedness and hospital preparedness. Its activities have benefited from the financial and technical assistance of the US Department of Health and Human Services for a number of years. The 15 competencies outlined in the US CDC Public Health Emergency Preparedness Cooperative Agreement Program align very closely with the 19 technical areas of the IHR (2005), and have greatly helped facilitate Palau's implementation thereof.

In the context of emergency preparedness, Palau still has needs in the areas of animal health and capacity to respond to chemical/radiation events.

Indicators and scores

R.1.1 Strategic emergency risk assessments conducted and emergency resources identified and mapped – Score 4

Strengths and best practices

- Palau has a national emergency risk profile based on strategic multi-hazard emergency risk assessments.
- Palau has a national inventory and mapping of available resources for emergency responses, including responses to PHEICs.
- The MOH maintains a minimum inventory list of medical supplies such as pharmaceuticals, PPE and relevant technology.
- Palau has access to the US Strategic National Stockpile (SNS), including for vaccines and prophylaxis, PPE, etc.
- A Regional Hazard Vulnerability Assessment (HVA) was done in Guam in 2016.
- A Community HVA was conducted in all states in Palau in 2018-2019.
- The most recent inventory of national resources for emergency preparedness was conducted in 2018.

Areas that need strengthening and challenges

- Palau needs to maintain the capacity to monitor priority and emerging risks in all sectors.
- Capacity to perform risk mapping of animal-related emergencies should be increased.
- There is a need to strengthen national capacity to respond to chemical and radiation events.

R.1.2 National multisectoral multi-hazard emergency preparedness measures, including emergency response plans, are developed, implemented and tested – Score 3

Note: There is no commercial livestock production in Palau. Some chickens and pigs are kept in subsistence backyard husbandry systems. The animal health services currently have no veterinarian working at national level, and there is an overall lack of personnel to provide animal health services at national or local level. Nevertheless, linkages between the MOH and the Bureau of Agriculture in the Ministry of Natural Resources, Environment and Tourism are established and functional, despite limited animal health capacity. There remains a need to strengthen animal health capacities to ensure full capabilities for emergency preparedness.

Strengths and best practices

- The NDRMF and mechanisms for coordinating emergency preparedness are based on a multi-hazard, whole-of-society approach.
- The MOH has a multi-hazard plan for coordinating emergency measures.
- The national plan addresses measures to prepare for mass gathering events.
- Human resources have been identified for emergency preparedness, and funding is available.
- The national plan incorporates SOPs that describe actions for response management.
- Contingency plans have been developed for high priority risks and specific events, including health emergencies.

Areas that need strengthening and challenges

- The upcoming revision of the NDRMF needs to address IHR-specific requirements that are currently not included.
- There is a need to enhance preparedness/response infrastructure and communication equipment.
- The needs of state and local multi-hazard responses must be included in plans.
- Implementation of corrective action referenced in past AARs must be incorporated in future planning.

Recommendations for priority actions

- National multi-hazard emergency response plans must include appropriate coordination at and between national and state levels.
- Plans must be regularly exercised through tabletop, field and full-scale simulation exercises.
- The Public Health Emergency Operations Plan should be updated and aligned with or incorporated into the NDRMF.
- Include risk mapping of animal-related emergencies in future plan and framework updates.
- Develop a business continuity plan in the BNH and throughout all relevant sectors to enhance resilience.

RESPOND

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 EOC functioning according to minimum common standards; maintaining trained, functioning, multisectoral rapid response teams, and trained EOC staff capable of activating a coordinated emergency response within 120 minutes of the identification of an emergency.*

LEVEL OF CAPABILITIES

Palau has a well-established mechanism to activate response operations in national emergencies, including public health emergencies.

At the national level, the NEC convenes the NEOC for declared multisectoral, multi-hazard emergencies. Individual agencies, including the MOH and the Ministry of Public Infrastructure, Industries and Commerce (Airport), also maintain their own EOCs that can take lead or supporting roles under the NEOC. The MOH EOC may be assembled within 60 minutes of first notification and is sited at the BNH.

The national point of contact (the NEMO executive director) is available for 24/7 coverage of emergency operations, and the MOH Communicable Diseases Unit maintains a hotline that can be accessed 24/7 for public health events and emergencies.

Palau has a Hospital and Public Health Emergency Operations Plan. The multisectoral HCC coordinates actions under the leadership of the NEMO, the Bureau of Public Safety, and the Bureau of Public Health. The HCC receives regular training and holds quarterly meetings.

States and emergency response agencies in Palau have their own disaster plans that are aligned with the NDRMF. An incident command system is fully integrated in the Palau government.

A combination of health emergency exercises is conducted more than once per year. Six of these have been conducted and documented in the past five years. Detailed AARs have been developed for each exercise and after real events to improve existing plans and procedures. Updating the Public Health Emergency Operations Plan reflecting the lessons of these exercises and events will further strengthen emergency response capacities in the public health sector.

The IHR's whole-of-government approach is expected to be included within NEC training in order to further strengthen Palau's response capacities in public health emergencies. Preparedness would also be boosted by the introduction of a business continuity plan in the BNH and other relevant elements of the health sector.

RESPOND

Indicators and scores

R.2.1 Emergency Response Coordination – Score 5

Strengths and best practices

- A national incident management system is in use in the health sector for all events.
- Training sessions on the incident command system and the emergency operations plan are conducted regularly for health sector staff and partner agencies.
- The NDRMF identifies the lead response and supporting agencies according to their emergency functions and includes the roles of public health science and expertise.
- The MOH has is a Hospital and Public Health Emergency Operations Plan.

Areas that need strengthening and challenges

- There is a need to strengthen linkages between the IHR's whole-of-government approach and the training activities of the NEC.

R.2.2 Emergency Operations Centre Capacities, Procedures and Plans – Score 5

Strengths and best practices

- EOC functionality is exercised many times a year through real events and drills.
- For health emergencies the MOH runs a multi-functional EOC at the BNH, which may be assembled within 60 minutes of first notification.
- The NEOC has stable stand-alone power generation and communication lines.
- There is a SOP for the National EOC that includes the roles and functions of EOC staff.
- The EOCs use standardized forms and templates for data management, reporting and briefing.

Areas that need strengthening and challenges

- The Public Health Emergency Operations Plan has not been updated since 2012.
- Infrastructure and EOC equipment require updating.
- State and emergency response agencies should provide the NEOC with their SOPs for emergency response.

R.2.3 Emergency Exercise Management Programme – Score 5

Strengths and best practices

- Six reported health emergency exercises have been conducted in the past five years.
- A full-scale exercise of the Mass Rescue Operation Plan was conducted in May 2018.
- The MOH EOC was operating a dengue fever outbreak response at the time of the JEE mission.

Areas that need strengthening and challenges

- There is a need to improve documentation and reporting of real events (including public communication) on a yearly basis.
- The lessons of training exercises and real events are not fully reflected in operational plans.

Recommendations for priority actions

- Update the Public Health Emergency Operations Plan to reflect lessons from exercises and real events.
- Include the IHR's whole-of-government approach within NEC training to strengthen response capacities in public health emergencies.

RESPOND

LINKING PUBLIC HEALTH AND SECURITY AUTHORITIES

INTRODUCTION

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

> ### Target
>
> *Country conducts a rapid, multisectoral response for any event of suspected or confirmed deliberate origin, including the capacity to link public health and law enforcement, and to provide timely international assistance.*

LEVEL OF CAPABILITIES

The NEC is a platform of mixed government entities, including public health and security stakeholders such as law enforcement agencies and border control. There is an agreement among all NEC members to cooperate in national emergencies.

In addition, a health-related emergency preparedness coalition, the HCC, was established under a 2015 executive order to function as a multisectoral platform for health-related emergency mitigation, preparedness, response and recovery. The HCC engages not only the animal sectors and fire and rescue, but also law enforcement and public health.

Palau's small size and short communication lines between government members, ministries, sector bureaus, agencies and state entities make operational and intelligence exchanges relatively easy. A functional mechanism is in place for timely and systematic information exchange between public health and law enforcement agencies in cases of deliberate and/or accidental events. However, there is no formal agreement on joint/shared risk assessment, and information sharing mechanisms between the public health and security sectors may not be reciprocal.

The interface between the public health and security sectors may be strengthened by identifying gaps in existing multisectoral mechanisms for information sharing and response through an exercise with a deliberate event scenario that has the potential to cause a public health emergency, and by formalizing the interface for joint risk/threat assessment, investigation and training.

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 2

Strengths and best practices

- There is an agreement between all NEC members to cooperate in national emergencies.
- Arrangements are in place for joint/shared risk assessments during events of public health and security significance.
- There is a functional mechanism for timely and systematic information exchange between public health and law enforcement agencies in cases of deliberate and/or accidental events.

Areas that need strengthening and challenges

- Information sharing mechanisms between the public health and security sectors are not reciprocal.
- There is no formal agreement between public health and law enforcement on joint risk/threat assessment, investigation and/or training.
- Palau is not yet a member of international organizations for law enforcement collaboration (such as Interpol, for example).

Recommendations for priority actions

- Assess the capacity of existing multisectoral mechanisms for information sharing and response through an exercise with a deliberate event scenario that may cause a potential public health emergency, in order to identify gaps between the public health and security sectors.

- Develop a robust interface between the public health and security sectors by formalizing joint risk/threat assessment and investigation protocols, and carrying out joint training on potential deliberate biological, chemical and radiological events.

MEDICAL COUNTERMEASURES AND PERSONNEL DEPLOYMENT

INTRODUCTION

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

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

LEVEL OF CAPABILITIES

Palau has plans in place for medical countermeasures (MCM), and for requesting assistance from foreign medical expertise in cases of emergencies or incidents that warrant expanding the national capacity for response.

As part of a COFA with the USA, Palau participates in the SNS programme of the US Assistant Secretary for Preparedness and Response. In the event of a large-scale emergency or disaster severe enough for local supplies to run out, the US SNS has large quantities of medicine and medical supplies available to all US States and territories, including the Republic of Palau. This includes antibiotics, chemical antidotes, antitoxins, life-support medication, IV administration, airway maintenance supplies, and medical/surgical items. These are contained within push packages that are positioned in strategically located, secure warehouses ready for immediate deployment to designated sites within 12 hours of the federal decision to deploy MCM assets. In order to receive these MCM assets, each state or territory, including Palau, must have plans and protocols to receive and distribute MCM medicine and medical supplies to local communities as quickly as possible. Palau has submitted an MCM plan outlining roles and responsibilities for the receipt, storage, staging, distribution and dispensing of MCM assets.

Palau also participates in the ESAR-VHP in partnership with the State of Hawaii and other regional jurisdictions such as Guam, the Commonwealth of the Northern Mariana Islands, the Federated States of Micronesia, and the Republic of the Marshall Islands. This capacity is still under development in Palau, but when complete it will identify currently employed and retired health professionals in Palau and neighbouring countries who can quickly meet surge capacity needs during a disaster. ESAR-VHP will verify the identification and credentials of health professionals in order to facilitate their rapid deployment. By registering through ESAR-VHP, volunteers' identities, licenses, credentials, accreditations and hospital privileges are all verified in advance, saving valuable time in emergency situations.

Indicators and scores

R.4.1 System in place for activating and coordinating medical countermeasures during a public health emergency – Score 3

Strengths and best practices

- Palau has a medical countermeasures plan in place that addresses regulatory, logistical and security concerns.

- Every five years an exercise is carried out to test the medical countermeasures plan and systems. The most recent full-scale exercise at the time of the JEE mission was in 2015.

- Palau has a one-month stockpile of medical countermeasures for use during public health emergencies.

- Palau participates in the US Assistant Secretary for Preparedness and Response SNS Program and can access medical countermeasure push packages in case of need. Packages include antibiotics, chemical antidotes, antitoxins, life-support medications, IV administration, airway maintenance supplies and medical/surgical items.

- Dedicated resources and staff have been identified for logistics related to delivery, receipt and tracking of medical countermeasures.

- The country has a Pandemic Influenza Plan that addresses countermeasures.

Areas that need strengthening and challenges

- A plan should be developed to ensure that medical countermeasures include appropriate animal incident countermeasures. Countermeasure arrangements should include a supply of products in accordance with One Health needs.

- Arrangements should be made with other countries in the region to coordinate regional support.

R.4.2 System in place for activating and coordinating health personnel during a public health emergency – Score 2

Strengths and best practices

- Palau also participates in the ESAR-VHP, in partnership with the State of Hawaii and other regional jurisdictions.

- ESAR-VHP registration covers licensing and registration as well as standards for health personnel.

- The animal health sector is included in plans for sending/receiving personnel during an emergency.

- During a recent dengue outbreak, Palau established a new support mechanism with Taiwan for receiving public health specialists.

- The Pandemic Influenza Plan addresses personnel deployment.

- Palau has operational emergency medical teams (EMTs) identified that can be deployed locally to provide pre-hospital clinical care.

Areas that need strengthening and challenges

- Palau should complete a national plan for receiving and sending health emergency response personnel and include plans for EMTs.

- Palau should address liability, safety and financial aspects for medical personnel who are deployed.

- There is a need to develop plans for surge staffing for public health emergency response, and to include expertise for chemical and radiation incidents.

- A quality assurance or accreditation system should be implemented for nationally deployable EMTs.

R.4.3 Case management procedures implemented for IHR relevant hazards – Score 3

Strengths and best practices

- Case management guidelines for priority diseases and IHR-relevant hazards exist at all levels of the health system.

- SOPs are in place at the local level and at POE for the management and transport of potentially infectious patients.

- Patient referral and transportation mechanisms are available and adequately resourced.

- Staff for case management of IHR-relevant emergencies are appropriately trained.

Areas that need strengthening and challenges

- There is a need for further training of staff to recognize, treat and manage incidents of a chemical and/or radiological nature.

- The HCC should cover operational tasks and/or EMT participation in support of surge capacity for health incidents.

Recommendations for priority actions

- Assess resources for medical countermeasures from a One Health perspective, with assistance from subject matter experts to determine their capacity to address all needs related to public health response.

- Complete the national plan for receiving and sending health personnel to include full implementation of the ESAR-VHP. The plan should also assess and address emergency medical team capacity.

- Develop a system to recognize, treat, and manage chemical and/or radiological incidents that includes training of local staff and utilization of regional and international subject matter expertise.

RESPOND

47

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.

LEVEL OF CAPABILITIES

The foundations of good risk communication are in place in the Republic of Palau. Risk communication is considered an integral part of risk management and there is an open approach to sharing information in Palau in line with established mechanisms for information exchange between government agencies, community and opinion leaders, civil society organizations, the private sector and the public, and with the media. At the government level this is reinforced through regular meetings to plan and disseminate information, education and communication materials (e.g. as part of emergency preparedness), as well as proactive health promotion and risk reduction communications. Information products are disseminated through the media and posted at government facilities and throughout the community.

The NDRMF (amended 2016) specifies that warning systems must be people-focused and integrated with one another in order to ensure effective dissemination and communication networks from a national to community level and to outlying states. The framework includes a risk communication function that specifies roles and responsibilities. During declared emergencies, the National EOC Incident Commander determines crisis communication goals and objectives, and tasks all agency PIOs through their sectoral incident commanders. This has been demonstrated in recent emergency responses.

Risk communication messages are developed according to the risk communication goals and objectives of the NEC, and are tailored to specific target audiences, including women, youth, and hard-to-reach communities and groups. The NEC's Hazard Mitigation Subcommittee (also known as the Risk Reduction Committee) is comprised of all agencies responsible for various aspects of disaster risk reduction and assists with relevant public awareness programmes. The National PIO, assigned by the Office of the President, takes on the role of lead communicator.

For issues that have not been declared national emergencies, the PIO of the lead agency's EOC will coordinate all risk communication activities. This mechanism facilitates coordination and alignment of risk communication across agencies, for example, during the 2016 Palau drought, the MOH, Ministry of Education and the EQPB implemented emergency plans to educate the public about water conservation measures and to increase awareness of the need to take precautions around drinking water quality.

Risk communication functions are exercised during drills and real events, and lessons are documented in AARs (which are systematically conducted in Palau). Risk communication training is provided annually for response agency personnel, including staff of the Community Advocacy Programme and all other NEC members. Information exchange and dissemination mechanisms are defined within emergency response plans. The MOH Risk Communication Plan 2013 is an example which defines objectives, roles and responsibilities to build and maintain trust and effective communication with the community, media and partners, before, during and after a health emergency. Palau has well-established approaches to providing information to the public during emergencies, including the use of credible spokespeople and a variety of media platforms. Teams within the MOH, the NEMO and other sectors understand and have strong linkages with their local communities.

The NEMO and the MOH also have a range of formal and informal mechanisms to coordinate their internal communications during an emergency, as well as mechanisms to communicate with each other, other agencies and international stakeholders.

Preventing the misperception of risk begins with effective communication and dynamic listening to ensure the inclusion of a diversity of community viewpoints when making risk management decisions. The speed of modern media means that misinformation can spread quickly during emergencies, posing a challenge to governments to keep stakeholders and the community well informed about the impact of an event, what is being done to mitigate or control risk, and the response on the ground.

This notwithstanding, community and/or stakeholder misperception of risk, and its potential to reduce the effectiveness of risk communication and damage trust and an agency's credibility (reputational risk), are not currently considered an independent risk factor during emergency risk assessments in Palau.

Indicators and scores

R.5.1 Risk communication systems for unusual/unexpected events and emergencies – Score 4

Strengths and best practices

- Agencies responding to emergencies take a common approach to risk communication planning and operations through the NEOC, and risk communication is included in agency and multiagency emergency exercises. Training in risk communication is conducted annually for emergency responders.
- There a dedicated budget line for communication personnel, materials and activities for emergencies.
- There are communications personnel and departments that formally respond to public information needs during emergencies.
- The lead agency's EOC PIO coordinates all risk communication activities in any relevant situation that has not been declared a national emergency.
- Timeliness of risk communications is supported by pre-existing templates and tools that can be rapidly adapted to communication needs (e.g. templates for a first announcement of an outbreak).
- Although this mechanism has not yet been tested, the national HCC could be used to mobilize risk communication surge staff to support response agencies during emergencies by sourcing risk communicators from agencies not involved in the response.
- Communication mechanisms are tested on an annual basis during drills and actual events.

RESPOND

Areas that need strengthening and challenges

- Risk communication officers are not systematically involved in risk assessment, but are brought in to support emergency responses at the risk management stage.

- Community and/or stakeholder misperception of risk, and its potential to reduce the effectiveness of risk communication and damage trust and an agency's credibility (reputational risk), are not currently considered risk factors during emergency risk assessments in Palau.

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

Strengths and best practices

- The NEOC Incident Commander is mandated to coordinate interagency communications during a nationally declared emergency.

- There is a formal mechanism to coordinate internal communication within the MOH before, during and after an emergency. Recent responses to national and regional emergencies (such as the spread of dengue in the Pacific) have tested interagency coordination of communications.

- The Palau government has a dedicated budget for communications and responses to external partners and stakeholders.

- Palau regularly exercises risk communication capacities and coordination with partner organizations. Examples include annual participation in the WHO IHR Exercise Crystal, and the AAR of the SNS full-scale exercise conducted in 2015.

Areas that need strengthening and challenges

- There is a need for clearer delineation of roles for risk communication; an agreed channel and centralized source for information exchange with national and international stakeholders; more efficient sharing of resources; and formalization of working arrangements between risk communication staff within and between sectors (e.g. for surge capacity), in order to further strengthen stakeholder relationships.

- The establishment of a joint information centre would facilitate these activities.

- A central mechanism to ensure the consistency and credibility of information being disseminated would further strengthen the quality and acceptability of risk communication materials.

R.5.3 Public communication for emergencies – Score 4

Strengths and best practices

- The MOH and the NEMO have communication strategies and trained PIOs. All MOH spokespeople are media trained.

- During an emergency response, the lead agency has a team that coordinates with the National PIO for all public communications.

- Palau has an expedited process for clearing media and social media information releases.

- The MOH conducts social research to identify the best media and methods to disseminate risk communication messages and materials and guide their development. Cultural and language needs are considered, as well as which communication methods are best absorbed and internalized by the target audiences.

Areas that need strengthening and challenges

- Additional media research to determine the effect of targeted audience messaging is needed to improve the effectiveness and reach of risk communication.

R.5.4 Communication engagement with affected communities – Score 4

Strengths and best practices

- The MOH is experienced in adapting risk communication media and methods to target audiences (e.g. through running peer-to-peer youth programmes and communication campaigns about the risk of Zika virus for pregnant women).

- The team that the MOH uses for social mobilization, health promotion and community engagement during emergency responses is integrated within the public health system. Health promotion teams reach out to affected or at-risk populations through the community health centres.

- Social mobilization, health promotion and community engagement are part of the NDRMF.

- There are information hotlines in place for affected populations to contact response agencies during emergencies.

- Analysis of risk factors for community engagement has been undertaken.

Areas that need strengthening and challenges

- There is a need to improve the ability to identify key local personnel, volunteers or champions for trusted communication engagement with different population groups.

- Experiences of communication engagement with affected communities should be shared across sectors.

- Creation of a risk communication stakeholder management framework that includes the active monitoring of media and social media would assist the MOH in effectively targeting and mobilizing affected communities; monitoring and managing feedback; and quickly detecting and addressing misperceptions and misinformation.

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

Strengths and best practices

- The MOH monitors the effectiveness of responses to address unfounded beliefs or correct misinformation. During the 2016 Palau drought, the NEMO detected misperceptions and was able to intervene to restore community trust.

- Information on public perception, unfounded beliefs, risky behaviours and misinformation is shared with stakeholders.

- Communication responses to address perceptions, risky behaviours and misinformation are evaluated during AARs.

Areas that need strengthening and challenges

- The MOH's capacity to identify, triage and manage misinformation in a systematic way could be improved by harmonizing relevant procedures, training and exercises.

- The MOH should consider implementing operating procedures for managing risk perceptions, risky behaviours and misinformation. These should be linked with the Ministry's wider risk management processes.

Recommendations for priority actions

- The NEC should consider establishing a multisectoral communication hub or joint information centre to further strengthen the risk communication system during emergencies.

- The NEC and the MOH should include risk communicators during risk assessments, recognising the importance of risk perception in maintaining trust, steering individual and community decisions about the acceptability of risks, and influencing behaviours before, during and after an emergency.

- The MOH should look at options for strengthening community engagement, dynamic listening and the management of miscommunication during routine operations and emergency responses, including through developing targeted risk communications for vulnerable, marginalized and hard to reach groups.

- All sectors should identify a diverse group of community leaders, peer leaders, volunteers and/or champions to leverage their personal and collective leadership and social influence for trusted communication engagement and social mobilization.

RESPOND

IHR-RELATED HAZARDS AND POINTS OF ENTRY

POINTS OF ENTRY

INTRODUCTION

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

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

LEVEL OF CAPABILITIES

Palau has two declared points of entry under the IHR (2005): the Palau International Airport in Airai, and the seaport in Malakal, Koror. The airport receives most of Palau's international visitors, while the seaport primarily receives merchandise, food and consumer goods for national consumption and commercial activity.

Palau has a POE policy in place that outlines specified procedures for the entry of aircraft and vessels into the Republic of Palau. This policy is currently in the process of being approved for implementation but is not yet integrated into the National Emergency Response Plan. In addition to this policy, a number of further documents have been prepared to support relevant functions: an MOU (in draft form at the time of the JEE mission) for the implementation of the IHR (2005); a POE policy on cooperation between relevant government entities; a protocol for handling ships with persons on board needing medical attention; and the Palau International Airport Emergency Plan. Furthermore, there are flowcharts in place that describe in practical form the steps to be taken at the airport and seaport in case of health emergencies or incidents.

Intervention teams from the Bureau of Agriculture and the Bureau of Public Health are on standby and can be deployed at short notice in response to events at POE. The BNH, Palau's only hospital, has provisions for isolation and can be reached from both points of entry within about 10-20 minutes.

Palau has the capacity to complete deratting, but not to disinfect, decontaminate or disinsect.

In the event that any sick animals are identified on board an aircraft or vessel, biosecurity officers must contact the Koror State Animal Shelter so that the veterinarian can assess the animals, advise on their treatment and provide advice as required regarding any other animals on board the aircraft or vessel.

Personnel at both the airport and seaport receive regular training and updates on guidelines for action under normal and emergency circumstances. Staff have been trained on the procedures contained in the policy, on infectious diseases, and on the proper use of PPE.

Indicators and scores

PoE.1 Routine capacities established at points of entry – Score 3

Strengths and best practices
- An assessment of Palau's POE has been undertaken using the WHO POE tool.
- Policy guidelines for POE are in place.
- An MOU on implementation of the IHR (2005) at POE has been prepared between five ministries.
- A POE tabletop exercise on pandemic influenza took place in 2018.
- POE have access to equipment and personnel for transporting sick travellers to the BNH, including ambulance services and supplies including PPE.

Areas that need strengthening and challenges
- Inspection programmes should be enhanced in order to ensure safe environments at POE.
- The control programme for vectors should be improved, and a control programme for reservoirs at and surrounding POE should be implemented.
- There is a need to provide adequate space at POE for assessing suspected ill travellers or crew of aircraft/vessels.

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

Strengths and best practices
- Palau has a policy on POE that is aligned with the NDRMF.
- A public health emergency plan (2005) is in place and can apply to POE.
- Palau's designated POE have the capacity to apply recommended health measures for travellers and crew.
- Current POE staff are trained on the procedures contained in the POE policy, and training is available for inexperienced staff.

Areas that need strengthening and challenges
- There is a need for regular evaluation of the effectiveness of measures in place at POE for responding to public health incidents.
- The inter-ministerial MOU on POE policy is still pending approval at the cabinet level.
- There is a need to establish capacities at points of entry to inspect conveyances and issue Ship Sanitation Certification.

Recommendations for priority actions

- Provide facilities at points of entry that are equipped to assess suspected ill passengers or crew on aircraft and/or other vessels. Ensure these facilities have adequate space, staff and equipment.
- Enhance existing control programmes for vectors and reservoirs at and around points of entry.
- Legislate to establish capacities at points of entry to inspect conveyances and issue Ship Sanitation Certification.

OTHER

CHEMICAL EVENTS

INTRODUCTION

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

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

LEVEL OF CAPABILITIES

The Republic of Palau has no chemical industry. Chemicals are imported for commercial use in businesses (e.g. hotel management and tour operations), or for domestic use. Preservation of coral reefs and protecting the land and people from hazards related to chemical use and waste are priorities in this country. Palau strives to protect and sustain its pristine environment and is a signatory of the Stockholm Convention, the Basel Convention on the Control of Transboundary Movements of Hazardous Waste and their Disposal, and the Minamata Convention on Mercury.

Following Executive Order N. 257 (2009) on establishing an International Chemical Management Task Force, the National Regulatory Board for Environmental Protection, Palau EQPB developed its Strategic Plan 2010-2014. National Chemical Profiles were developed in 2010, and the Sound Chemical Management Policy was developed in 2011. In addition, Palau has developed its National Implementation Plan for the Stockholm Convention on Persistent Organic Pollutants (POPs), along with SOPs for the EQPB's response to land-based release of hazardous materials. Such policies, plans and SOPs are functioning, but it is recognized that there is a need to develop a comprehensive framework for chemical management and regulation.

The EQPB is the nationally lead agency in managing chemical events. It coordinates resources and the overall response process during a response to a chemical event. Multisectoral coordination functions well, but human resources for addressing chemicals management in Palau are limited – including for chemical treatment, control of storage and waste management.

The EQPB operates a water quality monitoring laboratory certified by the Environmental Protection Agency (EPA) that can perform basic tests on site and which has access to international reference laboratory services such as the EPA laboratory for metal analysis in San Francisco, USA; the WHO laboratory for POP analysis in Geneva, Switzerland; and the International Atomic Energy Agency (IAEA) laboratory for radionuclides analysis in Monaco. In 2016, the EQPB hosted a training session on best practices in chemical management for the Pacific region with support from the UN Environment Programme and the Pacific Regional Environment Programme.

The JEE process identified the need to update existing risk profiles, plans and guidelines; to improve capabilities in monitoring chemicals in food, consumer products and the environment; and to develop a task force to monitor chemicals and manage chemical events.

Indicators and scores

CE.1 Mechanisms established and functioning for detecting and responding to chemical events or emergencies – Score 3

Strengths and best practices

- Guidelines (2011) are in place for the surveillance, assessment and management of chemical events.
- There is a national authority for responding to chemical incidents.
- Laboratory capacity is available for on-island and off-island chemical analysis.
- There is routine monitoring of consumer products (foodstuff and goods) with regard to chemical hazards.
- Investigation reports are produced following chemical incidents.
- The National Chemicals Profile is regularly updated with assistance from UN environmental agencies.

Areas that need strengthening and challenges

- There is a need for systematic environmental monitoring (water, air, soil and sediment) for chemical hazards.
- Staff designated to undertake chemical management efforts require further training.
- There is a need for regular reporting of data and response activities in chemicals surveillance/ monitoring.
- A national chemicals risk map should be established.

CE.2 Enabling environment in place for management of chemical events – Score 3

Strengths and best practices

- A National Chemicals Policy (2011) is in place.
- Palau has a multisectoral/interdisciplinary coordination mechanism (NEC/NEMO) that manages chemical events.
- Extra-budgetary means can be made available to respond to cases of a public health emergency of chemical origin.
- AARs and evaluations are undertaken after events in order to assess the effectiveness of interventions.

Areas that need strengthening and challenges

- The EQPB Strategic Plan 2010−2014 should be revised to strengthen the assessment and management of chemicals.
- There is a need to strengthen collaboration between government agencies and the private sector.
- Palau should develop a chemicals database or databank to be shared with relevant government entities.

Recommendations for priority actions

- Develop a comprehensive framework for monitoring and managing chemical events with an updated national chemical risk map as well as updated guidelines and plans for chemical management in line with the requirements of the IHR (2005).
- Develop a task force, proportional to the need in Palau, with expertise covering all of the essential technical areas in monitoring and managing chemical events.
- Develop laboratory capacity to monitor high-risk chemicals in food, water, consumer products and the environment.

OTHER

RADIATION EMERGENCIES

INTRODUCTION

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

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

LEVEL OF CAPABILITIES

The Republic of Palau is small in size and population and depends heavily on tourism and related foreign investment. The country does not allow the presence of radioactive materials in its territory, including its maritime boundaries. Article XIII Section 6 of the Constitution of the Republic of Palau reads:

Harmful substances such as nuclear, chemical, gas or biological weapons intended for use in warfare, nuclear power plants, and waste materials therefrom, shall not be used, tested, stored, or disposed of within the territorial jurisdiction of Palau without the express approval of not less than three-fourths (3/4) of the votes cast in a referendum submitted on this specific question.

Minimal interest in peaceful use of low dose radioactive materials is being explored.

The Fukushima Daiichi nuclear accident in Japan increased the country's awareness of the potential impacts of the nuclear power plants in use in neighbouring countries. The closeness of such power plants in the region has moved Palau to ask the IAEA – the UN system-associated organization that deals with the safe use of nuclear energy and management of radiation issues – for support in assessment and enhancement of the country's capacity in radiation detection issues.

The use of radiation technologies in Palau is limited to applications in medical diagnostics and border security. Management of new radiation sources and disposal of ionized material and waste are under the oversight of the EQPB and the MOH.

The JEE process identified the need to develop a national emergency response plan for radiation and nuclear emergencies, and to establish collaborative working relationships with IAEA and other overseas institutions.

Indicators and scores

RE.1 Mechanisms established and functioning for detecting and responding to radiological and nuclear emergencies – Score 2

Strengths and best practices

- The Integrated Nuclear Security Support Plan was completed with IAEA support in February 2019.
- The first joint IAEA-Palau Country Programme Framework for Development Needs 2016-2021 has been drafted.
- Regulations on radioactive material transport and safety were drafted in 2016, though these are yet to be implemented.

- The EQPB, the Ministry of Justice and the MOH are the jointly designated authorities with primary responsibility for radiation surveillance/monitoring.

- An ionization act is in preparation.

- The Environmental Impact Statement response tool is available for risk assessment.

- Palau has access to laboratory services abroad for analysis of radioactive contamination in case of a radiation emergency.

- Training programmes for emergency responders are accessible with IAEA support.

Areas that need strengthening and challenges

- There is a need to strengthen capacity to monitor consumer products (food and goods) for radioactive contamination.

- An MOU should be finalized with the Philippine Nuclear Research Institute for lab services.

- There is a need to elaborate protocols/guidelines for case management of overexposure to ionizing radiation.

- A national stockpile of pharmaceutical agents for countermeasures in radiation emergencies should be established.

- A formal collaboration with Malaysia should be established for radiation safety training and technical support.

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

Strengths and best practices

- The NDRMF enables the activation of protection measures in case of radiation emergencies.

- The EQPB is lead agency for responses to radiation emergencies, with the support of the MOH and other relevant agencies.

- Extra budgetary support can be accessed in case of radiation emergencies.

- A formal link is in place with the IAEA for support in case of radiation emergencies.

- Palau has Marine and Fresh Water Quality Regulations, part of which addresses radiation.

Areas that need strengthening and challenges

- A practical emergency response plan is required for radiation and nuclear emergencies.

- Mapping of the sites and levels of radiation sources in the country should be carried out to include mapping of potential risks.

- A tabletop exercise on radiation emergency response should be held.

- Palau requires sufficient trained personnel for responding to radiation emergencies.

Recommendations for priority actions

- Draft a practical emergency response plan for radiation and nuclear emergencies, and test it using a tabletop exercise.

- Formalize the existing arrangements with the Philippine Nuclear Research Institute and other partners for laboratory services, training and assessment of contamination in case of radiation incidents.

- Implement the ionization act which is currently in preparation.

OTHER

ANNEX: JEE BACKGROUND

Mission place and dates

Koror, Republic of Palau, 29 July–2 August 2019.

Mission team members:

- Tomoya Saito (team lead), Chief Senior Researcher, National Institute of Public Health, Japan
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- Thilaka Chinnayah, Senior Principal Assistant Director, Johor State Health Department, Malaysia
- Katinka De Balogh, Senior Animal Production and Health Officer, FAO Regional Officer for Asia and the Pacific
- Julian Druce, Senior Scientist, Virus Identification Laboratory, the Peter Doherty Institute for Infection and Immunity, Australia
- Bill Gallo, Senior Advisor, Pacific Islands, US Health and Human Services
- Jin Gwack, Medical Officer, Health Emergency Information and Risk Assessment, World Health Organisation Regional Office for the Western Pacific
- Chunsheng Li, Research Scientist, Radiation Protection Bureau, Health Canada
- Mark Nunn, independent technical writer and editor, London, the United Kingdom of Great Britain and Northern Ireland

Observers

- John Martin Niedenthal, Secretary of Health, Marshall Islands Ministry of Health and Human Services

Objective

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

The JEE process

The JEE process is a peer-to-peer review. The entire external evaluation, including discussions around the priority actions, 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 restricted 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 an audit. Information provided by the Republic of Palau will not be independently verified but was discussed and the evaluation rating mutually agreed to by Palau and the evaluation team. This is a peer-to-peer review.

Key host country participants and institutions

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Supporting documentation provided by host country

NATIONAL LEGISLATION, POLICY AND FINANCING

- Palau National Code Title 6: Administrative Law
- Palau National Code Title 7: Admiralty and Maritime
- Palau National Code Title 8: Aeronautics
- Palau National Code Title 9: Agriculture
- Palau National Code Title 24: Environment
- Palau National Code Title 34: Health
- Bureau of Immigration and Foreign Labor, Division of Labor Rules and Regulations (2019)
- Draft memorandum of understanding for the implementation of the International Health Regulations and Point of Entry Policy (2019, version 2).

IHR COORDINATION, COMMUNICATION AND ADVOCACY

- National Disaster Risk Management Framework (NDRMF)
- Palau National Focal Point (NFP) responsible person contact information
- Palau EIS Post-H1N1 2009 (WHO Event Information Site)
- Executive Order to establish the Health-related Emergency Preparedness Coalition (HCC)
- Healthcare Coalition (HCC) Telephone Tree (February 2019)
- Standard Operating Procedure for EQPB Responses to Land-based Hazardous Material Releases in Palau (November 2016).

ANTIMICROBIAL RESISTANCE

- Draft Palau AMR National Action Plan
- Infection Prevention and Control Manual, Ministry of Health (2005)
- Antibiotic Standard Treatment Guidelines (2012)
- RPPL 9-58 Biosecurity Act
- Slaughtering SOP for the National Slaughterhouse
- Belau National Hospital Antibiogram Report (2018)
- Public service announcement on import of certain pharmaceutical products
- Detection, Containment and Prevention of Hospital-acquired Infections (HAIs) and antimicrobial
- resistant organisms (AMRO) for Belau National Hospital.

ZOONOTIC DISEASE

- Palau National Code Title 9: Agriculture
- Palau National Code Title 24: Environment
- Palau National Code Title 34: Health
- Reportable Disease Poster
- OIE – Palau Animal Health Situation
- Press Release from Bureau of Public Health: Chicken Die-off Investigation at local poultry farm
- Press Release from Ministry of Health: Avian Influenza test results
- Situation Report: Influenza Outbreak in Palau 20140420

- SOP Avian Influenza Response Team (AIRT)
- Draft MOU for the implementation of IHR-Zoonotic diseases.

FOOD SAFETY

- Reportable Disease Surveillance Manual (2007)
- Reportable Disease Notification Poster
- Food Service Sanitation, Division of Environmental Health (DEH) Regulations (2004)
- Food Handling Certification Process
- Food Handler Presentations
- Food Handler Permit Template
- Food Handler Test (English version)
- Food-borne disease manual
- Food safety poster
- List of all necessary contacts for interaction with outside partners and international organizations
- Protocols for collecting/testing clinical specimens and food samples.

BIOSAFETY AND BIOSECURITY

- PPPL-9-58 Biosecurity Act 2016
- ROP Biosafety draft manual
- Plant-Animal-Quarantines-and Regulation-with amendments
- Division of Environmental Health Regulations
- Persistent Organic Pollutant (POPs) and waste incinerator report.

IMMUNIZATION

- School Entry Act
- BHP Strategic Plan 2015-2020 DRAFT
- Global Vaccine Action Plan
- Immunization Program Five-Year Narrative Work Plan
- Palau Childhood Immunization Schedule
- Memorandum for 2nd Dose of MMR at 15 Months
- Palau Vaccine Accountability, Management Policies and Business Rules (2012)
- Palau Immunization Program Project narrative.

NATIONAL LABORATORY SYSTEM

- Lab assessment tool – 1
- Lab assessment tool – 2
- OIE int
- Reportable Disease Notification Poster
- PIHOA Meeting Resolution #57-01 – Establishing LRF
- MOU_Palau MOH_PIHOA Shipping Mechanism October 2015_Signed.

SURVEILLANCE

- National Notifiable Diseases List
- Reportable Disease Surveillance and RDSS Manual
- RDSS and Syndromic Surveillance overview
- SOP of Reportable Disease Surveillance
- SOP of Syndromic Surveillance
- Weekly Syndromic Surveillance Report
- Situation reports of disease outbreaks: dengue in 2019 and influenza in 2014.

REPORTING

- National Disaster Risk Management Framework 2010 (Amended 2016)
- WHO National IHR Focal Point Guide: Designation/establishment of National IHR Focal Points.

HUMAN RESOURCES (ANIMAL AND HUMAN HEALTH SECTORS)

- Draft Human Resources for Health plan
- Yearly performance plan
- Ministry of Health human resources work plan.

EMERGENCY PREPAREDNESS

- AIRPORT EMERGENCY PLAN
- Palau Bio-Terrorism Response Plan 2004
- Attachment 4 Part A Part B Part C Part D Part E PEHOP
- Palau HVA5 2006
- HCC Telephone Tree February 2019
- Palau HCC Preparedness Plan
- ROP Presidential Exec Order 385 to Establish HCC
- HCC Response Plan
- Draft Region 9 EVD Plan 12.1.17 Signed ROPMOH
- National Disaster Risk Management Framework
- Health Related Emergency Preparedness Coalition Membership (October 3, 2018)
- Palau PH EOP
- 2018 Preparedness Month Evaluation_Performance Report
- PHEP 1901-01 Domain Work Plan
- HPP 2019-01 Work Plan.

EMERGENCY RESPONSE OPERATIONS

- Healthcare Coalition reports and meeting minutes
- EOC protocols and SOPs
- National Disaster Risk Management Framework
- National Incident Management System (NIMS)
- HSEEP Multi Year Training and Exercise Program (MYTEP)
- ESAR-VHP, application sheets for a variety of disciplines

- PoE, Influenza Tabletop Exercise AAR
- After Action Report/Implementation Plan AAR/IP, Operation Safeguard Babies (Zika) 1st and 2nd operation 2016
- Sendai Framework for Disaster Risk Reduction 2015-2030
- Strategic National Stockpile Full-scale exercise 2015 AAR/IP
- Telephone Tree Notification Drill, 2018-2019 AAR/IP
- Tour bus incident 2018 AAR/IP
- Mass Rescue Operation (MRO) Full-scale exercise 2018 AAR/IP.

LINKING PUBLIC HEALTH AND SECURITY AUTHORITIES

- Palau health related emergency preparedness coalition preparedness plan
- Palau health related emergency preparedness coalition response plan
- Executive Order No. 385: An Executive Order Establishing a Health Related Emergency Preparedness Coalition
- Palau health related emergency preparedness coalition notification telephone tree
- Palau National Code Title 34: Health.

MEDICAL COUNTERMEASURES AND PERSONNEL DEPLOYMENT

- Medical countermeasures and personnel deployment
- 2015_SNSExerciseHandout_PalauFINAL
- AAR_SNS_FullScaleEx_Feb2015
- DRAFT Region 9 EVD Plan 12.1.17 Signed ROPMOH
- ESAR-VHP registration process
- ESAR-VHP Volunteer Application form r0 Common
- ESAR-VHP Volunteer Credential info 011 Physician
- ESAR-VHP Volunteer Credential info 012 LPN
- ESAR-VHP Volunteer Credential info 013 MHC
- ESAR-VHP Volunteer Credential info 014 RT
- ESAR-VHP Volunteer Credential info 015 Cardio
- ESAR-VHP Volunteer Credential info 016 EH
- ESAR-VHP Volunteer Credential info 017 Animal
- HCC Response Plan
- HCC Telephone Tree February2019
- MPIIC_MOH MOU 2019 SNS RSS SITE
- MYTEP BP1 SUPP_RevisedYear2
- On Hand Ebola Virus Disease PPE
- Palau CHEMPACK Doc
- PALAU HCC Preparedness Plan
- Palau MCM Plan
- Palau_ARFF_RSS_Site
- ROP Presidential Exec. Order 385 to establish HCC
- ROPPanFluPlan_Revised2015.

RISK COMMUNICATION

- National Disaster Risk Management Framework (NDRMF)
- Ministry of Health Risk Communication Plan (PHEOP)
- SNS Full Scale Exercise: Operation Yobou, 10–14 February 2015, After Action Report/Improvement Plan.

POINTS OF ENTRY

- Point of Entry assessment according to WHO tool
- MOU, not yet signed, for the implementation of IHR and POE Policy
- Palau IHR POE policy implementation guidelines
- Palau International Airport Emergency Plan
- Flowcharts for assessing suspect ill travellers or crew
- Protocol for handling ships with persons on board needing medical attention
- Alert sheets for health, Bird flu, SARS
- POE Influenza table-top exercise AAR
- Public Health Emergency Operations Plan (2013).

CHEMICAL EVENTS

- Stockholm Convention on Persistent Organic Pollutants
- Basel Convention on the Control of Transboundary Movements of Hazardous Waste and their Disposal
- Minamata Convention on Mercury
- Executive Order establishing Chemical Management Task Force (2009)
- Palau EQPB Strategic plan 2010-2014 (2010)
- National Chemicals Profile (2010)
- Sound Chemical Management Policy (2011)
- National Implementation Plan for (POPs) (2007)
- Standard Operating Procedure for EQPB Responses to Land-Based Hazardous Material Releases in Palau (2016)
- EQPB Incident Report Example (2017)
- Training Report on Palau Best Practices for Chemical Management (2016).

RADIATION EMERGENCIES

- Integrated nuclear security support plan, Palau and IAEA Feb 2019
- Country program framework plan 2016-2021, Palau and IAEA (to be endorsed)
- Regulations on radioactive material transport and safety (draft)
- IAEA safety standards, no GSR part 7.

World Health Organization