

HEALTH EMERGENCY OPERATIONS PLAN



Ministry of Health
Maldives

unicef 
for every child



**World Health
Organization**
Maldives

بِسْمِ اللّٰهِ الرَّحْمٰنِ الرَّحِیْمِ

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system or transmitted in any means, electronic, mechanical, photocopying, recording or otherwise without written permission of Ministry of Health, Maldives. Short excerpts from the publication may be reproduced in respect to any fair dealings for the purpose of research or review, provided due acknowledgement is made.

Endorsement Number: Plan/23/-MoH/2018/11

Endorsed by:

Khadeeja Abdull Samad Abdulla



Permanent Secretary

30th May 2018

Number Issued by:

Strategic Planning Unit

Policy Planning and International Health Division

30th May 2018

PUBLISHED BY:

Ministry of Health

Male', Republic of Maldives

1 Plan Authorization

The Health Emergency Operation Plan is a multi-hazard plan developed to reflect current thinking of the health aspects of the emergency response, preparedness and management. Circumstances that arise in a health emergency mean that normal channels of authority and communication cannot be relied upon to function routinely. The stress of the situation can lead to poor judgment resulting in severe losses for the community. Hence, this plan would provide strategic direction and guidance to all partners in the emergency mechanism and collaborative sectors to further develop policies, plans, and programs to improve upon the emergency preparedness in Maldives. It ensures the need for proper coordination and effective delivery of support and assistance during emergency and disaster events at all levels. Therefore, the countries with its different agencies and stakeholders should be able to respond promptly and effectively support protection of life and property, and should enable to support in damage recovery. Thus, this plan preserves countries best practices and success stories and builds on their achievements and is ambitious enough to strive for excellence and achieve newer milestones in health emergencies.

This Health Emergency Operations Plan (HEOP) of Maldives consigns with the functional roles and responsibilities for different levels of government agencies, non-governmental, and private sector entities. It ensures the health sector and local government functions during a public health emergency and disasters. And would enable the relevant agencies to identify and prioritize the tasks prior to, during, and after the emergency activities. The Health Emergency Operations Plan is written in the express interest, welfare, and safety of all residents of Maldives to ensure that healthcare response and assistance is provided in the most appropriate, effective and efficient manner.

I believe that this HEOP would greatly contribute to strengthen the national emergency mechanism in the country by considering the strategic input 3.6 of the National Health Master Plan 2016-2025 which states clearly to establish capacity for health and medical response in national disasters and emergencies. Thus, Ministry of Health would continue to play the key role in supporting to protect the life of people and property, and should enable to support in recovery from damages, with the partners of health in other collaborative areas by ensuring the linkages of their emergency plans with the outputs and targets of these plans. I am confident that the implementation of this plan will enable ensure better response, preparedness and management in all health emergencies.



Abdulla Nazim Ibrahim

Minister of Health

2 ENDORSEMENT AND IMPLEMENTATION

The Health Emergency Operations Plan (HEOP) is a multi-hazard plan that establishes a single, comprehensive framework for the management of public health emergencies and disaster-related health incidents within the Maldives. The plan is implemented upon such emergency and disaster when it becomes necessary to mobilize the resources of the identified departments and agencies to save lives, protect people's health and well-being, property and infrastructure. The plan assigns major roles and responsibilities to departments and agencies. The plan requires planning, training, and exercising prior to a real event in order to respond effectively.

Agreement to this plan represents the commitment by agency leadership to adhere to this plan and work according to its relevant policies, procedures, frameworks and, plans accordingly.

By signing this letter of agreement, the agencies agree to:

1. Perform assigned roles and responsibilities as identified in this HEOP
2. Implement the HEOP concepts, processes, and structures when carrying out their assigned roles and functional responsibilities.
3. Provide representatives to the Health Emergency Operations Center (HEOC), emergency coordination centers, command posts, or other identified emergency locations when activated and requested.
4. Develop and maintain an inventory of agency/department resources applicable to accomplishing assigned emergency functions.
5. Develop and maintain health emergency support function Plans in accordance with guidelines and standards outlined in this plan.
6. Provide a focal point to monitor and evaluate the assigned functional roles and responsibilities relevant to the partnering agencies from different areas.
7. Periodically review emergency plans, policies, and procedures.

Main Stakeholders:

National Disaster Management Center (NDMC)

Ministry of Environment and Energy

Maldives National Defence Force (MNDF)

Maldives Police Service (MPS)

Maldivian Red Crescent (MRC)

Ministry of Islamic Affairs

Maldives Meteorological Service (MMS)

LGA – on behalf of Local Councils

WHO Maldives

UNICEF

FENAKA Corporation Limited

State Electric Company Limited (STELCO)

Maldives Water and Sewerage Company (MWSC)



TABLE OF CONTENTS



1	Plan Authorization	3
2	Endorsement and Implementation	4
	Introduction	10
2.1	Acronyms:	12
	SECTION I. BASIC PLAN	13
3	Basic plan	14
4	Purpose, scope, situation overview and assumptions	14
4.1	Purpose	14
4.2	Scope	15
4.3	Situation overview	15
4.3.1	Maldives Health System	16
4.3.2	Risk Profile of Maldives	16
4.4	Risk Inventory	18
4.4.1	Types of Hazards	18
4.4.2	Nomenclature of Risks	18
4.5	Planning assumptions	19
5	Concept of operations	20
5.1	Framework for Public Health Emergency Management	22
6	Emergency Response Levels and Triggers	24
6.1	National Health Emergency Response Levels	24
6.2	Triggers and Thresholds for Specific Diseases	26
6.3	Local Health Emergency Response Levels	28
7	Declaration of Public Health Emergency	29
7.1	Health Emergency Operations Center (HEOC)	30
7.1.1	HEOC Activation Levels	31
7.2	Local Hospital Emergency Operations Center	32
7.3	Incident Management System (IMS)	33
7.4	Multi-Agency Coordination System (MACS)	34
8	Organization and Assignment of Responsibilities	35
8.1	Ministry of Health	36
8.2	Health Emergency Coordination Committee (HECC)	37
8.3	Health Protection Agency (HPA)	38
8.4	Technical Advisory Committee (TAC)	39
8.5	National Rapid Response Team (NRRT)	40
8.6	City and Atoll Hospitals	40
8.7	City/Atoll Health Emergency Teams	41
8.8	Island Health Centers	42

9	MoH as a Lead Agency	42
10	MoH as a Supporting Agency	42
11	Direction, control and coordination	43
11.1	Normal Operations	43
11.2	Situational Awareness	44
11.3	Emergency Operations	44
12	Alert Notification, Warning and Advisories	44
13	Administration, finance and Resources	46
13.1	Finance	46
13.2	Administration	47
13.3	Resources	47
14	Communication	47
15	Plan Development, Implementation and Maintenance	48
15.1	Plan Development	48
15.2	Plan Implementation	48
15.2.1	Orientation and Awareness	48
15.2.2	Training and Exercise.	48
15.3	Review, revision and maintenance of the plan	49
16	Authorities and References	49
SECTION II. SUPPORT FUNCTIONS – ROLES AND RESPONSIBILITIES		51
17	Emergency Support Functions (ESF) – Organizational Roles and Responsibilities	52
18	Health care and Medical Services	52
19	Transportation	53
20	Firefighting, Urban/Maritime Search and Rescue	54
21	Law Enforcement and Public Protection	54
22	Logistics	55
23	Emergency Management	56
24	Energy, Water and Sanitation	56
25	Mass care and Shelter Management	57
26	Deceased and Dead Body Management	58
SECTION III. SUPPORT ANNEXES		59

introduction	60
27 continuity of operations (COOP)	60
28 Early Warning and Risk Communication	61
28.1 Warnings and Advisories	61
28.2 National warning system	61
28.2.1 Criteria for Issuing Weather Alerts and Proposed Actions	62
28.2.2 Criteria for issuing Alerts and Warnings for the Earthquake and Tsunami	63
28.3 Public Health Information and Risk Communication	64
28.3.1 Public Health Alerts, Early Warnings and Advisories	64
28.3.2 Risk Communication	64
29 Disease Surveillance and Epidemiology	65
 SECTION IV. HAZARD-SPECIFIC PROCEDURES	 67
introduction	68
29.1 Flooding	68
29.2 Pandemic Influenza	74
29.3 Mass Casualty incidents	74
 SECTION V. REGULATIONS, RELATED POLICIES AND PROCEDURES	 ERROR! BOOKMARK NOT
DEFINED.	
30 Legislations, Regulations and Policies	78



INTRODUCTION



Introduction
Acronyms

The national Health Emergency Operations Plan hereinafter referred to as the HEOP, is the roadmap to response mechanism and responsibility to public health emergencies practice in the Maldives. It is also a strategic framework of actions, policies, and regulations that contain a blueprint of how to elaborate, implement, and execute a response operation for public health emergencies and disasters with public health impacts. The Plan is empowered by the Public Health Protection Act 7/2012, Health Services Act 29/2015, Disaster Management Act 28/2015 and Decentralization Act 7/2012 that sets forth response actions, directives, policies, and guidelines for all entities to follow before, during, and after a public health emergency and a disaster within the territory of the Maldives

The Health Protection Agency (HPA) under Ministry of Health (MoH) is the lead administrative and planning agency for public health initiatives and activities including public health emergency management in the Maldives. HPA functions at the national level and works with local government, health sector, NGOs and private partners to improve the nation's ability to respond to public health emergencies and other disaster events involving public health significance. The National Public Health Emergency Operations Plan (HEOP) identifies the MoH and HPA's response activities during a public health emergency. This plan also supports the public health and medical care component in the draft national emergency operations plan by the NDMC as one of its Emergency Support Functions (ESF)¹.

HEOP is intended to be used by authorities and agencies responsible for managing emergencies, incidents, or events where the health of populations is at risk. This document provides guidance for practitioners of public health, health policy makers, public and private healthcare organizations and local government in designing, developing, implementing and executing public health emergency operations at respective levels. This HEOP is organized as follows (Figure 01):

- **The Section 1:** Basic Plan has all the key components of the HEOP and comprises of the Health Emergency Response Framework. It includes the Purpose, Scope, Situation Overview, Concept of Operations, Organization and assignment of responsibilities, Direction, Control and Coordination, Communication, Administration, Finance and Resources, Plan Development and Maintenance and Authorities and References. All users of the HEOP needs to be oriented and familiar with this part of the HEOP.
- **The Section 2:** Emergency Support Functional Annexes assign coordinating agency and supporting agencies for different Emergency Support Operations within a public health emergency. Functional Annexes describe how the basic emergency functions will be coordinated and managed. These include Health Care and Medical Services, Transportation, Firefighting, Urban/Maritime Search and Rescue, Law Enforcement and Protection, Logistics, Emergency Management, Utilities, and Mass Care and Shelter Management.
- **Section 3:** Support Annexes provide guidance on technical area policies and procedures that need to be implemented in line with the HEOP. These include Continuity of Operations, Early Warning and Informing, Population Protection, Financial Management, International Aid and External Coordination, Recovery Planning, Preparedness Planning, Volunteers and Donations Management, and Safety, Health and Protection.
- **Section 4:** This section provides Incident/Event specific procedures and protocols for managing the emergencies. It outlines guidelines on how to operate and address response activities on identified

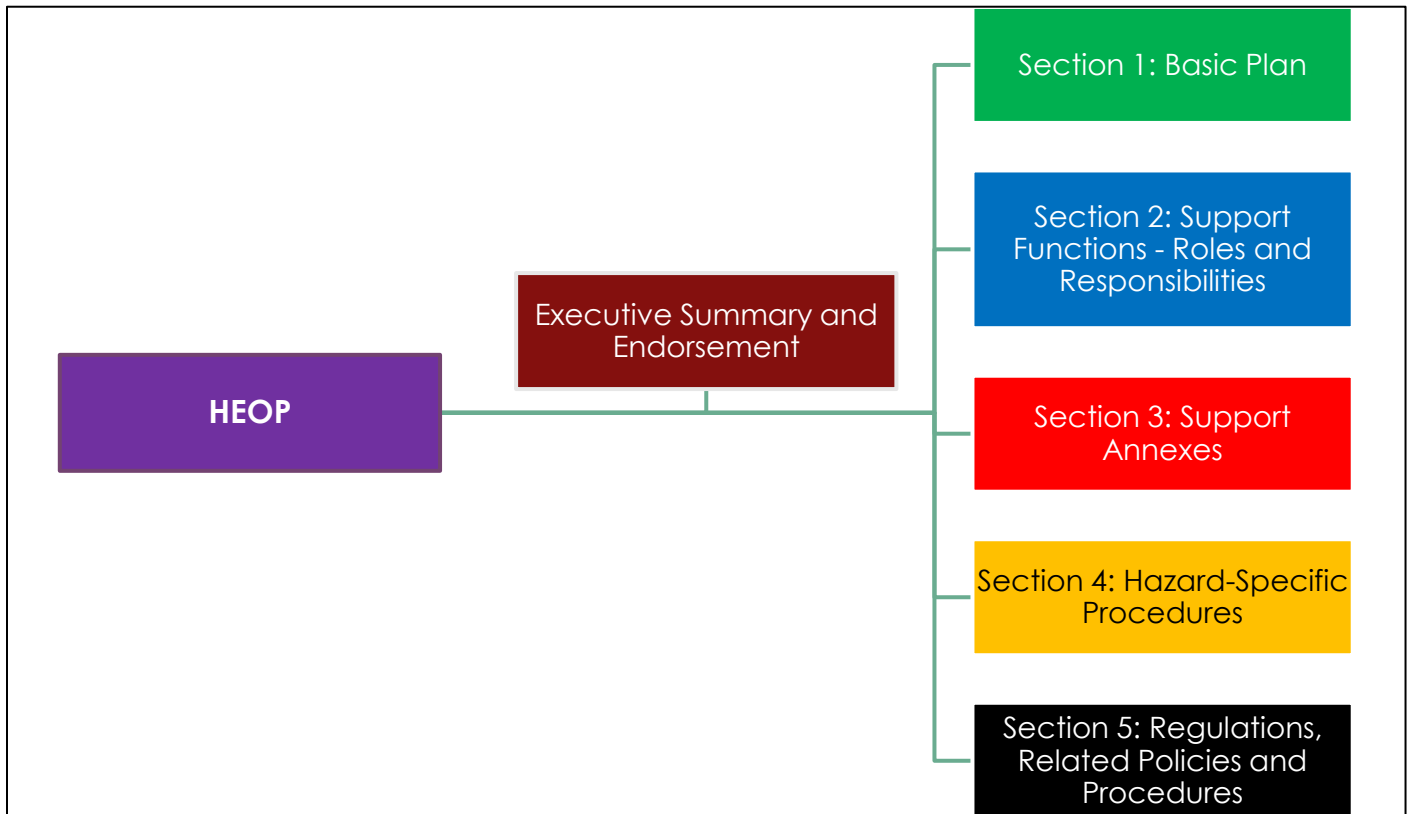
¹ Draft National Emergency Operations Plan (NDMC, 2017)

hazards of highly likely of occurrence in Maldives requiring health sector involvements. Hazard Specific Annexes describe management functions that are unique to specific hazards. These include SOP's for

- a. Public Health Emergencies - Influenza
- b. Natural Disasters - Flooding
- c. Man Made and Industrial Incidents – Urban Fire
- d. Mass Casualty and Fatality Events – School us accident in a highly urbanized island

- **Section 5:** Regulations, Policies, and Procedures state all the main documents that this Plan works in conjunction with, and refers to. All the policies, procedures, guidelines and SOP's in this section will work for hand in hand during a public health emergency response operation.

Figure 1: HEOP Template



In summary, the Health Emergency Operations Plan (HEOP) is a multi-hazard plan that establishes a single, comprehensive framework for the management of public health emergencies and disaster-related health consequences within the Maldives. The plan is implemented upon the occurrence of emergency and disaster, to save lives, and protect property and infrastructure. The plan assigns major roles and responsibilities to departments and agencies. The plan requires planning, training, and exercising prior to a real event in order to respond effectively.

2.1 ACRONYMS:

ARI	Acute Respiratory Infections
BCP	Business Continuity Plan
CAM	Communications Authority of Maldives
DGHS	Director General of Health Services
DGPH	Director General of Public Health
DM	Disaster Management
DMU	Disaster Management Unit
EOC	Emergency Operations Centre
EPA	Environment Protection Agency
EPR	Emergency Preparedness and Response
EPRP	Emergency Preparedness and Response Plan
EW	Early Warning
HECC	Health Emergency Coordination Committee
HERP	Hospital Emergency Response Plan
HPA	Health Protection Agency
IMS	Incident Management System
ICT	Information and Communication Technology
IMT	Incident Management Team
IGMH	Indira Gandhi Memorial Hospital
IHR	International Health Regulations
LGA	Local Government Authority
MBC	Maldives Broadcasting Corporation
MMS	Maldives Meteorological Service
MoH	Ministry of Health
MRC	Maldives Red Crescent
MWSC	Maldives Water and Sewerage Company
NCD	Non Communicable Diseases
NDMC	National Disaster Management Center
NEOP	National Emergency Operations Plan
NERF	National Emergency Response Force
NGO	Non Governmental Organization
RRT	Rapid Response Team
SOPs	Standard Operating Procedures
STO	State Trading Organization
WHO	World Health Organization

SECTION I. BASIC PLAN

Purpose, Scope, Situation Overview

Planning Assumptions

Concept of Operations

Organization and assignment of responsibilities

Direction, Control and Coordination

Communication

Administration, Finance and Resources

Plan Development and Maintenance

Authorities and References

3 BASIC PLAN

This plan describes the mechanism, roles and responsibilities of respective agencies in the health sector in responding to a public health emergency in the Maldives with a particular focus on the role of the Ministry of Health at the national level in such an emergency. Further, this HEOP describes how key public health preparedness and response activities are coordinated with medical resources, healthcare services and other preparedness and response partners.

The Health Emergency Operations Plan establishes and describes the emergency response framework which will guide the ministry and concerned departments as it activates to protect the health, safety, and well-being of the Maldivians in areas impacted by a natural or man-made health emergency or disaster.

The Basic Plan has all the key components of the HEOP and comprises the national Level Health Sector Emergency Response Framework. It includes the Purpose, Scope, Situation Overview, Concept of Operations, Organization and assignment of responsibilities, Direction, Control and Coordination, Communication, Administration, Finance and Resources, Plan Development and Maintenance and Authorities and References.

All users of the HEOP need to be oriented and familiar with this part of the HEOP.

4 PURPOSE, SCOPE, SITUATION OVERVIEW AND ASSUMPTIONS

4.1 PURPOSE

The primary objective of this to strengthen health sector emergency preparedness in order to ensure a timely, efficient and effective response to events including: local and national outbreaks of infectious diseases that have national significance; epidemics and pandemics; and other types of emergencies caused by natural, technological and societal hazards that can have a substantial impact on people's health and on society.

The plan provides technical information on health emergency preparedness and on how to organize response operations to public health emergencies, mass casualty and fatality incidents and disasters of public health significance. It set forth critical information that needed to be taken into serious consideration when providing services for the safety and welfare of its citizens. . The priorities for this plan are to:

- Invest in preparedness and strengthen country capacity to effectively respond to potential all hazard emergencies
- Save and protect lives, provide critical public health services during emergencies
- Institutionalize Incident Management System
- Early detection, risk assessment and response during infectious disease events ensuring that infectious disease events do not escalate into large scale outbreaks or pandemics
- Establish coordination with partners to facilitate collective response and effective in-country operations. Ensure gender, age and vulnerability sensitivity is not compromised
- Abide to the fundamental humanitarian principles –humanity, impartiality, independence.
- minimize environmental, economic and property damage.

HEOP provides the enabling framework:

- To progress towards the IHR 2005 core capacity compliance of the country
- for the guidance, direction and coordination of timely and effective mobilization of resources of the state, local councils, private sector, NGOs and the public in anticipation, during and after a public health emergency event and disaster incidents with public health impacts.
- to identify magnitude, scale and level of impact and conclude appropriate response actions
- to implement and operationalize public health emergencies and disaster medical response at different levels including national, city/atoll and islands by adopting Incident Management System

(IMS) and Multi-agency Coordination System (MACS) as the main organizational approach to managing the response to emergencies.

- to set forth lines of authority, responsibilities and organizational relationships, and coordination mechanisms between among national and local governments, NGOs, private sector health care organizations and other stakeholders and partners including international organizations.
- to establish and maintain health emergency response and preparedness capacity at local and national level for effective response.
- to support government agencies and other organizations as a lead and as an emergency support function within the national emergency management framework.
- Fast-tracking mobilization technical and financial resources.

4.2 SCOPE

The HEOP adopts a multi-hazard approach and is a multi-agency plan at a national level that addresses the preparedness and response phases of public health emergencies and disasters with public health consequences caused by natural or manmade events management within the territory of Maldives. The HEOP covers the full range of complex and changing requirements prior to, during, and following an emergency or disaster. The HEOP does not specifically address long-term recovery or post-disaster mitigation, however, includes to catering for post-emergency public health issues resulting from the emergency and assist with the recovery phase. Key activities within the scope include:

- Assessing and identifying public health and medical needs
- Organizing, mobilizing, coordinating, and directing health and medical services during emergencies
- Coordinating the distribution of health information during a public health emergencies and disaster events with health consequences
- Coordinating care for the sick and injured
- Coordinating medical and environmental surveillance and monitoring activities, including responder safety
- Coordinating the surveillance for, investigating the causes for, and treatment of diseases
- Implementing measures to prevent the spread of disease or environmental contamination
- Establishing and maintaining effective and reliable means of communication with health services agencies, healthcare providers, support agencies, emergency operations centers, community based organizations, the general public, and the media
- Establishing partnerships and coordinating response to ensure that all aspects of the response service the entire community, with special considerations for equity concerns
- Coordinating and supporting crisis intervention and behavioral health services during and following emergencies and disasters
- Coordinating the health and medical system's transition from normal operations to surge operations and back
- Implementing strategies to conserve or procure additional resources necessary for the delivery of health and medical services

4.3 SITUATION OVERVIEW

4.3.1 MALDIVES HEALTH SYSTEM

The health care delivery system of Maldives is organized into a tier system with island level primary health centers, a higher level of health facilities with specialty care hospitals at atoll level and tertiary care facility at the urban level. Each atoll has a hospital catering to the population of that atoll. Kaafu Atoll is the exception where Male' city is located and has the country's referral health facility Indira Gandhi Memorial Hospital (IGMH), Hulhumale hospital and Villimale Hospital along with hospitals managed by the National Defence Force and Police Service and an urban primary health care facility. In 2016, MOH records show that there were 23 public hospitals (IGM Hospital (the tertiary hospital), 6 regional hospitals and 14 atoll hospitals and 172 primary healthcare centres)². The management of public health care facilities in the Male' city region (the national referral hospital IGMH, Villimale' hospital, and Hulhumale' hospital) have been delegated to be managed by corporate management boards independent of the Ministry of Health.

The private health sector in the Maldives, although small, is vigorous and distributed widely across the islands. Among the private hospitals, the ADK hospital is the main private hospital located in Male'. ADK hospital has 58 beds and provides a wide range of medical and surgical facilities. Outpatient visits at ADK are close to the levels seen at IGMH, the tertiary public sector facility in Male'. Other hospitals have emerged in the past five years and new private hospitals are being developed in Male' urban region along with smaller specialist clinics. The majority of private health facilities are located in Male' city. According to the register of private health care establishments maintained by the Ministry of Health, out of a total of 202 institutions, about 50% are located in Male'.

Supply and provision of medicines are managed by the STO (a state-owned company), and the private sector. There are 168 pharmacies in the private sector and 187 STO pharmacies across all locations with the greatest number (80) in Male'. The government has entered into a partnership with the State Trading Organization (STO) in 2014 outsourcing the supply of medical supplies to the public health care delivery system.

In addition to the provision of routine health care, government health facilities in the country have additional responsibilities to prepare and respond to public health emergencies and health impacts of disasters. Some of the national protocols have been developed and drills were conducted for public health emergencies. Maldives has a comprehensive Pandemic Preparedness Plan and a well-functioning surveillance system for communicable diseases. The international ports of entry have been strengthened to cover health requirements to prevent the international spread of disease and health hazards with minimal interference with international trade and travel. However, emergency medical services with adequate equipment and trained staff are not well established in the country.

Therefore, the HEOP outlines the pivotal role of the public health system in emergency preparedness and response. A major nationwide public health emergency that may cause numerous fatalities, severe illness and/or injuries, disruption of normal life systems and, possibly, property loss will have a powerful impact on country's economic, physical, and social infrastructures. To prepare for and respond to an emergency of such a great severity and magnitude will require rapid response surveillance and communications systems, a trained and available public and private health and medical workforce, and volunteers to help perform essential tasks. All these efforts must be anticipated and coordinated.

4.3.2 RISK PROFILE OF MALDIVES

² Health Master Plan 2016-2025

The Maldives is an archipelago in the Indian Ocean located 600 km south of Indian sub-continent. It consists of 1192 coral islands that form a chain stretching 820 km in length and 120 km in width. Of these, approximately 190 islands are officially inhabited. Because of its geography and as one of the most dispersed nation and its position, the country is highly vulnerable to the effects of climate change, including an increased risk of weather-related hazards and to process response. Cyclones and storms are unpredictable and do not follow a periodic pattern. As a result, flooding has become the most frequent event for many islands, especially the northern and southern atolls are the worst affected.

The high dependency of the economy on a few sectors (particularly tourism and fisheries) increase its vulnerability, should these sector be heavily affected by natural or man-made disasters. The dispersion and isolation of the population, especially in the most remote islands, and the communication and transport difficulties due to the geography of the country, pose challenges to health care access that are only exacerbated in case of disaster.

In Maldives, most of the communicable diseases have been either eliminated or controlled. Diseases such as dengue fever, seasonal influenza and diarrhoeal diseases have emerged as major causes of morbidity in recent years.

Maldives is a tourist country and almost a third of the population is expat workers. More than 1.2 million tourists from all over the world visited the country in 2016 and 2017. These are ideal population dynamics for importation of noble diseases or reemergence of diseases either eliminated or persisting in low transmission levels. Zika cases have been reported and the country in 2017 experienced its first Influenza outbreak. Aedes mosquitos are prevalent throughout the country and the principal vectors of Dengue, Zika and Chikungunya. Dengue cases are reported throughout the year and major cause of concern.

There are expats working in the country without valid visa throughout the country. Such groups can be considered highly vulnerable because they have poor access to health care and seek diagnosis of diseases only when they are critically sick. As part of the humanitarian approach, a provision needs to be developed to safe guard their health and detect diseases with outbreak potential at the earliest. This approach will protect the health of the community they live in and prevent spread of the disease, which maintains a priority of an emergency program.

Country capacity to prevent, detect and respond to diseases with outbreak potential is improving but it is still inadequate. The IGMH lab can now detect some pathogens with outbreak or epidemic potential but needs further investment to mature into a fully functional public health laboratory. This transition is planned for immediate future with a vision to enable the Regional and Atoll level laboratories to function to their full potential and to support treatment after confirmation of diagnosis rather than syndromic treatment.

Port health has received renewed priority and recently port staffs have been trained in their respective roles with objective to limit importation of pathogens. The diseases detection and response system in the ports are being improved but it will take time to reach proficient levels. The country does not have an appropriate quarantine facility. A plan is in place to develop such facility at the Hulhumale Hospital premises and will be an important welcome to the emergency response and health security.

In addition, urban fires and maritime accidents are common hazards to the island communities. Finally, a previously unforeseen but actual risk, is the failure and shut down of basic lifeline services, such as water supply or electricity, as demonstrated by the 2014 Male' Water Crisis.

Risk communication is a lifesaving tool. The Ministry does not have such a plan but one is expected in near future. As part of the preparedness process, development of the plan should be prioritized and a focal person identified, and trained to save lives and protect health during emergencies or its aftermath and during recovery.

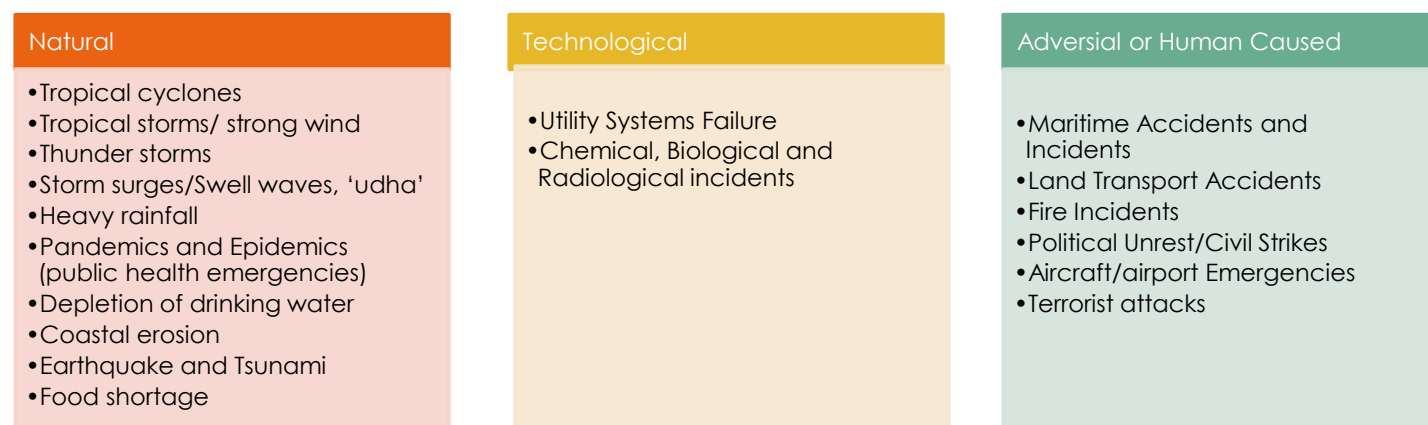
One of the main concerns for the health sector is the lack of adequately trained human resources in emergency preparedness and response, Rapid Response or Emergency Medical Teams have been set up in different Atolls and the plan is to establish such teams in every island Health Centers. The Regional and Atoll level RRT have been trained to prepare and respond to all hazard emergencies in 2016. In addition exclusive trainings have been conducted in four hospitals till the end of 2017 and have been trained and the remaining teams will be trained as per vulnerability status.

4.4 RISK INVENTORY

4.4.1 TYPES OF HAZARDS

Apart from the Indian Ocean Tsunami in 2004 the Maldives have hardly experienced any high impact disaster in its history despite its seemingly vulnerable geographic location. However, numerous low impact disasters or incidents and low frequency high impact pandemic outbreaks occur. The most common types of disasters in the Maldives are flooding, fires events, maritime incidents and disease outbreaks. The Figure 2: List of potential Hazards/Risks to Maldives

Figure 2: List of potential Hazards/Risks to Maldives



4.4.2 NOMENCLATURE OF RISKS

The following table provides the nomenclature of risks in the Maldives. Given the inexistence of risk profiling and vulnerability assessment data in the country, information was collected through workshops, focus group, stakeholders' discussion, and literature reviews. Table 1 shows the hazard distribution, frequency and severity in the Maldives.

Table 1. Nomenclature of Risks in the Maldives

Rank	Disaster	Hazard	Probability of Occurrence	Risk area	Frequency and Intensity
1	Urban Fires	House Fires, Industrial Fires	Very Highly Likely	Cities	Very High
2	Water Shortage	Islands Usable Water Shortage	Very Highly Likely	National/any where	Very High

3	Flooding	Sea Swells, Heavy Rain	Very Highly Likely	National/any where	High
4	Public Health Emergency	Pandemic / Endemic Outbreaks	Highly Likely	National/any where	High
5	Tsunami	Earthquake + Giant Waves	Likely	National	+50 years hazards
6	Industrial and Maritimes Incidents	Accidents, Shipwreck, toxic spills	Likely	National/anywhere	Low
8	Food Shortage	Prolonged extreme weather, Supply chain break down	Likely	Anywhere	Very Low
9	Climate Hazards	Increase of sea level, rain, others	Likely	In industrial areas and ports	Constant

4.5 PLANNING ASSUMPTIONS

HEOP assumes the following planning assumption

- Although the majority of PHEs are managed locally, incidents will occur with little or no warning, and will escalate to exceed the response capability of any single local health care provider or responding organization.
- Achieving and maintaining effective individual and community preparedness is the first line of defense against any emergencies and can reduce the immediate stress on response organizations. This level of preparedness requires continual public awareness and education to ensure residents and businesses take precautions to reduce their emergency vulnerability, especially during and immediately after disaster impact.
- Local health care facilities and Local Councils utilize available resources before requesting national level assistance.
- Local health officials involved in public health emergency management initiate actions that save lives and protect property and the environment based on procedures outlined in the Island, Atoll, City Hospital Emergency Response Plan (HERP)
- The HEOC is always activated to monitor or support local emergency operations.
- When local resources and capabilities are exhausted, additional resources are available through the MACS and any other means.
- Persons who anticipate needing special care in emergency situations shall inform their special needs requirements to their Local health officials before an emergency occurs.
- Each government agency and volunteer organization responds or supports response without consideration of financial concerns.

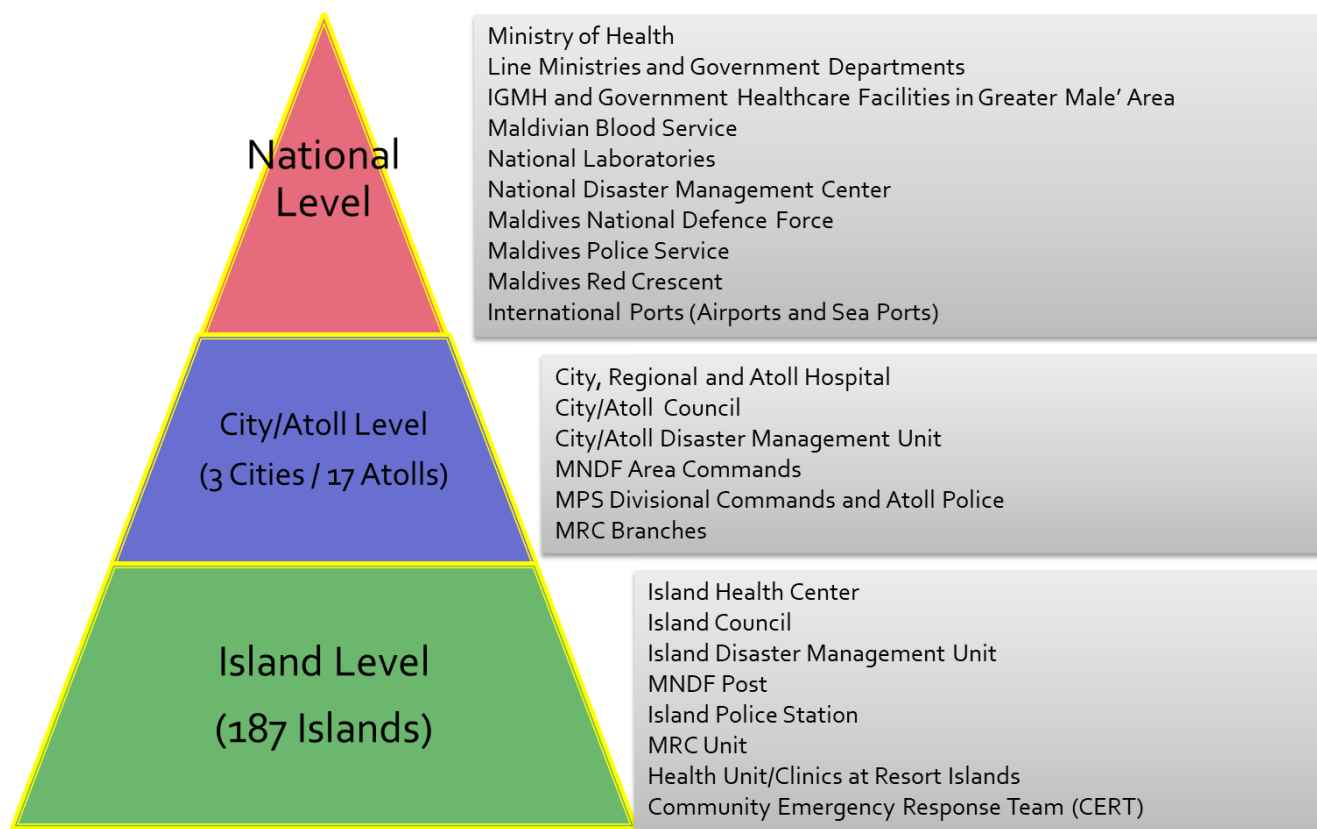
- The HEOC utilizes the principles of the Incident Management System (IMS), when coordinating all-levels of response to an incident.
- The HEOC functions as a multi-agency coordination center when activated to host the Multi-Agency Coordination System (MACS).
- A minimum of decentralized resources (human, material and system) for response established at island, atoll and city levels
- Limited logistics and transport available for effective response operations. Interagency Emergency Health Kits prepositioned in strategic location are available and are used.
- An inadequate communication and Information Technology systems available throughout the country's emergency management system
- Disasters and emergencies can strike at any time.

This plan provides a blueprint and guiding for an effective operation and guidance to all entity involved in PHE response operations. It thus offers directives on how and with what essential elements of an effective response should be established and operationalized.

5 CONCEPT OF OPERATIONS

The Ministry of Health has the authority and primary responsibility to manage public health emergencies in the Maldives. The Ministry and departments coordinate and collaborate its response and recovery effort with other agencies and health sector partners as the situation unfolds. The Health Emergency Coordination Committee (HECC) serves as the executive body for strategic decision making and providing direction and guidance to the Health Emergency Operation Center (HEOC) and Incident Management Team (IMT) in operationalizing emergency response activities. In addition, the Technical Advisory Committee (TAC) could be formed based on the requirement to offer and provide technical advice and expertise to the HECC and HEOC. Organizations involve in the health emergency response in Maldives is depicted on Figure 3. Public health Emergency Response .

Figure 3. Public health Emergency Response Entities

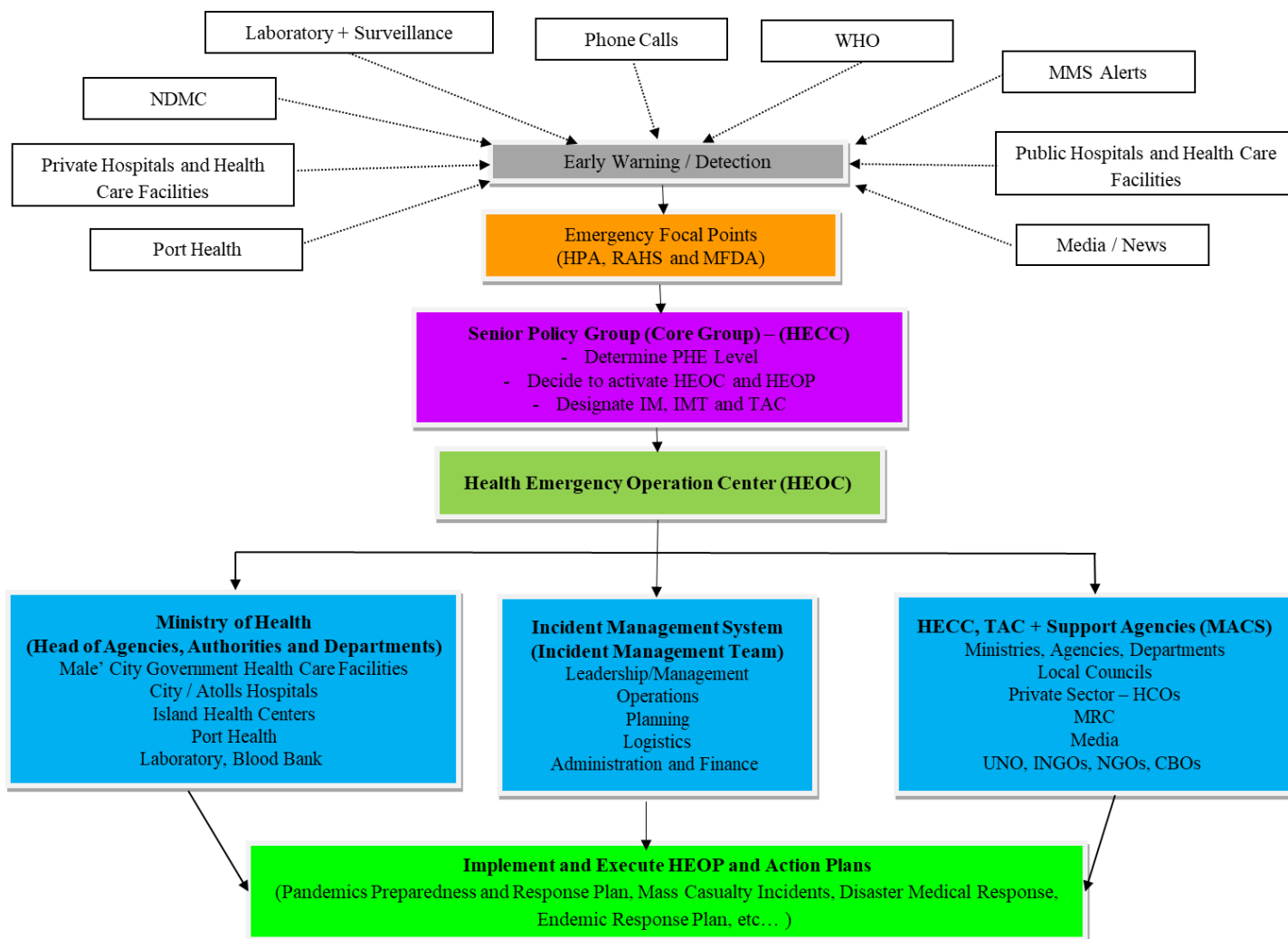


HPA as the responsible public health agency in the Maldives, addresses health concerns on a broad population basis and works in partnership with agencies and organizations at all levels to achieve public health goals. The mechanism for response, response support and recovery established in this document should be always in effect. Unless otherwise described in the accompanying incident annexes that address specific situations, HEOP implementation will be in accordance with the Base Plan.

Disasters and emergencies may occur as a sudden onset or slow onset. Events can, and do, take place that by their nature cannot be anticipated with precision. Response arrangements therefore need to be flexible in order to adapt to the circumstances at the time while applying good practice, including lessons learned from previous emergencies, to protect Maldivians and their environment. Therefore, the HEOP provides the structure for Emergency Management such as organizing, coordinating, and mobilizing resources, utilizing the concepts and principles of the Incident Management System (IMS) and Multi-Agency Coordination System (MACS) in all public health emergencies and disasters events with public health consequences.

Upon detection of suspected public health event or reception of disaster emergency early warning from various sources, the respective designated focal points notify the senior management of the MoH and conduct an initial assessment of the situation. Based on the guidance from the leadership, convenes the Senior Policy Group (Core Group) of the HECC in order to activate HEOC, IMS and scaled response as per the emergency levels and triggers or to carry out the emergency monitoring, mitigation, preparedness and readiness activities.

Figure 4. Process of Operationalizing HEOP



The HEOC is the government's public health coordination center for public health emergency situations, which require the utilization and commitment of national assets and/or services. This is the central point where decision-makers and health response activity representatives are co-located in order to effectively respond to emergencies. This close coordination assures an effective response in a timely manner with minimal duplication of effort.

In potential or actual emergency situations, as per the guidance from the HECC, the IMT has the option to activate the HEOC and operate in at the required level and the alert phase. Small or isolated incidents such as a minor road accident or an oil spill might not require the opening of the HEOC but the monitoring level is always present. Larger events might require the opening facility and activation of personnel to staff HEOC. The team formed when this occurs is designated as the Incident Management Team (IMT) and made mainly of individuals from MOH and its various departments.

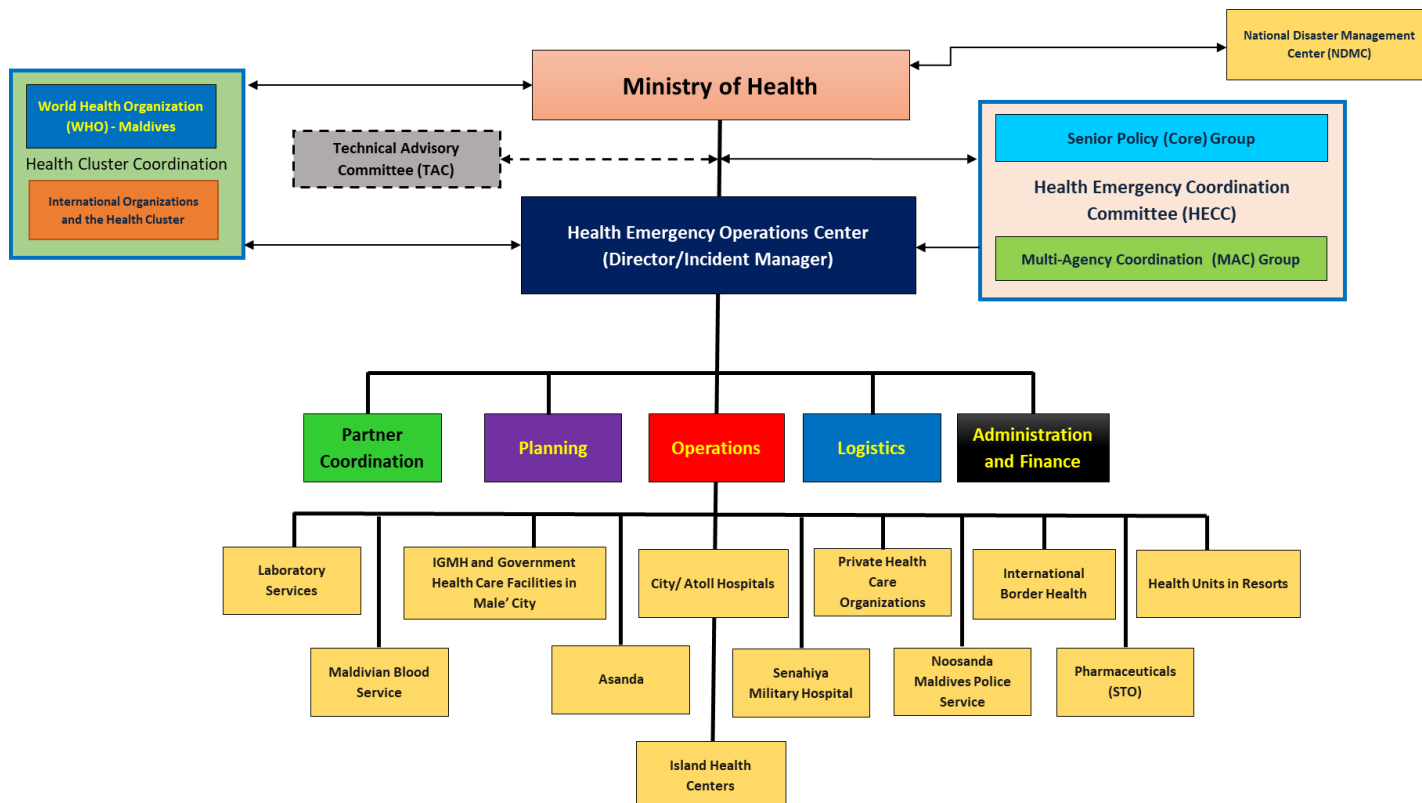
5.1 FRAMEWORK FOR PUBLIC HEALTH EMERGENCY MANAGEMENT

The HEOP outlines the essential role of the public health system in emergency preparedness and response. A catastrophic emergency that may cause numerous fatalities, severe illness and/or injuries, disruption of normal life systems and, possibly, property loss will have a powerful impact on economic, physical, and critical social infrastructures. To prepare for and respond to an emergency of great severity and magnitude

will require leadership, multi-agency cooperation and coordination, rapid response surveillance and communications systems, a trained and available public and private health and medical workforce, and volunteers to help perform essential tasks. All these efforts must be anticipated and coordinated. The Figure 5. Health Sector Emergency Management System represents the coordination mechanism for the health emergencies.

Ministry of Health and its departments are mandated to carry out the public health protection measures and PHE response actions in the Maldives. Minister has the overall responsibility for health sector response. However, HPA, MFDA and RAHS are the operational arms responsible to take special steps to safeguard the general public from health hazards before, during and after the public health emergencies and disaster related health consequences.

Figure 5. Health Sector Emergency Management System in the Maldives



When Ministry of Health is the lead agency in a response, the Ministry can nationally coordinate the operation in the HEOC or it may also use the National Emergency Operations Centre (NEOC), maintained by NDMC, depending on the situation and the extent of the response needs of particular emergency. The following figure outlines the PHE coordination and communication structure for the health sector.

Under the guidance and direction from MoH, all the public hospitals and healthcare centers play a key role. Line ministries and departments render support with resource provision. Private healthcare organizations, NGOs and volunteers stands as key stakeholders as a whole nation's effort in response to public health emergencies and disasters.

Every emergency is different, however emergency management is organized around key elements that are common in most emergencies. In the case of the emergency management for health in Maldives, the key tools are shown in the table 2 below:

Jurisdiction	Decision Making	Health Sector Organizations
National / Government/Ministry	Strategic	<ul style="list-style-type: none"> Ministry of Health Health Emergency Coordination Committee (HECC) Technical Advisory Committee (TAC) Health Emergency Operations Center (HEOC) Incident Management Team (IMT) National Rapid Response Teams (NRRT)
Sub National /Sector/Area/Agency	Operational	
City/Atoll	Operational/Tactical	<ul style="list-style-type: none"> City/Atoll Hospitals Health Emergency Team (HET) City/Atoll Hospital Emergency Operations Center City / Atoll Rapid Response Teams (ARRT)
Island	Tactical	<ul style="list-style-type: none"> Island Health Center (HC) HC EMT – Emergency Management Team HC EOC (Emergency Operations Center) Island Rapid Response Team (IRRT)

Table 2. Public Health Emergency Management Tools

6 EMERGENCY RESPONSE LEVELS AND TRIGGERS

In order to aid planning, further understanding, and provide guidance to responders and planners in responding to an incident, two emergency scales and levels are ought to be put in place. Health emergency level has two categories. Emergency response levels declared at **national level** by the MoH and HPA, and **local level** declared and determined by the city/atoll hospital managers and island health center manager for their respective jurisdictions with the approval and consultation from the Minister and HEOC.

6.1 NATIONAL HEALTH EMERGENCY RESPONSE LEVELS

Four levels of public health emergency are to be considered (Table 5). Each of the levels has triggers that constitutes the call for actions for a particular level of response and magnitude that defines the impact of the emergency, based on population and territory. These type of emergencies provide an indication of the current situation and emergency level at which the country is due to or in anticipation of a disaster/emergency. These emergency levels also specify the type of emergency coordination required and the resources being allocated.

Level 1: A public health emergency or a disaster event that can be managed by **individual islands** locally and handled by the available local systems and resources. Local levels can determine impact of the emergency on the community using Local Levels of emergency allocation of High, Medium or Low based on the damage, loss and displacement in the community due to the emergency/disaster event.

Level 2: A public health emergency or a disaster event that has a wider focus than at community level within an Atoll, usually when **multiple islands in an atoll/city** is effected requires Atoll/City level emergency systems

to be activated and atoll/city level resources to be utilized. Incidents of this level are usually managed at local level with overall strategic coordination from city or atoll hospital with little or no support from national level.

Level 3: A public health emergency or a hazardous event is looming to threaten a wide territory (**multiple atolls or cities**) of the Maldives with considerable impact. It requires a national attention for the government to coordinate with various departments and agencies. Atolls, cities, and national resources are to be mobilized. A health emergency of Level 3 is under the coordination of the HEOC.

Level 4: Occurrence/anticipation of public health event that has a high potentiality to impact (people affected, damage, loss and displacement) the nation's territory. This requires an immediate pro-active action from the national government to direct support to the areas with high probability of risk. Situation might include overwhelming of all local, atoll and city as well as the whole health sector response and resources. At this level, atoll, city, or islands and national resources and systems may be mobilized. A suspected or confirmed case of PHEIC may be considered as a level 4 national emergency. Any event in Male including disease outbreaks. Identification of an eradicated and eliminated disease anywhere in the country. Deaths of people in a community due to an illness based on a risk assessment. Identification of local cases of ongoing pandemic/ regional epidemic.

Note: - Level 4 public health emergencies and disasters of health impacts, response operations are coordinated at the national level by the HEOC at the ministry of health or National Emergency Operations Centre at the NDMC.

- Assignment of Level an emergency which threatens a wide or prolonged impact to a large territory in Maldives can be determined based on the geographical area, the population affected and the amount of resources that need to be utilized for the operation. The location guideline of specific number of islands or atolls is not necessarily adhered.

Table 3. Public Health Emergency Levels and Thresholds

Level	Magnitude	Jurisdiction	Triggers/Thresholds
I	Low	Island	<ul style="list-style-type: none"> Disaster or emergency event impacts individual islands. Report of more than usual number of cases of any disease under surveillance. Identified disease is known for high risk of transmission or severe illness leading to hospitalization or high fatality rate in absence of treatment. Unexplained death of rats, birds or fishes or other animals; and other environmental hazards with public health impacts.
II	Serious	City/Atoll	<ul style="list-style-type: none"> Emergency or disaster impacts multiple islands in a City or in an Atoll. Report of more than usual number of cases of any disease under surveillance from multiple islands in a City or in an Atoll. Unexplained death of rats, birds or fishes or other animals; and other environmental hazards with public health impacts reported from multiple islands in a City or in an Atoll. Overwhelming coping capacity at level 1
III	Significant	Sector/Area /Agency	<ul style="list-style-type: none"> State of public health emergency declared by the Minister. Report of more than usual number of cases of any disease under surveillance from multiple Cities /Atolls. Import of even one case or suspect of diseases under IHR surveillance or with pandemic potential Unexplained death of rats, birds or fishes or other animals reported from multiple Cities / Atolls and PoEs. Overwhelming coping capacity at level 2

IV	Catastrophic	National / Ministry	<ul style="list-style-type: none"> • Emergency event or disaster has of National Significance • Nationwide/ Regional/Area health impact. • Identification of an eradicated and eliminated disease anywhere in the country. • Deaths of people in a community due to an illness identified based on a risk assessment. • State of public health emergency declared by the Minister. • National state of emergency declared by the President with respect to Public Health / Disaster Incident. • Male'City or multiple cities/atolls in Maldives activating level 3 response, exceeding level 2 response • Imported/reported case of a suspected PHEIC • Overwhelming coping capacity at level 3.
----	--------------	---------------------	---

6.2 TRIGGERS AND THRESHOLDS FOR SPECIFIC DISEASES

In addition to the above criteria for health emergency levels, MoH has maintains the following thresholds and triggers for specific diseases. Refer the table below;

Table 4. Triggers and Thresholds for Some Specific Diseases

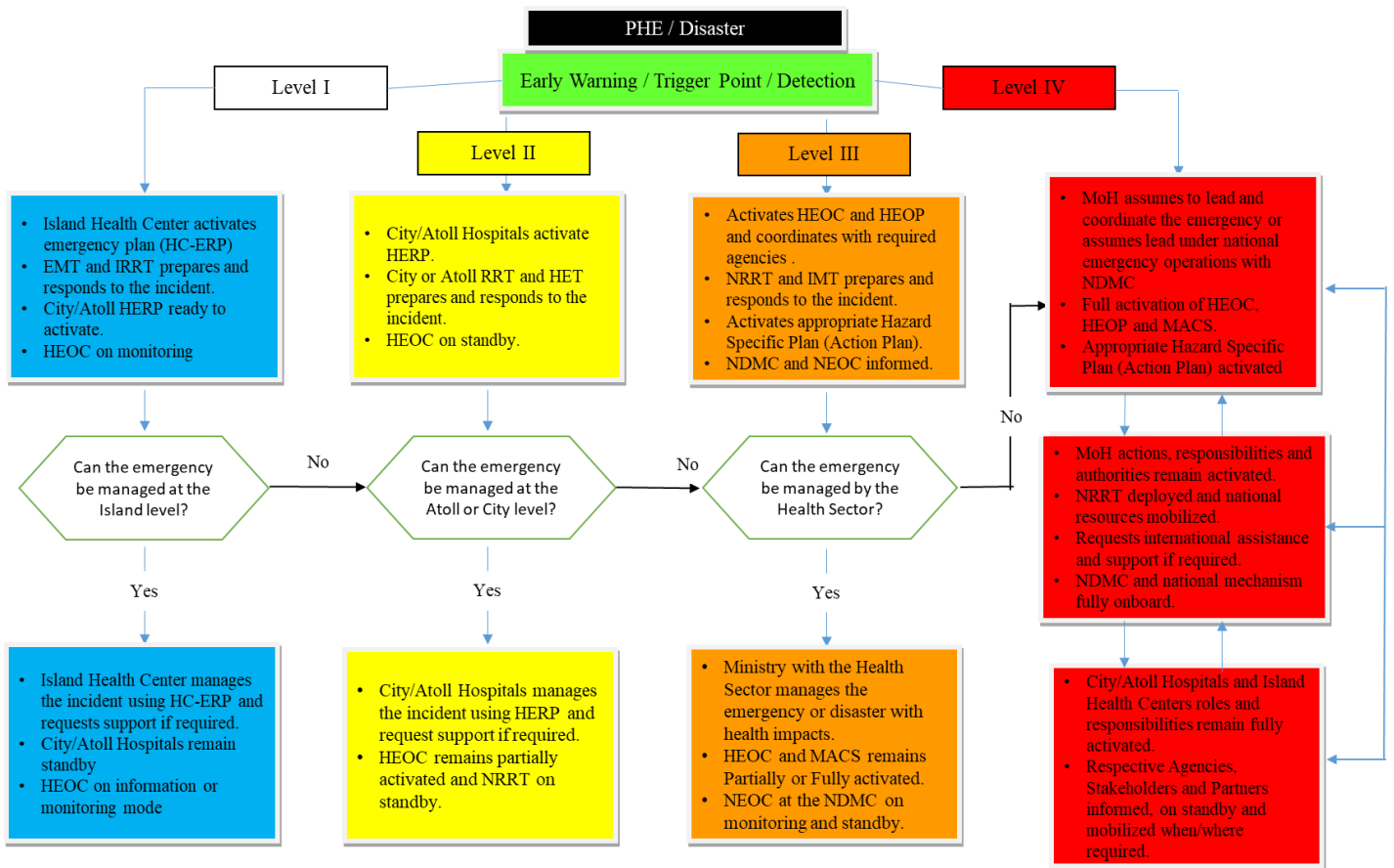
Disease/Event/Disaster	Triggers/Thresholds	Alert Status by HEOC
AFP/Polio	1 suspected case	Monitoring
Measles	1 confirmed case of is considered a Public Health Emergency and will trigger the activation of Action Plan.	Full Activation
Malaria		
Filaria		
Cholera	1 suspected case	Full Activation
Communicable diseases under daily reporting requirement³	1 standard deviation	Monitoring
	2 standard deviations	Partial Activation
Diphtheria	1 suspected case	Partial Activation
	1 confirmed case	Full Activation
Encephalitis	1 suspected case	Partial Activation
Ebola Virus Disease	1 suspected case	Full Activation
Meningitis	1 standard deviation in excess of average (previous 5 years)	Partial Activation
MERS	1 probable case	Partial Activation
	1 confirmed case	Full Activation
Mumps	1 suspected case	Partial Activation
	1 confirmed case	Full Activation
Notifiable communicable disease	Activation of any HERP	Information
	If endemic: two standard deviations in excess of average (previous 5 years)	Monitoring
	If not endemic: at least 5 cases	Partial Activation

³ Except vaccine preventable diseases.

	confirmed	
	HPA Director, HTF/HECC requests activation	Full Activation
Public Health Events (PHE) of initially unknown etiology	Any AET activation communicated to HPA	Information
	Request of support by AET OR HPA Director requests stand-by	Monitoring
	HPA/HECC approves AET request for support OR HPA Director, HECC requests activation	Partial Activation
	HPA/HECC decision that situation is controlled or AET can manage it	Full Activation
Rubella, CRS	1 suspected case	Partial Activation
Whooping cough	1 suspected case	Partial Activation
Pandemic Influenza	1 suspected case	Partial Activation
Yellow Fever	1 suspected case	Partial Activation
	1 confirmed case	Full Activation

Emergencies and disaster events impact can escalate from minor to major by overwhelming the local resources. Based on the response capability and coping capacity of the island, emergency response level may have to be escalated. The following figure shows the escalation pathway for the management of public health emergency and disaster events involving health consequences.

Figure 6. Escalation of health emergency response levels



6.3 LOCAL HEALTH EMERGENCY RESPONSE LEVELS

These are emergencies that can be dealt with at island, city and atoll level. Assignment of local level of emergency lay upon the duty of the highest government health facility (city/atoll hospital and island health center) manager in reference to an anticipated impact, initial situation analysis and or the risk assessment report.

Each island, atoll and city can assign an emergency level to their respective Standards Operating Guidelines. By default of such guidance, below guidance shall be followed. This emergency level issued by the islands, cities, and atolls authorities defines the magnitude and required support for the respective jurisdiction.

Island health centers and city/atoll hospitals have distinct three levels of health emergency response. They are LOW, MODERATE and HIGH.

Low Level - If any public health event or an emergency can be managed and handled by the island health center or city/atoll hospital using its inherent resources within the city/atoll/island without any support of outside resources is the **LOW** level of response. It doesn't require to activate health center emergency response plan or HERP. EOCs can keep limited manning to monitor the situation and inform to the city/atoll hospital or HEOC respectively.

Moderate Level - If any public health event or an emergency can be managed and handled by the island health center or city/atoll hospital with local councils and other stakeholders' resources within the city/atoll/island without any support from next higher level is designated as **MODERATE** level of response. It

requires to activate health center emergency response plan or HERP. EOCs have to be fully manned and inform to the city/atoll hospital or HEOC respectively. It may request support from respective island neighbors health centers or atoll/city hospital in managing the disaster or health event.

High Level - Public health event or an emergency with high impact (damage, loss, displacement) to the island community/atoll/city (population, environment, property, livelihood) and sectors. A **HIGH** level emergency cannot be managed within the island or city/atoll level. Local resources are overwhelmed. Need support and coordination from respective atoll/city or national level (HEOC) to handle and manage the disaster. Depending on the initial assessment, international assistance may be sought via proper channels.

Figure 7. Local Health Emergency Response Levels for Island Health Centers

Low	Island Health Centers with its existing resources can manage the incident
<ul style="list-style-type: none"> • low or limited responses • Health Center runs day to day routine operations • Handles incident or emergency without external support • Keeps AH - EOC and HEOC notified 	
Moderate	Health Center with Island Council and other local stakeholders can manage the health emergency or incident
<ul style="list-style-type: none"> • Requires moderate responses • Overwhelms Health Center capacity. • Requires assistance and support from local community, island council and stakeholder agencies within the island • Keeps AH - EOC and HEOC informed • Multi-stakeholder coordination 	
High	Beyond the capacity within the Island. Requires assistance and coordination from City/Atoll Hospital
<ul style="list-style-type: none"> • Requiring a major responses at island level • Exhausts island level resources • Requests assistance and support from City/Atoll Hospitals • City/Atoll Hospital coordinates with HEOC if requires assistance from MoH or national level • Multi-agency coordination - Health center and island council with city/atoll agencies and resources. 	

7 DECLARATION OF PUBLIC HEALTH EMERGENCY

Based on report of risk assessment of the WHO, if the DGPH concludes that there is a situation requiring the declaration of state of public health emergency, DG must accordingly advise the Minister. If DG advises the Minister, the Minister must declare state of public health emergency on specific place for a specific time.

State of public health emergency in Maldives can only be declared by the Minister of Health. With the declaration, DGPH shall entrust with significant powers regarding the public health matters.

However, even without declaring the state of public health emergency, based on initial assessment, situation awareness, and the nature and impact of the event, local EOCs and HEOC can determine the level of response as per the criteria and thresholds, and response requirement.

At the local level, City/Atoll and Island, emergency response level will be determined and declared by the respective Hospital or Health Center Manager (with consultation and approval from the Minister, HPA or HEOC) upon occurrence of an emergency/disaster in the local areas using the above mentioned levels.

- a) The declaration of emergency level can be made only after receiving the approval from the HEOC in writing. The declaration can be made by a formal announcement. The declaration should state the level of emergency as described above.
- b) The level of impact (specified by number of people affected, damage, loss, displacement)
- c) Support and assistance needed or emergency response actions being planned.

7.1 HEALTH EMERGENCY OPERATIONS CENTER (HEOC)

Ministry of Health with the assistance from WHO has an established Health Emergency Operations Center (HEOC) in the Ministry of Health for the coordination and management of public health emergency response and recovery operations. The HEOC is kept in a constant state of readiness for activation for a possible response to any emergency.

The HEOC is the health emergency coordination center for public health emergency situations. This is the central point where decision-makers and response activity representatives are co-located in order to effectively respond to emergencies. This close coordination assures an effective response in a timely manner with minimal duplication of effort.

A public health emergency operations center (HEOC) refers to a physical location or virtual space in which designated public health emergency management personnel assemble to coordinate operational information and resources for strategic management of public health events and emergencies⁴.

a. Purpose:

The mission of HEOC is to ensure that health care and medical needs in public health emergency, disaster response and assistance is provided in the most appropriate, effective and efficient manner for the safety and welfare of Maldivian citizens.

Based at the Ministry of Health, Health Emergency Operations Centre or simply the HEOC is a facility and location where decision makers meet to coordinate resources and manage disasters. It is sufficiently equipped with required resources that are interoperable and redundant. The HEOC leans on the Multi-Agency Coordination Systems (MACS) as functioning structure and utilizes the Incident Management System (IMS) technique to run health preparedness and response operations under the direction and guidance from the HECC.

b. Role:

The HEOC runs the Public Health Warning System, manage data, and coordinate emergency Response Operations (disaster response, and relief coordination, information management) during emergencies within the territory of Maldives.

c. Roles and Responsibilities:

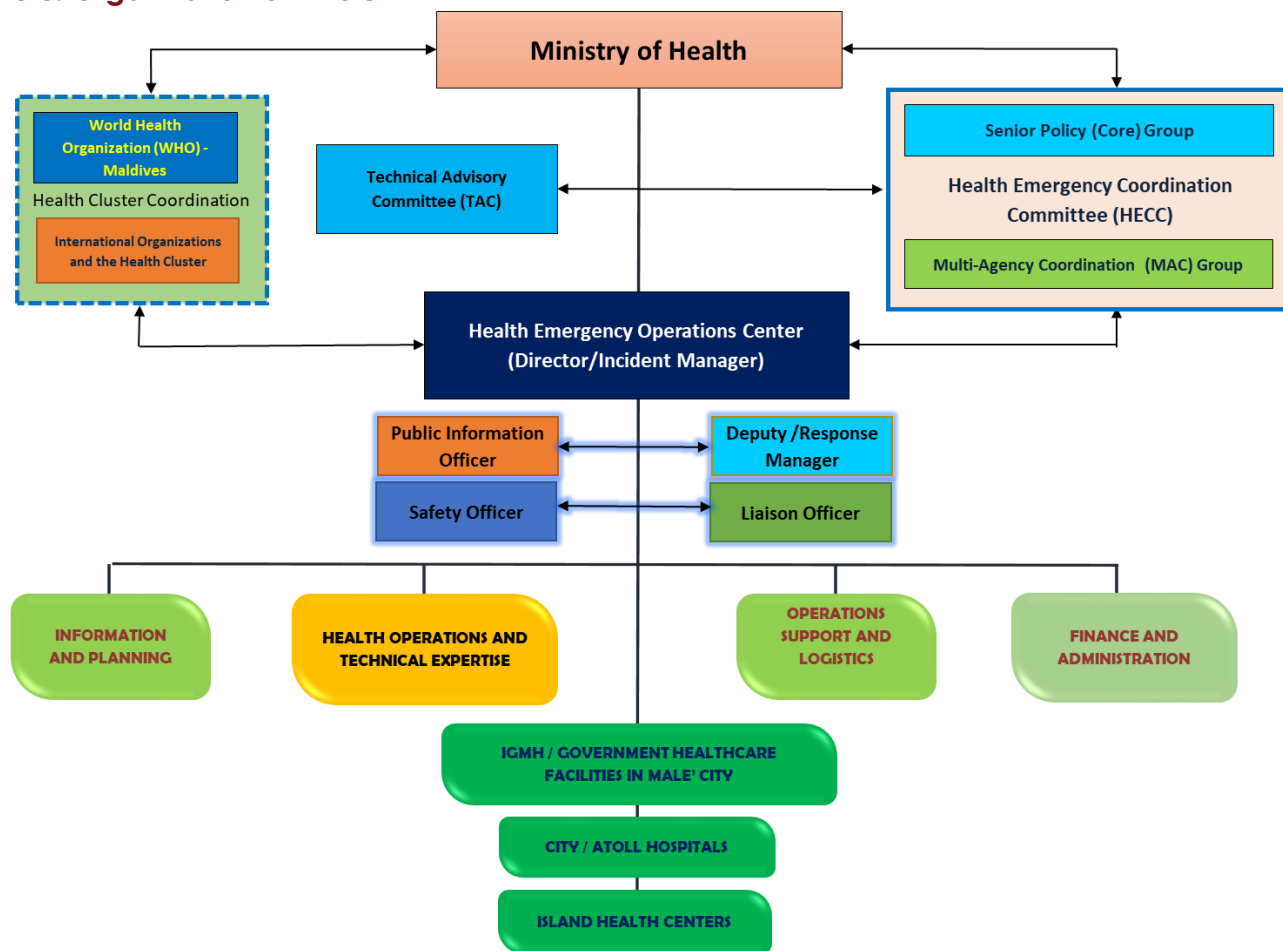
⁴ http://www.who.int/ihr/eoc_net/en/

Ministry of Health needs to develop, strengthen and maintain their capacity to respond promptly and effectively to public health risks and public health emergencies. In order to address emergencies that have health consequences (which may be caused by any or all hazards), HEOC has to be equipped with required infrastructure for better communications and coordination for effective public health response at various tiers and scales. Roles and Responsibilities of HEOC include:

- Command and control
- Implementation of Health Emergency Operations Plan
- Information management and risk communication
- Effective resource mobilization and utilization
- Monitoring, reporting and accountability
- Coordination of relief operations, and early recovery activities

The early activation of an Incident Management System (IMS) and Health Emergency Operations Centre (HEOC) are important components of emergency responses, from which other public health actions flow. HEOC will be located at the Roashanee Building in Male' and facility will be managed and controlled by the DGPH as the Incident Manager. DGPH directly reports to the Minister. DGPH may assign a Director/Response Manager to run the HEOC functions. HEOC is the place where IMS and MACS takes place and executes HEOP. Irrespective of the level, all EOCs are to follow IMS. Personnel for the appointments or positions at the HEOC will be assigned by the IM if not pre-arranged. All the direction and control will be originated from this facility.

Figure 8. Organization of HEOC



7.1.1 HEOC ACTIVATION LEVELS

The staffing and level of HEOC activation, if any, will depend on severity of the incident and level of response required. The activation levels of HEOC are shown in the

Table 5. Activation Levels of HEOC

The notifications to the appointments of HEOC, HECC and IMT are made by the assigned staff or designee from HPA, mostly it will be the duty official. Confirmation of location, time of meeting/ or audio/video conference calls and initial briefing times are communicated to EOC personnel and coordinating partners. Notifications may be sent using phone, text and email. In many occasions, social media applications are used and effective.

Table 5. Activation Levels of HEOC

Activation Level	Alert Status by HEOC	Definition	Color Code
1	Information and Monitoring	Normal operations. The HEOC is not activated	White
2	Standby / Enhanced Monitoring	Key personnel notified and on a ready to respond basis	Yellow
3	Partial Activation	Required HEOC staff are on site at the HEOC	Orange
4	Full Activation	HEOC staff and incident appropriate ESFs agency partners are on site at the HEOC.	Red

7.2 LOCAL HOSPITAL EMERGENCY OPERATIONS CENTER

All the public hospitals in cities and in atolls and island health centers are required to establish and maintain an EOC with essential functions to execute Hospital Emergency Response Plans (HERP) and health center emergency response plans (ERP). These EOCs will adopt the same IMS concept and MACS for the operations and coordination of events in the context of local city, atoll and island administrative environment. As a common protocol, an assigned staff, senior most official or the hospital manager becomes the Incident Manager and will assume the command. Upon assuming the command, IM activates EOC and HERP or ERP. Staff for the different positions will be filled as per the EOC SOP and if not, will be assigned by the IM depending on the nature and magnitude of the emergency.

SOPs for the local EOCs and the job actions sheets need to be developed and maintained with the EOC facility. IMS provides guideline, template and standard organization. HERP and ERP of respective health facilities shall elaborate and include details regarding the functioning of the local EOCs.

The table 4 below presents activation levels of the emergency operations centers at different emergency levels. At level 4, whole health sector is in full activation either in leading or supporting the disaster or the emergency response.

Table 6. EOC Status at Different Emergency Levels

Health Emergency Level	Island Health Center EOC	City/Atoll Hospital EOC	Ministry of Health HEOC
Local Levels			
LOW	Standby	Monitoring	Information

MODERATE	Partial / Full Activation	Standby	Monitoring
HIGH	Full Activation	Partial / Full Activation	Standby
National Levels			
Level 1	Partial / Full Activation	Standby	Monitoring
Level 2	Full Activation	Partial / Full Activation	Standby
Level 3	Full Activation	Full Activation	Partial / Full Activation
Level 4	Full Activation	Full Activation	Full Activation

7.3 INCIDENT MANAGEMENT SYSTEM (IMS)

The Incident Management System (IMS) will serve as the operating protocol for the health sector emergency response. Early warning and required response level triggers the activation of EOCs and IMS. IMS provides a standardized, yet flexible approach to managing health sector response to the emergency. This can be applied regardless of the underlying hazard, or the scale or operational context of the emergency. The IMS approach is internationally recognized as best practice for emergency management.

Incident Management System is a standardized structure and approach that WHO has adopted to manage its response to public health events and emergencies, and to ensure that the Organization follows best practice in emergency management. WHO has adapted the Incident Management System to consist of six critical functions: Leadership, Partner Coordination, Information and Planning, Health Operations and Technical Expertise, Operations Support and Logistics, and Finance and Administration⁵. HEOC will Adopt the WHO recommended IMS in its Emergency Response Framework (ERF), 2017. The figure 10 provides an outline organization of HEOC.

In order to communicate effectively internally and with other emergency response agencies, the Incident Management System (IMS) is in place. The HECC assigned Incident Manager or pre-assigned Response Manager will take on the role of the Public Health Incident Manager, and will assemble the HEOC Incident Management Team. This team will implement the hazard specific plan appropriate for the type of emergency.

The Incident Management System (IMS) provides flexibility during an emergency as it can be scaled up or down as the emergency situation develops. Therefore, a full scale emergency may require all functions to be operationalized; whereas a small scale incident may be managed with a limited number of functions operationalized.

The composition of the Incident Management Team will be dependent on the type of emergency. Their roles will be managed through operations, planning, logistics, and administration and finance sections according to the Incident Management System. The Incident Management Team will report to a designated Emergency Operations Centre (EOC). The Emergency Operations Centre will be adequately equipped with resources required to manage the response to an emergency.

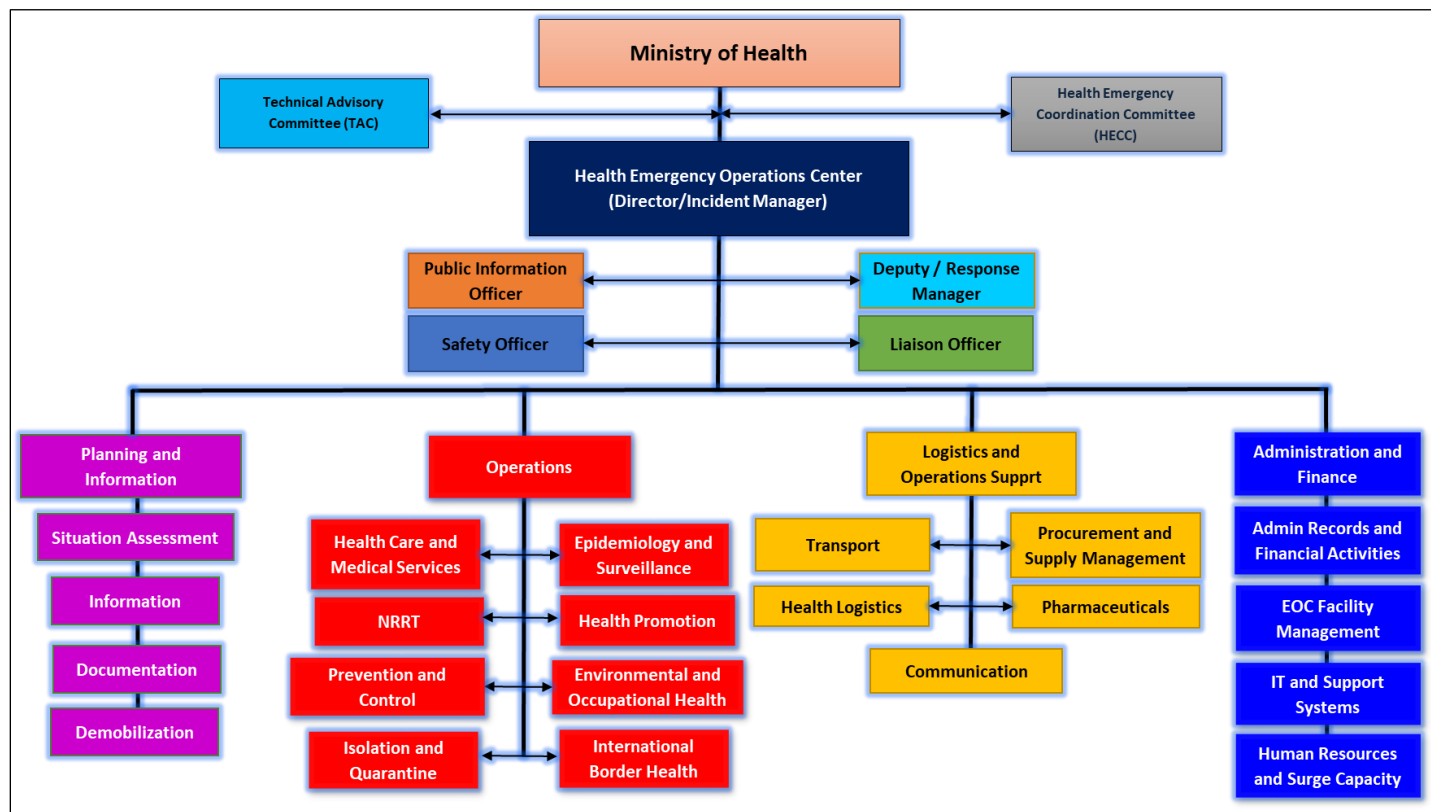
Once the Incident Management Team has been notified to report to the Emergency Operations Centre each member is expected to:

- Report to the HEOC within 90 minutes of notification.
- Check their communication devices to ensure they can be reached.

⁵ Emergency Response Framework (WHO, 2017)

- Obtain a situation update.
- Participate in the initial briefing.
- Participate in planning the initial response and decision making process.
- Communicate information and decisions to appropriate personnel.
- Update person relieving them in their assigned IMT role for any reason.

Figure 9. Outline of Incident Management System



7.4 MULTI-AGENCY COORDINATION SYSTEM (MACS)

A Multi-Agency Coordination System (MACS) is a combination of facilities, equipment, personnel, procedures, and communications integrated into a common system with responsibility for coordinating agency resources and supporting agency emergency operations. MACS provide the architecture to support incident prioritization, critical resource allocation, communications systems integration, and information coordination. The MACS establishes relationships between all elements of the system and assists agencies and organizations responding to an incident⁶.

Functions of the MACS, during health emergency management;

- Provide coordinated decision making;
- Establish priorities;
- Commit agency resources and funds;
- Allocate resources among cooperating agencies or jurisdictions; and

⁶ Hospital Incident Command System, Guide Book, Fifth Edition, 2014

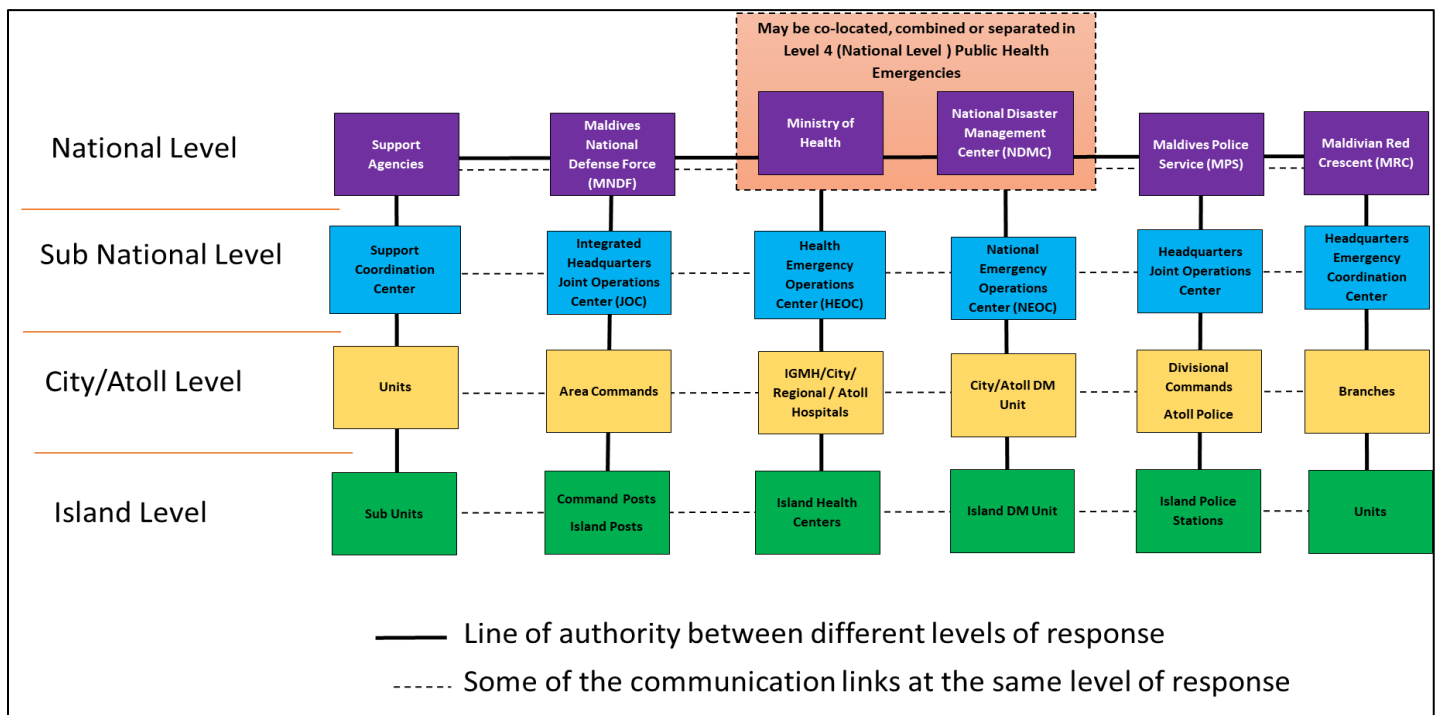
e) Provide strategic guidance to support incident management activities.

For the level 4 national level response for public health emergency, the health sector coordination mechanism will be established and managed by the Ministry of Health, with technical and operational support from NDMC and WHO. At this level, Multi-Agency Coordination (MAC) Group and the Senior Policy Group within the Health Emergency Coordination Committee (HECC) together function as Multi-Agency Coordination System (MACS). It should preferably be managed by the Partner Coordination Section led by the Liaison Officer (LO) from Health Emergency Operations Centre within the Ministry of Health or at the NEOP at NDMC as the situation dictates.

For the level 3 response, inter-agency coordination is managed by the IMT at HEOC with support from WHO. The HECC acts as the main platform for MACS with appropriate members at level 3 response operations. Same coordination mechanism to be applied at the local level in city/atoll hospital and island health center EOC as well with the local councils, other stakeholders and partners.

The WHO Maldives country office heads the Health Sector component of the UN Country of Maldives as per their contingency plans. WHO Maldives will be trusted in their role as the global public health custodian and in this instance to coordinate partner support and to seek technical support. Key role of WHO Maldives also include risk assessment of the situation and thus define the level of emergency. In addition, Representatives from WHO Maldives country office will be included in the HEOC in Partner Coordination Section, MAC Group and Core Group of the HECC.

Figure 10. Health Emergency Coordination and Communication Structure



8 ORGANIZATION AND ASSIGNMENT OF RESPONSIBILITIES

Public health emergency response activities ought to be dealt at local level with little or no involvement from national government until call for help is issued. The emergency management structure established by this

Health Emergency Operations Plan places national government at a strategic and advisory level to encouraging tactical and field level operations using IMS supported by the MACS to be conducted at cities, atolls, and islands levels.

8.1 MINISTRY OF HEALTH

Ministry of Health, Government of Maldives is the apex body to provide leadership and guidance to protect health and wellbeing of the citizens of Maldives. It promotes health as shared responsibility through provision of access to health care. It also provides policy guidance in matters of health, setting norms and standards for services delivery and coordinate with other national and international stakeholders.

The Public Health Protection Act defines the responsibilities of MoH in relation to public health emergencies. Among these, the following in particular are relevant:

- Determine which programs to be conducted to protect public health, identify aims, standards for conducting programs, and how programs will be conducted;
- Identify health hazards, communicable diseases, dangerous diseases, notifiable diseases, determine the extent of spread of such diseases and work to determine which responses can be given if such a disease is spreading;
- Control introduction of health hazards and infectious diseases from other countries, and take necessary measures to control spread of such dangerous diseases in Maldives;
- Inform and provide necessary instructions to health centers under the jurisdiction of councils on steps to take to eliminate, control or minimize risk from dangers which can arise from communicable diseases, dangerous diseases or health hazards
- Establish agreements with foreign countries or agencies to protect public health and conduct programs in association with such countries and agencies.
- Establish a public health laboratory with appropriate staff and equipment. Laboratory should be to the extent required for public health protection. Determine which services would be provided by the laboratory, and ensure continuity of these services.
- Conduct projects and programs to identify the extent to which communicable diseases and dangerous diseases are spread in Maldives or the possibilities of spread of such diseases. Develop policies, organize programs and prepare practical work tables on how to respond in the event of introduction of such a disease
- Develop policies communication methods, and steps to take in the event of health emergency, spread of an infectious disease, spread of a dangerous disease or Maldives declares a state of public health emergency.
- Organize public health services and take necessary steps to protect public health.
- If any possible disease spreading agents is seen in an areas where people live, necessary orders can be issued according to regulations to control or eliminate such risks and under the Act the owners are obligated to obey such orders.
- Develop general hygiene standards to maintain public health and implement these standards.
- In the event of a public health emergency, identify and review how the emergency happened, which steps were taken, what changes were brought about with these steps, difficulties faced in stopping the emergency, steps to take if such a situation arise again and things which must be improved in the future.
- Prepare a report on steps taken regarding dangerous diseases, communicable diseases and notifiable diseases.
- Declare and terminate the state of public health emergency in the country.

Disaster Management Act 28/2015 also identifies some of the responsibilities of the Ministry of Health.

- The Ministry of Health should undertake measures to ensure that health facilities and buildings are safe from disaster risks
- The Ministry of Health should implement necessary actions to reduce risks of possible health hazards due to disasters
- The Ministry of Health shall develop capacity to ensure disaster related health and medical services continuity, and make arrangements to prepare health sector emergency response plan.
- The Ministry of Health should coordinate with relevant institutions/personnel to provide the special health services required during disasters.

8.2 HEALTH EMERGENCY COORDINATION COMMITTEE (HECC)

The HECC is the main decision making and policy formulation body in matters related to public health emergency management at the ministry and national level in the Maldives. The HECC is convened and activated in more complex public health emergencies corresponding to national emergency Level 4. This Committee is led by the Minister of Health or by the Director General of Health Services (DGHS) or a designated ministry senior official. Secretariat functions are to be administered by the HPA.

Roles and Responsibilities

- Advice on the determination of public health emergency level and assist DGPH in advising the Minister of Health for the declaration and termination of state of public health emergency in the country.
- Establishing and promulgating policy decisions relating to public health emergency management.
 - Plan for and coordinate emergency management activities.
 - Oversee health hazard mitigation activities.
 - Coordinate and control operations during health emergency response and recovery.
 - Strategize the health risk communication.
- Providing strategic direction and priorities for field operations.
- Providing direction to agencies performing emergency activities.
- Authorizing issuance of isolation and quarantine recommendations.
- Resolving resource and policy issues.
- Advice on issuing travel advisories if required.
- Advisory and strategic decision making during emergencies based on level of emergency and facilitation of allocation of resources.
- Facilitate multi-agency coordination system (MACS)
- Assign Incident Manager, key command and general staff to the IMT and functional positions of HEOC.
- Provide guidance and direction to IMT and HEOC
- Enable international assistance to the declared and undeclared health emergencies.
- Ensure preparedness for effective response for public health emergency and medical disasters.
- Facilitate HEOC to coordinate with other emergency stakeholders as required.
- Coordinate all necessary assistance required for public health response at national level and sub national level (emergency level I and II).

The Health ECC membership derives from two groups:

Senior Policy (Core) Group which includes senior leadership and executives, units and sections of MoH and other institutions representatives strictly related to the health emergency and **Multi-Agency Coordination (MAC) Group** which includes representatives from government ministries and different sectors. Depending on the situation, the relevant members from the MAC Group will be convened, together with the Core Group, to form the Committee. Members of HECC will be notified and convened based on the need, situation and the nature of the emergency. It is not required to notify everyone for all the events. However, related materials

and information will be shared and communicated accordingly.

The **Senior Policy (Core) Group** is comprised of but not limited to:

- Minister of Health (Chair)
- DG of Health Services (Vice Chair)
- Permanent Secretary
- State Minister for HPA
- DG of Public Health – HPA
- WHO Maldives
- Heads of HSD, HR, MFDA within MoH
- Heads of Emergency Preparedness and Response
- MoH Spokes Person
- Incident Manager – HEOC (when possible)
- Technical experts (if required)
- Representatives (When required)
 - National Disaster Management Center (NDMC)
 - Indira Gandhi Memorial Hospital (IGMH)
 - Maldives National Defence Force (MNDF)
 - Maldives Police Service (MPS)
 - State Trade Organization (STO)
 - Maldivian Red Crescent (MRC)
 - Ministry of Tourism
 - Ministry of Environment and Energy

The **Multi-Agency Coordination (MAC) Group** is comprised of but not limited to:

- Ministry representatives from
 - Home Affairs
 - Foreign Affairs
 - Fisheries and Agriculture
 - Education
 - Others if required
- Representatives from
 - Customs,
 - Immigration,
 - Maldives Airports Company Limited
 - Maldives Ports Limited
 - Civil Aviation Authority
 - Public Service Media (PSM)
 - Communication Authority of Maldives (CAM)
 - Medical services of MNDF
 - Medical service of Police
 - Others if required

8.3 HEALTH PROTECTION AGENCY (HPA)

The Health Protection Agency, under the aegis of the Ministry of Health, has been mandated as the lead government department for public health emergency management in Maldives. It has overall responsibility for developing and maintaining the emergency preparedness and response plan for the health sector, maintaining liaison with international health organizations and providing information and specialist advice to the Minister, other Government departments and responding organizations. HPA receives guidance and direction from the ministry leadership and established committees.

The Public Health Protection Act establishes the policies for the protection of public health and constitutes to this effect the Health Protection Agency (HPA) within the Ministry of Health.

Its objectives are:

- Establishing the main policies to protect public health in Maldives
- Identifying the persons responsible for protection of public health in Maldives, determining the structure they would be placed in and their main responsibilities
- Identifying communicable, dangerous and notifiable diseases, and policies on how such diseases can be classified
- Establishing policies to respond to public health emergencies
- Classifying situations which may be harmful to health and establish measures to take in such a situation
- Establishing roles and responsibilities of island, atoll and city councils for the protection of public health
- Develop guidelines for prevention, identification and treatment of hazards.

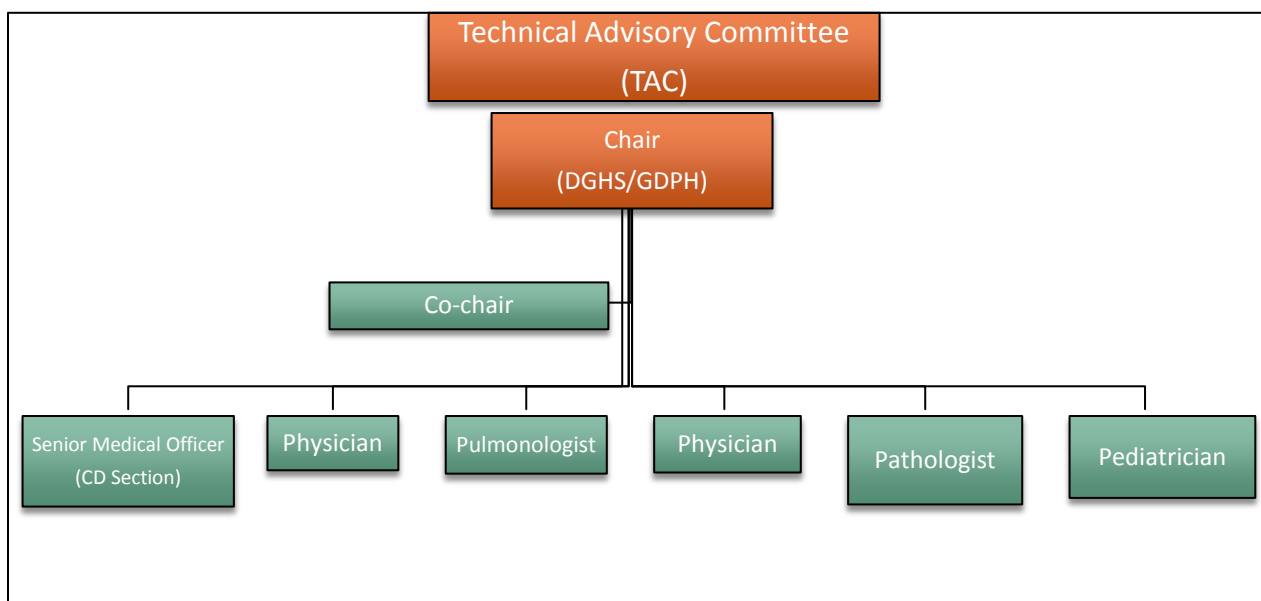
8.4 TECHNICAL ADVISORY COMMITTEE (TAC)

HECC may form and establish an ad-hoc Technical Advisory Committee (TAC) and appoint members with assigned tasks based on the requirement. The purpose of TAC is to provide guidance and technical support for the health emergency response process. This includes technical advice, clinical management guideline, guideline of the vaccination protocol and reducing adverse effect due to outbreak by providing timely information and communication of health risk to the public.

The core committee for TAC may include but not limited to the following;

DGHS, DGPH, WHO Representative, DDG-PH Head of Communicable Disease Section, IGMH Representative, EPR Program Manager and Head of Surveillance Division. The additional members are the experts assigned as per the requirement as mentioned in the below organogram (See Figure 11. A Sample Composition of Technical Advisory Committee for Influenza Outbreak).

Figure 11. A Sample Composition of Technical Advisory Committee for Influenza Outbreak



8.5 NATIONAL RAPID RESPONSE TEAM (NRRT)

This is a readily deployable team of subject matter experts available at the Incident Managers disposal to assist in response to major public health emergencies. The NRRT can be tasked with many. One of the main task of NRRT is to conduct initial rapid assessment to identify the health needs of the affected communities of the islands. The precise composition of the team will vary in every occasion, depending on the situation and the needs. When HECC decides for the activation or deployment of the NRRT, they will indicate which of the profiles should be included. Members of the NRRT can be sourced from any institution that is part of MoH or any relevant organizations in health sector, depending on the situation. In particular, IGMH Rapid Response Teams – deployed for example for airport emergencies – can be taken into consideration for deployment in other emergencies. The NRRT may perform but not limited to the following to support local health teams;

- a) Conduct rapid situational assessments
- b) Help to assess and provide early intervention in emergency health delivery requirements in disaster settings
- c) Address needs in disaster surveillance and public health communications; water and food safety; sewage, solid waste, and other environmental health challenges
- d) Inspect health situation in shelters, assist in primary care services, immunization and other medical related services
- e) Guide, provide and offer health expertise and recommendations in their field to the local health care providers and emergency response personnel.

8.6 CITY AND ATOLL HOSPITALS

The City/Atoll Health Emergency Management Committee, activated for local level preparedness and response to emergencies, will utilize an Incident management System (IMS) and Multi-Agency Coordination Systems (MACS) in carrying out health emergency response operations.

Roles and Responsibilities:

- Operational coordination of emergency response as per directives from Health Emergency Operations Centre
- Implement the atoll/city/island emergency operations plan
- Effective resource mobilization and utilization
- Mobilize and deploy ARRT
- Conduct rapid assessments to identify immediate needs and prepare situation updates
- Determine and declaring emergency response levels
- Request for assistance and resources from higher levels
- Activation of HERP and EOC and HET
- Coordinate and assist island health centers in responding to public health emergencies;
- Ensuring the identification of the main risks for the city/atoll and its islands, to facilitate emergency risk management for health;
- Ensuring the adequate level of preparedness at city/atoll level, through the integration of the Atoll Disaster Management Plan and the Hospital Emergency Response Plan (HERP), consistent with the main risks identified, and the implementation of the priority measures identified.
- Advocating for the assignment of sufficient funds and/or other resources for preparedness and public health emergency response.
- Liaise with the Atoll and Islands Disaster Management Committees and other emergency actors (including MNDF, Police, MRC, others) to ensure coordinated efforts in preparedness and response.

- Participate and conduct emergency and local disaster activities, including trainings and drills.
- Communicate and continuously update HEOC
- Establishing communication with the affected islands and their health centers, for communication and coordination;
- Coordinating activities with the City/Atoll/Island Disaster Management Committee, and with other emergency stakeholders as required;
- Providing all necessary assistance required for Health response at city, atoll or island level;
- Activating health facility response plans at atoll hospital or island health centers and private health centers, depending on need;
- Ensure health care, relief and assistance for affected areas, based on the resources available at atoll level. If adequate resources are not available, alternative measures such as transfer of patients must be arranged.
- Monitoring, reporting and accountability
- Coordination of mitigation, relief, preparedness and recovery activities
- Assisting first responders and other Governmental agencies if required.

8.7 CITY/ATOLL HEALTH EMERGENCY TEAMS

The City/Atoll Health Emergency Team is activated when the emergency is circumscribed to multiple islands in an atoll or a city. This is emergency level 2 at which the city/atoll hospital leads the public health response effort in coordination with other local agencies. The HET may comprises of the following but not limited to:

- Doctor in charge
- Nurse Coordinator
- Laboratory in charge
- Public Health Unit in charge
- Representative of school / education center
- MRC (if present) or NGO
- Representative from Atoll Council and link to Island Councils
- Representative from city/atoll DM Committee
- Representative STO.
- Representatives Police and MNDF
- Representative of regional Airport (if required).

Tasks

- Activating the Emergency Response Plan (Atoll and HERP plans);
- Conduct a rapid assessment to identify immediate needs;
- Establishing communication with the affected islands and their health centers, for communication and coordination;
- Coordinating activities with the Disaster Management Council, and with other emergency stakeholders as required;
- Providing all necessary assistance required for Health response at atoll or island level;
- Activating health facility response plans at atoll hospital or island health centers and private health centers, depending on need;
- Ensure health care, relief and assistance for affected areas, based on the resources available at atoll level. If adequate resources are not available, alternative measures such as transfer of patients must be guaranteed. Essential health services include as a minimum:
- Assisting MNDF and MPS and other Governmental agencies if required.

8.8 ISLAND HEALTH CENTERS

Island Health Centers are the smallest and lowest level units mandated to provide health care and medical service delivery in the Maldives. Most of the islands have just single HC with limited health professionals, services and one ambulance. Majority of the islands have single pharmacy managed by the STO. With the coordination and support from island community and stakeholders, the IHC during emergency events shall;

Tasks

- Establish a medical incident point at the disaster site if appropriate.
- Coordinate health & medical rapid response team efforts.
- Triage of the injured, if appropriate.
- Medical care and transport for the injured.
- Coordinate dead body management and burial of the deceased with relevant stakeholders.
- Holding and treatment areas for the injured.
- Isolating, decontaminating, and treating victims of hazardous materials or infectious diseases, as needed.
- Identifying hazardous materials or infectious diseases, controlling their spread, and reporting their presence to the MoH and HEOC and to the appropriate authorities via city and atoll hospitals.
- Issue health & medical advisories to the public on such issues as drinking water precautions, waste disposal, the need for immunizations, and food protection techniques.
- Conducting health inspections of congregate care and emergency shelter facilities.

9 MOH AS A LEAD AGENCY

Ministry of Health has to play the role of lead agency in responding to public health emergencies such as an epidemic or pandemic events. As lead agency for an emergency at the national level, the Ministry's role is to:

- Coordinate the management of the emergency in accordance with its own emergency plans and statutory functions and powers such as declaring public health emergency.
- Use the provisions of the NEOP in support of its management of the impacts of the emergency when health sector is overwhelmed and requires a significant and coordinated response at the national level.

In a level 4 national emergency where the Ministry is the lead government agency, it has two roles to coordinate; the health sector response and all-of-the government response with the assistance from coordinating and supporting agencies. In this situation, significant interagency coordination is required. Therefore, NDMC and MoH together coordinate MACS in response to the PHE.

10 MOH AS A SUPPORTING AGENCY

MoH is the primary coordinating agency for the Emergency Support Function (ESF)#: 8 Public Health and Medical Services as per the National Emergency Operations Plan of the National Disaster Management Center. Disasters and incidents with public health impacts such as flooding and water crisis require response from the health sector in dealing with public health related issues of it. Main tasks in this include:

- Medical Care and Services
- Public Health
- Crisis Counseling
- Environmental Health
- Behavioral Health Services
- Mass Fatality / Casualty Management

MoH shall provide a qualified representative or alternate, designated by the Minister, to represent him/her at the NEOC, who, on the behalf of, or in the Minister's absence, and shall act to meet the ESF-8 health responsibilities. In some circumstances, where the Ministry of Health is providing support, depending on the nature of the emergency it may provide a health liaison officer to the lead government agency to facilitate emergency coordination and response across agencies.

11 DIRECTION, CONTROL AND COORDINATION

During the life cycle of an emergency, the composition and focus of the Direction, Control, and Coordination functions are likely to change depending the duration of response operations and the level of coordination required. Within this HEOP Direction, Control, and Coordination rests with the HECC and the HEOC depending on type of emergency and level of emergency. Effective coordination amongst coordinating and supporting agencies is vital to accurate decision making during emergency response operation and emergency management.

Direction and Control

In the event of a public health emergency, the Duty Official/Public Health officer at EPR Unit at HPA in consultation with HECC will activate the HEOC to the level required providing public health operational direction and control. Incident Manager with IMT upon designation, will activate all required public health capabilities necessary to respond to and recover from the emergency situation, and will coordinate public health operations with other coordinating and supporting agencies and partners. In the event of a disaster with a secondary public health impact, MoH will send designated staff to the NEOC as liaisons in order to facilitate coordination of resources and services, and to expedite health sector support and assistance by activating appropriate public health capabilities.

Coordination

In any emergency or disaster, hospitals and health centers in islands serve as the "first line of defense" and have the primary responsibility for addressing the immediate health and safety needs of the public. All public health emergency will be coordinated by the government health facility in respective islands and Incident Manager at HEOC under an overarching guidance from the HECC and sometimes directly from the MoH.

In the event of a multi-agency response to a major emergency or disaster, a local council's response mechanism will be activated according to the local emergency operations planning protocol. City and atoll hospitals coordinate with island health centers while maintaining contact and coordinating with the HEOC. Then the HEOC will coordinate closely with NDMC and other response and recovery partners, and stand ready to provide public health support and assistance as needed. Coordination with other supporting agencies will be achieved via liaison officers at MACS in respective tiers.

11.1 NORMAL OPERATIONS

While health care and medical care services are delivered by the public and private health care organizations and facilities on day to day basis, HEOC's operational readiness is maintained by the MoH through implementation of preparedness and mitigation plans. Activities implemented during this phase

include emergency planning, training and exercising of response teams and agencies, situational awareness through hazard monitoring, and facility and equipment maintenance.

11.2 SITUATIONAL AWARENESS

Situational awareness is maintained by the EPR Section of HPA on twenty-four (24) hours daily through the HEOC. Island, atoll, city and national agencies will report to the HEOC via the established emergency phone line, dedicated email box, or by other communications means. Upon receiving alert or a warning, the on-call duty officer conducts situation analysis and depending on nature, magnitude and level with the confirmed updates, recommends to the Director General of HPA/FDA/RAHS (or an assigned senior executive if any) whether or not to activate the HEOC emergency operations.

11.3 EMERGENCY OPERATIONS

The DG of PH, or designated appointee, holds primary responsibility for activation of the Health Emergency Operation Center (HEOC) and the Public Health Incident Management System (IMS). Emergency operations by public health begins with activation of any of the following Plans.

- a) NEOP by NEOC in response to an event or disaster with public health consequences.
- b) HEOP by the MoH as a lead/coordinating agency or as a supporting agency.
- c) City / Atoll Hospital Emergency Response Plan
- d) Island Health Center Emergency Response Plan

12 ALERT NOTIFICATION, WARNING AND ADVISORIES

The Ministry of Health will adopt the following alert codes in HEOP to be used for the public health emergency alert notification, warning and advisories. This alert codes corresponds with the MMS weather alerts and earthquake and tsunami warnings. The alert codes outlined in Table 7 are intended for use in relation to nationally led communications.

Table 7. National Public Health Alert Codes

Phase	Measures	Code
Information	Notification of a potential emergency that may impact Maldives or specific information important to the health sector. Example: emergence of a new infectious disease with pandemic potential, or early warning of extreme weather conditions. Corresponds with NDMC and MMS White Alerts.	White
Standby	Warning of imminent code red alert that will require immediate activation of health emergency plans. Example: Imported case of a new and highly infectious disease in Maldives without local transmission, or initial reports of a major mass casualty incident in a highly urbanized island which may require assistance from atoll/city or national level. Corresponds with NDMC and MMS Yellow Alerts.	Yellow
Activation	Major emergency in Maldives exists that requires immediate activation of health emergency plans. Example: large-scale epidemic or pandemic or major mass casualty incident in any parts of the country requiring immediate response, assistance and coordination from all the national level agencies and partners. Corresponds with NDMC and MMS Red Alerts.	Red
Stand-down	Deactivation of emergency response. Example: end of outbreak or epidemic. Recovery activities will continue.	Green

It is not necessary for HEOC, hospital EOCs, health centre EOCs and other government health care facilities to be at equally corresponding levels of alert. The appropriate level will be determined by the impact and the ability of available health care providers to respond or provide support for the response. For example, an atoll hospital in northern part of the country may be in code red, while the atoll hospitals in southern part are in code yellow. Geographical location and nature of the health emergency hazard has to be considered.

The following table represents the alert codes used by the NDMC for the natural disaster events which may have potential health impacts and consequences.

Alert Level	Alert/Color Code	Alert Phase	Description	Threshold
L1	White	Information	Hazard Identified--Monitoring and Watching Prevention Phase: For information only-- no impact expected	Island level
L2	Yellow	Monitoring	Hazard Impending—Warning, Monitoring, and Watching Preparedness Phase: Public Warning for Readiness. Responder's agencies and authorities alerted for possible mobilization. People living in the area to be on alert and observe readiness	Multiple islands in an Atoll

L3	Orange	Stand by	Hazard /Threat Imminent Response Phase: Responders agencies and Authorities mobilize resources EOC full activation—MACS and ESF on alert	Multiple Atolls
L4	Red	Activation	Response and Action Phase EOC in full action—Response Operation launched and resources mobilized	Large Area / Whole Sector / Nation
L5	Green	Deactivate	All Clear. Cancellation of warning	All

Table 8. Alert Levels for Natural Disaster Events by NDMC

13 ADMINISTRATION, FINANCE AND RESOURCES

13.1 FINANCE

Health emergency management requires a consistent and significant amount of funding for mitigation, prevention and preparedness activities on a long term basis, as well as response and recovery in case an emergency should happen. In both cases, an adequate amount of funding is necessary to guarantee that plans are executed to save lives and property.

MoH has a statutory responsibility to establish public health emergency fund which will be used during any threatening medical disaster situation or disaster. This fund will be regulated, monitored and spent according to a regulation in pursuant to the government Financial Act, in a way that would not hinder the disaster mitigation and response. According to the Public Health Protection Act:

- An amount must be included in the government budget every year to be used in the event of a public health emergency.
- The defined amount must be estimated by the Minister and the Director General considering what actions need to be taken in the event of an emergency and estimated cost for these actions.
- The money allocated for public health emergencies cannot be used for any other purposes.

Islands, Atolls and Cities will be allocated and provided an adequate amount of immediate funding that should be readily available for local level emergencies and national level emergency in the relevant territory in local administration based on the situation and response required. The Ministry of Health shall also seek support from national and international development partners; civil society; the private sector; and all organizations, private and public, involved in emergency preparedness and response for capacity development within the health sector and nation as a whole. Gaps in the funding may also be obtained through the mechanisms of Public Private Partnerships and Corporate Social Responsibility.

The funding for public health emergency response can be expended with the activation of health cluster contingency plan with the assistance from WHO lead and other international organizations as stated in the 4W matrix⁷.

⁷ 4W Matrix provides

13.2 ADMINISTRATION

All administration responsibilities for health emergency management will be handled by the Health Emergency Operations Center at the national and sub national level or respective public health facilities at the city/atoll and island based on level and context of emergency, type and extent of the disaster.

MoH at the national level will keep records and contact information of offices, agencies, teams, partners, or individuals who have a role within Public Health to respond to and/or coordinate an incident in the health sector including all stakeholders and partners to maintain an immediate state of readiness to respond to a disaster or impending disaster. Any official in the Civil Service or government may and can be temporarily assigned for a specific period to HEOC in emergency situations, upon approval by the relevant government authority in order to assist and support health response operations.

13.3 RESOURCES

Ministry of Health will direct, coordinate, and mobilize all available resources as necessary within the jurisdiction of the ministry and other resources from coordinating and supporting agencies to mitigate the effects of the disaster event, or impending public health emergency. All employees and temporary staff working under MoH shall be considered as Emergency Workers and, as such, may be called upon to respond in a duly proclaimed emergency. To the extent possible, the same personnel and material resources as used in normal day-to-day functions will be employed in HEOC and emergency response operation and recovery efforts.

Government Ministries, Departments, Agencies and Public Companies will make available its resources to Health Emergency Operations Centre (HEOC) and public health care providers during health emergencies to support below activities when required and requested. It is also very likely that resources from private organizations will be made available upon request.

- a) Emergency communication
- b) Transporting and logistics
- c) First responders, rescue, temporary shelter or other immediate relief, drinking water, essential provisions, healthcare, and other services in an affected area;
- d) Emergency infrastructure (setting up isolation and quarantine facilities)
- e) Provide assistance in disposal of medical waste;
- f) Funeral proceedings for the victims who lost their lives in the event of disaster.

14 COMMUNICATION

Effective emergency communications is integral to effective emergency response and decision making. Sharing information with horizontal and vertical response partners supports situational awareness and decision-making at all levels of emergency management. Timely communication of incident information, including impact to the Public Health and Medical System, current and anticipated resource needs, and the capacity to respond are essential to developing a common operating picture. All emergency communications shall be managed through the HEOC.

MoH and departments under it has already an established communication mechanism with all other entities and organization for the regular communication needs and information management. The same mechanism and means if unaffected shall be used during health emergencies by the response personnel. The primary means of communication within the health sector include landline telephones, mobile cell phones, emails

and face-to-face communication to alert, notify, and share information during an emergency. HPA maintains a current telephone contact list of key agency personnel needed in an emergency situation.

HEOC will have dedicated hotlines, mobile phones, internet devices and a satellite phone for internal and external emergency communication purposes. Public and private health care facilities and medical service organizations have their own landlines and assigned mobile phones as primary and secondary contact numbers and the same shall be utilized as the main means for emergency communications. This function during emergency response is managed and coordinated by the communications unit in Logistics Section of the HEOC.

Public health emergencies such as endemic and pandemic disease outbreaks are very unlikely to affect communication system. However, major natural disasters such as tsunami and cyclones with catastrophic magnitude may destroy and damage the communication service infrastructure in the impacted areas leaving the hospitals and health facilities with no communication until the issue is restored. In such situations, all other communication means available within the coordinating and supporting agencies will be utilized. MNDF, MPS and NDMC have their own emergency communication systems throughout the country.

Therefore, a framework for communication needs to be established in the health sector and in Maldives as a whole that can be efficient, cost effective and easy to use during emergencies. The Emergency Communications Framework should describe the communication and IT protocols and coordination procedures between response functions as per this plan during public health emergencies. It shall discuss the mechanism for delivering communications support and its development including hardware, set-up and resources allocation to effectively and strategically communicate during disasters and emergencies.

15 PLAN DEVELOPMENT, IMPLEMENTATION AND MAINTENANCE

15.1 PLAN DEVELOPMENT

This plan was developed by the HPA with the support from WHO Maldives. During the plan development process, key stakeholders and partners of the health sector were consulted at national and local level. They include National Disaster Management Center (NDMC), Maldives National Defense Force (Directorate of Operations, Coast Guard and Fire, Rescue Services and Senahiya Military Hospital), Ministry of Health, Ministry of Environment, Maldives Meteorological Services, Ministry of Tourism (DRR Unit), Maldivian Red Crescent, Maldives Police Service at the national level and Local Councils were consulted at the local levels.

15.2 PLAN IMPLEMENTATION

15.2.1 ORIENTATION AND AWARENESS

All stakeholders involved in emergency management within the health sector should be oriented to the HEOP. They should be clear with their roles and responsibilities during health emergencies. Effort should be made to orient new staff or committee members when the members within an agency or committee changes. Main responsibility of orientation lies with Ministry of Health/HPA.

15.2.2 TRAINING AND EXERCISE.

Agencies and committees with specific functions should be trained as per their roles and responsibilities according to specific preparedness plans to ensure effective and efficient emergency management when an emergency occurs. Exercises (simulations, desktop drills etc.) should also be conducted to evaluate the effectiveness and efficiency of the plan. Separate training and exercises can be conducted by agencies and committees to prepare for their functions.

Lessons learnt and new information derived from such training and exercise should be used as feedback to improve this HEOP and specific annexes of it.

15.3 REVIEW, REVISION AND MAINTENANCE OF THE PLAN

The DGPH shall initiate review of this plan once in every two years with the involvement of respective department, agencies, key stakeholders and partners. However, the HEOP should be reviewed and revised after each of the situation below:

- a) A major public health emergency, incident or disaster
- b) Change in operational environment (change to related Acts and Policies, management, a change in elected officials)
- c) Major exercise with After Action Review reports
- d) Change in demographics or hazard/risk environment

The DGPH will ensure that essential changes and amendments to the plan are prepared, organized, and circulated. The HPA will provide a copy of the plan revisions to all departments, agencies and international organizations assigned responsibility for implementation of the plan. In the event that none of the above changes occur, the plan should be still reviewed every two years.

16 AUTHORITIES AND REFERENCES

- Constitution of the Maldives (2008), Maldives
- Armed Forces Act (1/2008), Maldives
- Maldives Police Service Act (5/2008), Maldives
- Maldivian Red Crescent Act (5/2009), Maldives
- Decentralization of the Administrative Divisions of the Maldives Act (7/2010), Maldives
- Public Health Protection Act (7/2012), Maldives
- Disaster Management Act (28/2015), Maldives
- Health Services Act (29/2015), Maldives
- Emergency response framework – 2nd ed. Geneva: World Health Organization; 2017. Licence: CC BY-NC-SA 3.0 IGO

- Framework for a Public Health Emergency Operations Centre. World Health Organization, November 2015
- Draft National Emergency Operations Plan (NDMC, 2017)
- Ministry of Health. 2015. National Health Emergency Plan: A framework for the health and disability sector. Wellington: Ministry of Health.
- Health Master Plan 2016-2025, Ministry of Health, Government of Maldives.
- A strategic framework for emergency preparedness. Geneva: World Health Organization; 2016. Licence: CC BY-NC-SA 3.0 IGO.

SECTION II. SUPPORT FUNCTIONS – ROLES AND RESPONSIBILITIES

Health Care and Medical Services

Transportation

Firefighting, Urban/Maritime Search and Rescue

Law Enforcement and Protection

Logistics

Emergency Management

Utilities

Mass Care and Shelter Management

Deceased and Dead Body Management

17 EMERGENCY SUPPORT FUNCTIONS (ESF) – ORGANIZATIONAL ROLES AND RESPONSIBILITIES

This section outlines the assigned roles, duties and responsibilities of the coordinating and supporting agencies for different Emergency Support Functions (ESFs) which are essential for public health emergency operations. These functions organize government ministries, departments, agencies, private sector and voluntary organizations to perform in MACS to facilitate planning in preparedness, coordination and resources mobilization during and after emergencies to achieve a coherent response and a smooth recovery. These include Health Care, Emergency Medical Services & Public Health, Transportation, Firefighting, urban/maritime search and Rescue, Emergency Management, Law Enforcement and Protection, Logistics, Energy, Water and Sanitation, and Dead Body Management.

18 HEALTH CARE AND MEDICAL SERVICES

Coordinating Agency	Ministry of Health
Supporting Agencies	HPA, MFDA, Divisions and Departments and Sections of MoH
	Public Hospitals and Healthcare Facilities
	Private Healthcare Organizations
	Senahiya / Maldives National Defence Force (MNDF)
	Noosandha / Maldives Police Service (MPS)
	Maldives Red Crescent (MRC)
	Maldivian Blood Service
	Port Health
	Resort Health Units
	State Trading Organization (STO)
	Asanda – National Health Insurance Scheme
	Ministry of Fisheries and Agriculture
	Laboratory
	Local Councils

Tasks:

- a) Coordinate health and medical care during emergency situations.
- b) Provide public health information and education.
- c) Inspection of food and water supplies.
- d) Develop emergency public health regulations and orders.
- e) Coordinate collection, identification, and interment of deceased victims if required
- f) Upon request and activation of NEOC, provide appropriate representation to the NEOC.
- g) Serve as the lead/coordinating agency and the primary point of contact for healthcare and medical services support functions in emergencies and disasters with public health consequences.
- h) Provide, activate, staff and manage HEOC when required for public health emergencies where multi-agency coordination and collaboration is essential.
- i) Provide early warning, notifications and alerts for public health hazards.
- j) Maintain an arrangement to receive and disseminate disaster early warnings.

- k) Coordinate and support health sector to conduct public health emergency response and recovery operations at various levels from strategic to operational and tactical levels.
- l) Coordinate respective government departments, agencies and institutions, other public and private agencies engaged in health emergency management activities.
- m) Mobilize and deploy national rapid response team (NRRT) in responding to public health emergencies and disaster incidents with health impacts.
- n) Provide technical assistance and guidance in the provision of health response actions and areas requiring public health management and related expertise.
- o) Assist and support with situation analysis, rapid risk assessment and mobilization of rapid response teams.
- p) Coordinate appeal for international assistance and assist in obtaining WHO and other international funding for the ministry of health and HPA for the PHE response and recovery operations.

19 TRANSPORTATION

Coordinating Agency	Maldives National Defence Force (MNDF)
Supporting Agencies	Maldives Police Service (MPS)
	Public Hospitals and Health Facilities
	Maldivian Red Crescent
	Local Councils
	Asandha
	Airline and Sea plane Operators
	Airports and Seaports Operators

Tasks:

- a) Coordinate and manage HEOC's public health emergency transport requirements and issues.
- b) Provide transportation capability assets and resources.
- c) Conduct transportation operations including evacuations via land, sea and air.
- d) Serve as the coordinating agency and the primary point of contact for all emergency Transport Support Functions.
- e) Upon activation of HEOC, provide appropriate representation to the HECC, if and when requested in support of the ESF function.
- f) Maintain PPEs and other safety equipment for personnel protection.
- g) Maintain arrangements to receive and disseminate public health early warnings
- h) Provide the HEOC with technical assistance on the most viable transportations options available.
- i) Direct requests for assistance to the appropriate supporting agencies.
- j) Maintain records of all transportation for the purpose of finance and possible reimbursements

20 FIREFIGHTING, URBAN/MARITIME SEARCH AND RESCUE

Coordinating Agency	Maldives National Defence Force (MNDF)
Supporting Agencies	Maldives Police Service (MPS)
	National Disaster Management Center (NDMC)
	Maldives Red Crescent
	Local Councils
	Ministry of Housing and Infrastructure
	Auxiliary Firefighters
	Volunteers

Tasks:

- Upon activation of HEOC, provide appropriate representation to the HECC, if and when requested in support of the ESF function.
- Serve as the coordinating agency for firefighting, urban/maritime search and rescue and hazmat incidents.
- Provide firefighting services, extinguish and suppress fire
- Detect, Prevent and control fire
- Provides emergency medical first response/pre-hospital care, triage, and transportation of victims.
- Co-ordinate and perform urban search and rescue
- Co-ordinate and Conduct maritime search and rescue
- Assist and support evacuation operations of hospitals and health care facilities
- Ensure fire safety in quarantine, isolation and temporary shelters.
- Provide medical evacuations if required.
- On request, Provide Hazmat teams.
- Manage and respond oil spill, chemical and hazardous material incidents.
- Assist and support with situation analysis, rapid risk assessment and mobilization of rapid response teams.

21 LAW ENFORCEMENT AND PUBLIC PROTECTION

Coordinating Agency	Maldives Police Service (MPS)
Supporting Agencies	Maldives National Defence Force (MNDF)
	Health Protection Agency (HPA)
	Public Hospitals and Health Facilities
	Local Councils

Tasks:

- Upon activation of HEOC, provide appropriate representation to the HECC, if and when requested in support of the ESF function.
- Serve as the coordinating agency for law enforcement and public safety.

- c) Provide security and access control for health facilities, quarantine and isolation facilities and temporary shelters.
- d) Assist HPA to enforce quarantine, isolation and protection orders for public health purposes.
- e) Assist and support with situation analysis, rapid risk assessment and mobilization of rapid response teams.
- f) Support and assist medical evacuations
- g) Provide security for EOCs and other assigned locations if requested.
- h) Provide traffic control and crowd control in mass casualty incidents.
- i) Support for communication on request.

22 LOGISTICS

Coordinating Agency	Logistics Department / Ministry of Health
Supporting Agencies	HPA, MFDA, Divisions and Departments and Sections of MoH
	Public Hospitals and Health Facilities
	National Disaster Management Center (NDMC)
	Maldives National Defence Force (MNDF)
	Maldives Police Service (MPS)
	Maldivian Red Crescent (MRC)
	Local Councils
	WHO and International Organizations

Tasks:

- a) Upon activation of HEOC, represent logistics section of IMT.
- b) Serve as the coordinating unit for all logistical support with other supporting agencies.
- c) Provide resources as requested and tasked according to the established protocols
- d) Coordinate, provide and cater for logistical requirements of coordinating and supporting agencies involved in the public health emergency response and recovery from HEOC through the established procurement guidelines.
- e) Provide technical assistance and guidance for other hospitals, health centers and health facilities in locating, distributing, procuring and supplying of critical resources and services requested through the logistics Section of HEOC with the approval of Incident Manager.
- f) Assist and support with situation analysis, rapid risk assessment and mobilization of rapid response teams.
- g) Request other government departments and agencies to provide available resources in order to support PHE operational requirements, and gaps may be filled by acquiring private sector resources to augment the needs.
- h) Direct requests for assistance to the appropriate supporting agencies.
- i) Ensure all logistics supply and procurements go in compliance with the financial regulations of the Ministry of Finance, Maldives.

23 EMERGENCY MANAGEMENT

Coordinating Agency	National Disaster Management Center (NDMC)
Supporting Agencies	Maldives National Defence Force (MNDF)
	Ministry of Health, HPA, MFDA, Divisions and Departments and Sections of MoH
	Maldives Police Service (MPS)
	Maldives Red Crescent (MRC)
	Local Councils

Tasks:

- a) Upon request and activation of HEOC, provide appropriate representation to the HECC.
- b) Serve as the coordinating agency and the primary point of contact for all emergency management support functions at the national level as well as for the disaster management units at local councils in atolls and islands.
- c) Provide, activate, staff and manage NEOC for the ministry of health if required for a nationally declared public health emergency at level 4.
- d) Provide early warning for disasters other than public health notifications and alerts.
- e) Maintain an arrangement to receive and disseminate health alerts, warnings, advisories and other notifications from HEOC.
- f) Coordinate and support health sector to conduct public health emergency response and recovery operations at various levels from strategic to operational and tactical levels.
- g) Coordinate respective government departments, agencies and institutions, other public and private agencies engaged in emergency management activities.
- h) Mobilize and deploy national response force (NERF) in responding to public health emergencies and disaster incidents with health impacts.
- i) Provide technical assistance and guidance in the provision of response actions and areas requiring emergency management expertise.
- j) Assist and support with situation analysis, rapid risk assessment and mobilization of rapid response teams.
- k) Coordinate appeal for international assistance and assist in obtaining WHO and other international funding for the ministry of health and HPA for the PHE response and recovery operations.

24 ENERGY, WATER AND SANITATION

Coordinating Agency	Ministry of Environment and Energy
Supporting Agencies	National Disaster Management Center (NDMC)

	State Trading Organization (STO)
	STELCO, MWSC and FENAKA
	Local Councils

Tasks:

- a) Upon activation of HEOC, provide appropriate representation to the HECC, if and when requested in support of the ESF function.
- b) Serve as the coordinating agency for energy, water and sanitation requirement of HEOC with other supporting agencies.
- c) Provide resources as requested and tasked according to the established protocols.
- d) Direct requests for assistance to the appropriate support agencies.
- e) Coordinate and provide utilities included in this ESF to HEOC, hospitals and healthcare facilities with the supporting agencies if required.
- f) Coordinate and conduct damage assessment for the impacted health service infrastructures with supporting agencies.
- g) Ensure uninterrupted utility service for the continuity of health sector emergency operations.
- h) Coordinate with the HEOC and energy providers to prioritize the restoration of service to hospitals and healthcare facilities based on operational criticality.
- i) Coordinate and arrange backup systems for the HEOC, hospitals and healthcare facilities.

25 MASS CARE AND SHELTER MANAGEMENT

Coordinating Agencies	National Disaster Management Center (NDMC) and Maldives Red Crescent (MRC)
Supporting Agencies	Ministry of Gender and Family
	Ministry of Health
	Ministry of Education
	Maldives National Defence Force (MNDF)
	Maldives Police Service (MPS)
	Public Hospitals and Health Facilities
	Local Councils
	NGOs, Community Organizations and Volunteers

Tasks:

- a) Upon request and activation of HEOC, provide representation to the HECC.
- b) Serve as the coordinating agencies for emergency support function Shelter Management and Mass Care with supporting agencies.
- c) Provide security and access control for health facilities, quarantine and isolation facilities and temporary shelters.
- d) Coordinate and provide basic immediate needs including shelter and food and other basic necessities to displaced, isolated, quarantined and disaster survivors.

- e) Perform emergency shelter and mass care planning.
- f) Coordinate and conduct shelter and mass care operations with other departments, relief agencies, and volunteer groups.
- g) Secure emergency food supplies.
- h) Coordinate special care requirements for disaster victims such as children, pregnant women, aged, disabled, special needs individuals, and others.
- i) Coordinate the provision of psychosocial services to disaster victims, emergency workers, and/or others suffering trauma due to the emergency incident/disaster.
- j) Coordinate and arrange with health sector to identify medical consultants for shelters, provide public health staff for shelters to perform functional needs screening, communicable disease surveillance and control, and basic first aid and provide staff support to evaluate environmental health conditions within a shelter or mass care facilities.

26 DECEASED AND DEAD BODY MANAGEMENT

Coordinating Agency	Ministry of Islamic Affairs
Supporting Agencies	Maldives Police Service (MPS)
	Health Protection Agency (HPA)
	Public Hospitals and Health Facilities
	Maldives National Defence Force (MNDF)
	Local Councils

Tasks:

- a) Upon request and activation of HEOC, provide representation to the HECC.
- b) Serve as the coordinating agency for the deceased and dead body management including funeral formalities.
- c) Coordinate and support with supporting agencies in investigation and case management if required.
- d) Conduct and perform funeral formalities and burials as per the guidance from the HPA with regard to suspected and actual cases.
- e) Ensure the health and safety of the personnel involve in handling of such cases and burial and funeral work
- f) Prepare and plan to receive and manage multiple cases requiring funeral and burials.
- g) Maintain safety and security measures as per the guidance from HPA and MPS.



SECTION III. SUPPORT ANNEXES



Continuity of Operations

Early Warning and Risk Communication

Disease Surveillance and Epidemiology

INTRODUCTION

This section provides guidance on technical area policies and procedures that need to be implemented in line with the HEOP. These include health emergency support annexes for Continuity of Operations, Early Warning and Risk Communication, and Disease Surveillance and Epidemiology.

27 CONTINUITY OF OPERATIONS (COOP)

The Ministry of Health has primary responsibility for the health and medical services function and must continue providing time-critical public health, health care and medical services during emergency situations in the Country. In a major disaster or catastrophe, some day-to-day functions and non-essential services that do not contribute directly to the emergency operation may be suspended for the duration of the emergency and the resources that would normally be committed to those functions will be redirected to the accomplishment of emergency tasks.

The Continuity of Operations Plan (COOP) establishes a chain of command, line of succession and plans for backup or alternate emergency facilities in case of an extreme emergency. The COOP also provides policy and guidance to ensure the execution of the mission-essential functions for the MoH emergency response in the event that an emergency threatens or incapacitates operations; and the relocation of selected personnel and functions of any essential facilities are required. In consultation with the MoH senior leadership and with the HECC direction, the Incident Manager of HEOC coordinates with the MACS and will refer to the Mission Essential Functions and make the decision as to which programs and activities it may be necessary to curtail in cases of major disasters or catastrophes. A continuity of operations plan establishes priority of services and provides guidance to local health care facilities.

The main objectives of the health sector COOP shall;

- Ensure that the MoH including public health care facilities are prepared to respond to emergencies, recover from them, and mitigate against their impacts.
- Ensure that the public health agencies are prepared to provide critical services in an environment that is threatened, diminished, or incapacitated.
- Provide timely direction, control, and coordination to the HEOC and other critical partners before, during, and after an event or upon notification of a credible threat.
- Establish and enact operations continuity implementation procedures.
- Facilitate the return to normal operating conditions as soon as practical, based on circumstances and the threat environment.
- Ensure that the respective COOP is viable, practical and operational.
- COOP is fully capable of addressing all types of emergencies, or "all hazards" and that mission-essential functions are able to continue with minimal or no disruption during all types of emergencies.

In emergency situations involving significant damage to city / atoll and island health facilities, each facility shall be responsible for determining its overall status and compiling a consolidated list of resources or services needed to restore vital functions. Each operating health facilities at various levels shall report its status and needs to the appropriate EOC or HEOC. To ensure continuity of health and medical activities during threatened or actual emergencies and disasters, the following line of succession of command authority is established for the HECC, HEOC and national health response operations:

- a) Minister of Health / Acting Minister of Health
- b) Director General of Health Services
- c) Permanent Secretary of the MoH

- d) Director General of Public Health
- e) Head of EPR Section of the Health Protection Agency

28 EARLY WARNING AND RISK COMMUNICATION

28.1 WARNINGS AND ADVISORIES

Emergency warnings and advisories provide information about imminent or sudden onset incidents that can potentially have significant impacts on people, property, areas, or social or economic activities. The objective is to issue warnings and advisories in a timely manner so that disaster and emergency response agencies, local authorities, and people can take actions to reduce loss of life, illness, injury and damage.

The responsibility for issuing a warning and advisories rests with the agency that, through its normal function, is responsible for monitoring, identifying and analyzing the particular hazard. NDMC, MMS, HPA/FDA, MNDF Coast Guard and EPA issues warnings and advisories for respective hazards. In order to respond emergencies, relevant government agencies, emergency response services, media, local authorities and lifeline utilities must maintain arrangements to receive and respond to warnings.

For a warning or advisory to be effective, the appropriate and relevant people must receive it, understand the hazard and act upon to the particular circumstances. There must be an effective readiness and response mechanism at all levels.

The Early Warning System (EWS) in the Maldives is functional and operates 24/7. Currently, the Maldives Meteorology Services (MMS) runs the nation's natural disaster watch-warning. Other government agencies such as the Ministry of Health, Ministry of Environment & Energy are running their respective hazard risks watch-warning. The National EOC shall be in charge for ensuring the quick and accurate dissemination of disaster information to the public. However, MoH, HPA and MFDA are responsible to issue and communicate health warning and advisories (including travel bans) to the public regarding potential and actual health risks, public health emergencies and food and waterborne diseases.

28.2 NATIONAL WARNING SYSTEM

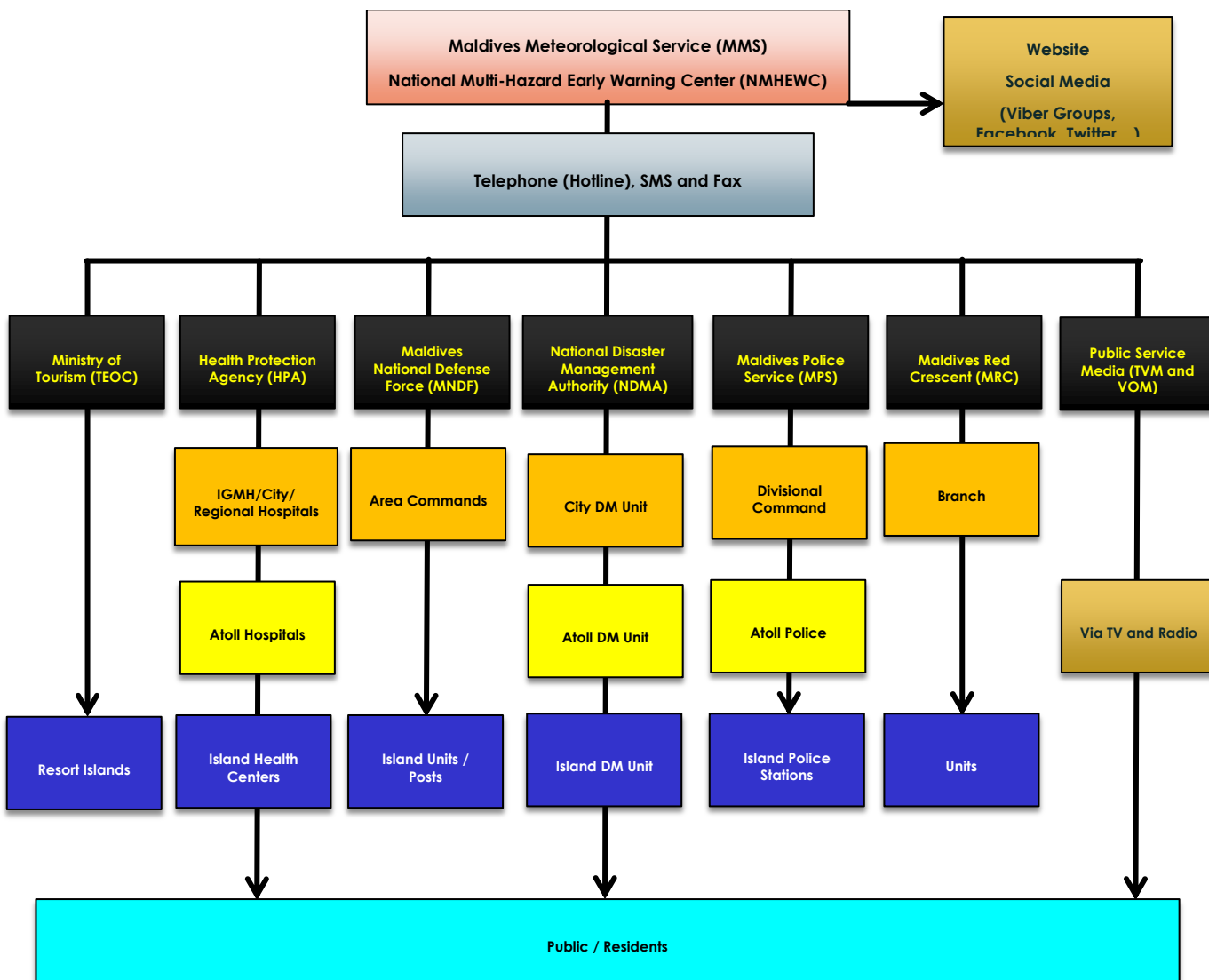
The national warning system in the Maldives consists of authorities and agencies with mandates to provide early warning and advisories. They include MMS, NDMC, HPA, MNDF and EPA. These agencies oversee and maintain a 24-hours-a-day, 7-days-a-week process for communicating information in order to alert recipients to the need for readiness and possible response to a natural, man-made and technological disasters, public health incidents and environmental hazard incidents that may result in an emergency.

Maldives Meteorological Service (MMS) is the primary agency responsible for overseeing the maintenance and function of the national multi-hazard early warning center (NMEWC) for hydro meteorological, earthquake and tsunami hazards. It provides national warnings to NDMC, MNDF, MPS, HPA, MRC, government departments, PSM, local authorities, emergency services, lifeline utilities, and other agencies and to the public via its website and social media platforms as well. NEOC, other agencies and local authorities are responsible for disseminating national warnings to local communities and maintaining local warning system.

HPA shall maintain its organic mechanism to receive early warning for other agencies and to disseminate public health early warnings, alerts and advisories to the concerned agencies, partners and the general public. The most appropriate and systematic way is to manage it through the HEOC.

The following figure 13 outlines the national early warning dissemination mechanism for natural disasters.

Figure 12. National Early Warning Mechanism



28.2.1 CRITERIA FOR ISSUING WEATHER ALERTS AND PROPOSED ACTIONS

Alert Level	Description	Action
1 White	<ul style="list-style-type: none"> Mean wind speed is expected or prevail between 20-30 mph Rainfall of more than 50mm is expected to occur within 24 hours High tidal waves are expected 	Weather information, but no immediate threat

Alert Level	Description	Action
2 Yellow	<ul style="list-style-type: none"> • Mean wind speed is expected or prevail between 30-40 mph • Torrential rain is expected and if heavy rain occurs for more than 2 hours • A severe thunderstorm is expected or experienced • Tropical cyclone is formed within effective areas of Maldives • Significant tidal or swell waves are expected or experienced 	Concern authorities and people living in the area to be on alert and ready to take action. Travel by sea is not advisable
3 Red	<ul style="list-style-type: none"> • Flash flood is expected • A tropical cyclone is tracked to move closer or cross Maldives islands • Destructive tidal or swell waves or storm surge is expected or observed 	Evacuation of population from threatened areas to safer places. Prohibition of sea transport
4 Green	<ul style="list-style-type: none"> • The condition has improved 	Cancel Warning

Based on incident information, weather, earthquake and tsunami alerts, public health events, environment crises and reports from public, NDMC generates early warning messages and advisories for the dissemination to the public and concerned emergency response agencies. NDMC has arrangements to receive and communicate warnings on hazards from MMS, HPA and other lead agencies.

28.2.2 CRITERIA FOR ISSUING ALERTS AND WARNINGS FOR THE EARTHQUAKE AND TSUNAMI

Alert Level	Description	Action
1 White	<ul style="list-style-type: none"> • An earthquake with magnitude of 7.0 or higher in Richter scale, occurred in the Indian Ocean ring but there is no immediate threat from the event 	Earthquake information
2 Yellow	<ul style="list-style-type: none"> • An earthquake occurred with magnitude of 8.0 or higher in Richter scale over the Indian Ocean region. The earthquake has the potential to generate a widely destructive regional tsunami in the Indian Ocean 	Earthquake and Tsunami advisory, concerned authorities and public are advised to be on alert and be ready to move safer areas and high rise buildings
3 Red	<ul style="list-style-type: none"> • An earthquake of 8.0 or higher in Richter scale, occurred in the Indian Ocean ring and confirmation of an ocean wide destructive tsunami originated from the epicenter 	Tsunami warning. People at risk to be evacuated from the danger zones
4 Green	<ul style="list-style-type: none"> • The condition has improved 	Cancellation message, MMS assumes that the tsunami threat does not exist to Maldives

28.3 PUBLIC HEALTH INFORMATION AND RISK COMMUNICATION

The Emergency Public Information includes public information, alert/warning and notification. It involves developing, coordinating, and disseminating health care and disaster medical information to the public, coordinating officials, incident management and responders across all levels and disciplines effectively under all hazard conditions.

28.3.1 PUBLIC HEALTH ALERTS, EARLY WARNINGS AND ADVISORIES

It is a responsibility of the respective departments of the MoH to issue appropriate public health alerts, food and drugs warning and travel related advisories to the public. HPA coordinates and releases public health related alerts, warnings, advisories and media circulars to keep the public informed about the health risks and disease preventive measures. HPA shall maintain policies and protocols to ensure that all required personnel have access to emergency notifications. Designated focal point at the EPR unit receives natural disaster early warning from the MMS. EPR unit communicates its potential health risks to the relevant contact persons in public hospitals and health facilities using the most appropriate medium.

MFDA handles the matters related to food, water and medicines. MFDA plays a key role in the surveillance, prevention and control of pandemic organisms that are transmitted through the food chain. MFDA is the competent authority for health certification of food for export, and as the INFOSAN and RASFF focal point, receives alerts from these networks have the mandate of alerting national and international authorities in the case of any foods safety threats of international, national or local concern. MFDA takes the lead in managing food safety and foodborne emergencies in the Maldives. MFDA, together with HPA is also involved in educating the public and stakeholders on food safety and medicines safety.

The Public Information Officer at the HEOC when activated, has an overall responsibility to manage public information, warnings and advisories, and media during the health emergency response operations.

28.3.2 RISK COMMUNICATION

An effective risk communication saves lives and limits morbidity. The plan should be developed involving the key players and subject experts. A focal point of communication needs to be identified by the Ministry and the person should lead the communication efforts during the emergency. The most ideal person is the PIO or the Spokes Person of the Ministry of Health.

During normal operations, the concerned departments under MoH develops, approves, and disseminates information to key partners, media and the public. HPA may inform the public to potential or actual public health or environmental health threats through health alerts, advisories and notifications. Circulars and media releases are developed and disseminated by designated departments as part of preparedness to response or ongoing operation.

During an emergency with medical impact, HPA provides guidance to health care facilities, emergency medical services transportation providers, first responders and other emergency health care personnel and organizations. HPA with other health sector partners communicate the risks regarding protective personnel equipment, respirators, recommendations for immunization, including pandemic influenza, and other information critical to safely providing emergency medical services in disasters.

HEOC will provide public information, leadership and support in risk communication to local hospitals and health centers during emergencies. When HEOC gets activated, the PIO organizes and manages MoH's emergency public information, coordinates with city/atoll hospitals and island health centers regarding public health risk communication activities including:

- Conducting regular audio/video conference calls if possible;
- Coordinating the sharing of information and communication materials;
- Providing guidance on risk communication issues and media relations;
- Providing information from international organizations and the World Health Organization;
- Participating, as needed, in media briefings and news conferences;
- Sharing information from island and atolls with incident manager, MACS and HECC;
- Maintaining contact list of public information officers; and
- Serving as a 24/7 contact for media inquiries.

28.3.2.1 JOINT INFORMATION MANAGEMENT AND RISK COMMUNICATION

Public health and environmental health emergencies where MoH is the lead agency for the national level response, MoH, NDMC and other related agencies may coordinate Public Health information jointly. This provides a mechanism to organize, integrate, and coordinate information from multiple agencies to ensure timely, accurate, accessible, and consistent messaging activities.

During a public health event or emergency, PIO provides information and situation updates through partner coordination and MACS to external entities, including the general public, news media, and other agencies. HEOC maintains situation update and keeps external organizations informed and responds to inquiries from the media and local and national agencies related to the emergency.

It is a responsibility of a DGPH to report diseases to internal and external organizations. The Director General must report to WHO without delay, if any health hazard created or introduced in Maldives can be of international concern, or if any health hazard created or introduced in Maldives must be reported to WHO under international agreements.

29 DISEASE SURVEILLANCE AND EPIDEMIOLOGY

The Health Protection Agency of Ministry of Health is the lead agency on disease surveillance in the Maldives. The Surveillance Unit of the Public Health Preparedness, Surveillance & Epidemiology Division has the overall responsibility of managing the surveillance system. The Division head takes part in the HECC and represent in the operations section of the IMS at HEOC.

The Surveillance Unit receives data from hospitals and health centers in each atoll and in Malé city, through different means; all data are entered into the electronic system SIDAS (SEARO Integrated Data Analysis System). It also receives informal communication on events, such as outbreaks, unusual reactions to chemicals, food contamination via public complaints, schools, media, and so on as part of its event-based surveillance, which serves as an early warning for health-related emergencies. At present, the Surveillance Unit receives weather and tsunami alerts from the Maldives Meteorological Service.

Data analysis is routinely carried out, generating weekly reports on the number of cases, overlaying them on a time-trend graph of the same weeks in the past 2 years. This is useful for early detection of outbreaks by comparison with previous years' trends.

Epidemiological reports are prepared monthly, fortnightly and dengue summary reports are prepared every week based on the collected information. The unit also prepares an Annual Communicable Disease Report.

In case of detection of abnormal trends or other significant variations, the Surveillance Unit alerts and activates the EPR Unit and the relevant sections in HPA. Depending on the analysis results of the situation, appropriate health emergency level will be determined and HEOC and relevant parts of the HEOP will be activated. Based on the required response level, coordination mechanism will be established and keep communicated the situation update to the relevant HECC members. City, Atoll and Island health care facilities shall be put on stand-by and activated as per the activation protocols of this plan.

In case of a natural disaster, especially one that causes disruption in the access to safe water and to health services, the surveillance system shall temporarily intensify surveillance, in order to immediately detect any outbreak of water-borne diseases or other diseases related to the situation. Adequate preparedness measures shall be taken in advance, including defining the protocols for the investigation and control of common outbreaks, distributing them to relevant staff, ensuring sufficient stocks of essential materials, determine potential isolation facilities, and laboratory facilities that might be required.

In case of outbreak, the MoH and its partners shall implement the appropriate control measures that are specific to the disease and adapted to the Maldivian context. If the disease is one of those monitored under IHR, then reports to the WHO and the relevant counter measures will be initiated with the coordination and guidance from the WHO and other supporting agencies under the direction from the HECC.



SECTION IV. HAZARD- SPECIFIC PROCEDURES



Extreme Weather Events - Flooding
Public Health Emergencies – Pandemic Influenza
A Mass Casualty Event

INTRODUCTION

This section provides Incident/Event specific procedures and protocols for managing the health consequences of emergencies. Along with the Basic Plan, hazard specific actions plans guide strategic direction and coordination to the health sector preparedness, response and recovery to some extent particularly to the MoH and public health care providers and facilities in the event of an incident that impacts public health of the affecting island community. These include SOP's for following hazards.

- Extreme Weather Events - Flooding
- Public Health Emergencies – Pandemic Influenza
- A Mass Casualty Event

29.1 FLOODING

Introduction

Flooding due to extreme weather events are the most common natural disaster faced by the local island communities in the Maldives. Generally urban flooding is a low impact and high frequency hazard. Flooding in the islands occur due to heavy down pour, swell waves and storm surges. The stagnated water level especially in low areas in the islands create disruption to the daily routine of the community and affects health service delivery with significant public health impacts.

Every year several islands suffer flood damages due to torrential rains and storms. Flooding may damage health facility, equipment and has potential for public health hazards due to contamination of ground and flood water, disruption of sewage systems, waste management facilities or release of hazardous substances, loss of reticulated water supplies, disruption and /or loss of utilities loss of electrical supply in affected areas. Flood water also provides favorable breeding grounds for mosquitos which is the cause of many vector borne diseases.

Purpose

- The purpose of this standard operating guideline (SOG) for urban flooding in the island communities is to prepare health care facilities for and effectively respond to potential public health issues associated with flood.

Concept of Operations

- Health sector plays a supporting agency role to the lead local disaster management units and CERT with regard to flood response operations. Local councils activate flood response plans and island health centers and atoll hospitals represent and perform health emergency support function.
- The primary function of the public health entities in the islands is to coordinate public health and disaster medical services to the community during and after an emergency, including casualty treatments, consultation, advising the public on the safety of the water supply, ensuring adequate sanitation and food safety, providing health and medical services, coordinating fatality management if any and medical countermeasure distribution and dispensing, and preventing and controlling potential epidemics.
- For natural disaster events such as flooding, it is always the public health care provider (government hospitals, health centers and other public health service facilities) in the affected islands are to prepare for and respond to health related impacts of emergencies irrespective of the hazard. Health

- The weather warning received from MMS and NDMC or other competent department will be communicated to the appropriate focal point at the respective hospital or health center. Health facility may receive early warnings from local council DM Units as well as in their island disaster management plan.
- If the required response is beyond the capacity and resources of the public health and disaster management unit of the local council, atoll hospital and atoll councils come forward for assistance and support. Meantime, notify and keeps the HEOC informed and updated. During stormy and prolonged rough weather, transportation of response personnel and medical supplies required from Male' remains a major challenge for islands far from it. When this type of health emergency situations occurs, requesting support from unaffected neighboring islands or atolls will be coordinated by the HEOC at HPA level in order to save time and effort.
- When the situation reaches to emergency level 3 or 4, NDMC takes the lead and coordinates other agencies involve in national response. MoH will be represented at the NEOC and acts as a primary agency for coordinating the health sector in support of the combined national effort. Meanwhile, HEOC maintains full activation and implements HEOP with support and assistance from international health cluster lead WHO Maldives.

The following tables represent the actions and responsible person, department and organization during the preparedness and response phases of the urban flood management in the health sector.

Preparedness Actions

Hazard	Flooding due to Extreme Weather	
Phase of Emergency Management	Preparedness	
Responsible Person / Department or Section	Head of Institution (HoI) Head of Agency/Authority (HoA) Head of Department/Division (HoD) Head of Section (HoS) In-Charge (IC) Health Emergency Operations Center (HEOC)	
Organization	Action	Responsibility
Ministry of Health	<ul style="list-style-type: none"> • Develop and maintain PHE supporting plans and procedures for natural disasters including flooding 	HoD of ERP Section - HPA
	<ul style="list-style-type: none"> • Establish communication system and maintain notification rosters for ministry staff, hospital and health care providers, points of contacts of cooperating agencies, and other stakeholders. 	
	<ul style="list-style-type: none"> • Maintain inventory and mapping of resources available for possible PHE response operations due to flooding. 	
	<ul style="list-style-type: none"> • Ensure participation and actively engage all relevant organizations, departments, agencies and public health care facilities in the government and key non-governmental stakeholders, including the MRC, private health care facilities, as well as the public in PHE related preparedness activities, including stakeholder meetings, planning, training, education and exercises. 	EPR - HPA
	<ul style="list-style-type: none"> • Maintain HEOC functional and operational. 	EPR HoA
	<ul style="list-style-type: none"> • Coordinate with NDMC and other responding agencies prior to the deployment of NRRT and resources utilization 	HEOC
	<ul style="list-style-type: none"> • Conduct exercises that include cooperating agencies and other stakeholders. 	

	<ul style="list-style-type: none"> Establish and maintain an early warning mechanism for reception from other sources and to provide alerts, notifications and advisories related to extreme weather events to relevant health care facilities. 	
	<ul style="list-style-type: none"> Coordinate with WHO and other international organizations. 	
Hospitals and Public Health Care Facilities in Male' City	<ul style="list-style-type: none"> Develop and maintain HERP to include hazard specific plan to respond to natural disasters and extreme weather related urban flooding. 	
	<ul style="list-style-type: none"> Conduct health emergency training and drills for staff. 	
	<ul style="list-style-type: none"> Establish communication with HEOC and other health care providers in the city. 	
	<ul style="list-style-type: none"> Maintain adequate stock of medicines and other required supplies. 	
	<ul style="list-style-type: none"> Arrange a mechanism to receive early warning and public information. Update and maintain emergency point of contact list 	
	<ul style="list-style-type: none"> Contingency planning including surge capacity and continuity of functions during flood disasters. An evacuation or shifting to a higher floor if available in worst case scenario. 	
	<ul style="list-style-type: none"> Enhance measures to protect facility, health assets, equipment and tools from local flash flood. 	
	<ul style="list-style-type: none"> Ensure the status of drainage systems, sanitation facilities and waste management in the health care facilities. 	
	<ul style="list-style-type: none"> Ensure protection of vital medical records 	
City Hospitals and Atoll Hospitals	<ul style="list-style-type: none"> Formulate rapid response teams and coordination with other responding agencies. 	
	<ul style="list-style-type: none"> Develop and maintain HERP to include hazard specific plan to respond to natural disasters and extreme weather related urban flooding 	
	<ul style="list-style-type: none"> Conduct health emergency training and drills for staff. 	
	<ul style="list-style-type: none"> Establish communication with HEOC and other health care providers in the city and atoll. 	
	<ul style="list-style-type: none"> Maintain adequate stock of medicines and other required supplies. 	
	<ul style="list-style-type: none"> Arrange a mechanism to receive early warning and public information. Update and maintain emergency contacts of various agencies. 	
	<ul style="list-style-type: none"> Contingency planning including surge capacity and continuity of functions during flood disasters. Prepare for an evacuation or shifting to a higher floor if available in worst case scenario. 	

	<ul style="list-style-type: none"> Enhance measures to protect facility, health assets, equipment and tools from local flash flood. 	
	<ul style="list-style-type: none"> Ensure the status of drainage systems, sanitation facilities and waste management in the health care facilities. 	
	<ul style="list-style-type: none"> Ensure protection of vital medical records. 	
Island Health Centers	<ul style="list-style-type: none"> Develop and maintain HC ERP to include hazard specific plan to respond to natural disasters and extreme weather related urban flooding 	
	<ul style="list-style-type: none"> Train health center staff on disaster medical response and conduct joint drills with local council and CERT. 	
	<ul style="list-style-type: none"> Establish and maintain communication with atoll hospitals and other neighboring island health centers. 	
	<ul style="list-style-type: none"> Maintain adequate stocks and medical supplies. 	
	<ul style="list-style-type: none"> Arrange a mechanism to receive early warning. Update and maintain list of emergency contacts. 	
	<ul style="list-style-type: none"> Surge capacity planning and continuity of functions during flood disasters. Prepare for an evacuation or shifting to a higher floor if available in worst case scenario. 	
	<ul style="list-style-type: none"> Enhance measures to protect facility, assets, equipment and tools from a local flash flood. 	
	<ul style="list-style-type: none"> Ensure the status of drainage systems, sanitation facilities and waste management in the health center. 	
	<ul style="list-style-type: none"> Ensure protection of vital medical records in case of floods. 	

Response Actions

The response actions summarized below identify activities undertaken by the government health agencies/entities when the public health is compromised by flooding due to extreme weather events. Other than local councils and disaster management units, additional agencies may be involved in response activities, depending on the scope of the incident. Refer to the Basic Plan for coordination and stakeholder specific responsibilities.

Hazard	Flooding due to Extreme Weather	
Phase of Emergency Management	Response	
Responsible Person / Department or Section	Head of Institution (HoI) Head of Agency/Authority (HoA) Head of Department/Division (HoD) Head of Section (HoS) In-Charge (IC) Health Emergency Operations Center (HEOC)	
Organization	Action	Responsibility
Ministry of Health	<ul style="list-style-type: none"> Disseminate early warning and alert city/atoll and island health facilities 	HoD of ERP Section - HPA

	<ul style="list-style-type: none"> • Activate HEOC based on requirements. 	
	<ul style="list-style-type: none"> • Implement and execute the relevant part of HEOP 	
	<ul style="list-style-type: none"> • Monitor and update situation to higher leadership 	
	<ul style="list-style-type: none"> • Initiate appropriate health response at national or agency level. 	
	<ul style="list-style-type: none"> • Enhance surveillance and coordinate with laboratories in response to a potential waterborne disease outbreak. 	
	<ul style="list-style-type: none"> • Coordinate and liaise with health sector agencies, private health care organizations and partners. 	
	<ul style="list-style-type: none"> • Risk communication and provide public information 	
	<ul style="list-style-type: none"> • Respond to requests from government health care facilities in flood affected atolls and islands. 	
	<ul style="list-style-type: none"> • Standby NRRT and deploy when required. 	
	<ul style="list-style-type: none"> • Keep relevant departments, agencies and organizations informed and notified. 	
	<ul style="list-style-type: none"> • Coordinate with WHO and other international organizations. Contribute to their flood contingency plan if activated. 	
	<ul style="list-style-type: none"> • Coordinate, support and assist in ensuring the continuity of health care and medical services in the affected islands during and aftermath of floods. 	
Hospitals and Public Health Care Facilities in Male' City	<ul style="list-style-type: none"> • Alert respective hospital departments and key personnel 	
	<ul style="list-style-type: none"> • Activate HERP – flood response SOP 	
	<ul style="list-style-type: none"> • Activate counter measures to protect facility, assets, equipment and tools from a local flash flood. 	
	<ul style="list-style-type: none"> • Take appropriate actions to manage waste including medical waste, drainage and sanitation systems if affected by flood. 	
	<ul style="list-style-type: none"> • Provide emergency disaster medical and health service if required. 	
	<ul style="list-style-type: none"> • Call for and get help from first response agencies to drain flood water. 	
	<ul style="list-style-type: none"> • Activate COOP if required 	
	<ul style="list-style-type: none"> • Standby HRRT and deploy when required. 	
	<ul style="list-style-type: none"> • Keep public informed and HEOC notified with situation updates. 	
	<ul style="list-style-type: none"> • Standby to support NDMC and MoH if requested. 	
	<ul style="list-style-type: none"> • Request support and assistance from HEOC when local resources are overwhelmed. 	
	<ul style="list-style-type: none"> • Monitor and inspect the environment and health of people in temporary shelters if any 	
	<ul style="list-style-type: none"> • Protect medical records and backup systems. 	
City Hospitals and Atoll	<ul style="list-style-type: none"> • Alert respective hospital departments and key personnel 	

Hospitals	<ul style="list-style-type: none"> • Activate HERP – flood response SOP 	
	<ul style="list-style-type: none"> • Activate counter measures to protect facility, assets, equipment and tools from a local flash flood. 	
	<ul style="list-style-type: none"> • Take appropriate actions to manage waste including medical waste, drainage and sanitation systems if affected by flood. 	
	<ul style="list-style-type: none"> • Provide emergency disaster medical and health service if required. 	
	<ul style="list-style-type: none"> • Call for and get help from first response agencies to drain flood water. 	
	<ul style="list-style-type: none"> • Standby RRT and deploy when required. 	
	<ul style="list-style-type: none"> • Activate COOP if required 	
	<ul style="list-style-type: none"> • Keep public informed and HEOC notified with situation updates. 	
	<ul style="list-style-type: none"> • Standby to support Atoll / City DM units and Island health centers on request. 	
	<ul style="list-style-type: none"> • Monitor and inspect the environment and health of people in temporary shelters if any 	
	<ul style="list-style-type: none"> • Request support and assistance from HEOC when local resources are overwhelmed. 	
	<ul style="list-style-type: none"> • Protect medical records and backup systems. 	
	<ul style="list-style-type: none"> • Inspect ground water for contamination 	
Island Health Centers	<ul style="list-style-type: none"> • Upon receiving early warning, alert respective health center departments and key personnel 	
	<ul style="list-style-type: none"> • Activate HC ERP – flood response SOP 	
	<ul style="list-style-type: none"> • Activate counter measures to protect facility, assets, equipment and tools from a local flash flood. 	
	<ul style="list-style-type: none"> • Take appropriate actions to manage waste including medical waste, drainage and sanitation systems if affected by flood. 	
	<ul style="list-style-type: none"> • Provide emergency disaster medical and health service if required. 	
	<ul style="list-style-type: none"> • Call for and get help from first response agencies if available and CERT to drain flood water. 	
	<ul style="list-style-type: none"> • Activate COOP if required 	
	<ul style="list-style-type: none"> • Keep public informed and Atoll EOC notified with situation updates. 	
	<ul style="list-style-type: none"> • Standby to support Island DM unit and CERT on request. 	
	<ul style="list-style-type: none"> • Monitor and inspect the environment and health of people in temporary shelters if any 	
	<ul style="list-style-type: none"> • Request support and assistance from Atoll Hospital if overwhelmed. 	
	<ul style="list-style-type: none"> • Protect medical records and backup systems. 	
	<ul style="list-style-type: none"> • Inspect island ground water for contamination 	

Resource Management

MoH, government hospitals, health centers and health facilities shall maintain specialized resources and adequate stock to support the response to flood emergencies. Prepositioned response kits in strategic locations are available during emergencies but requires coordination with WHO Maldives. Please refer to "MALDIVES – Flood and Storm Contingency Plan (August 2016)" for further details on national flood contingency mechanism. MoH or Logistics Section of the HEOC if activated, would facilitate to fill medicines shortages in conjunction with STO when required. Identified NRRT will be arranged as per requirement and kept standby for possible mobilization and deployment.

During health emergency activations, all resources, including government and local councils, shall be requested and acquired in accordance with the existing rules and regulations. However, resource management and acquisition process should be fast tracked for timely response and service delivery by local health care facilities.

Other Agencies and Entities

Name	Roles
NDMC	<ul style="list-style-type: none">• Lead Agency for flood disasters• Coordinate flood response and recovery operations with supporting agencies through NEOC and activates NEOP• Provide resources and support for flood response and recovery• Provides relief and temporary shelter management• Provide early warning and weather advisories
MNDF	<ul style="list-style-type: none">• Provide first response including flood drainage• Assist in rapid situation and damage assessment• Support patient movement and evacuations• Provide transportation for emergency logistics delivery• Assist in repairing and restoration of damaged health facilities
MRC	<ul style="list-style-type: none">• Volunteer management• Participation in repairing and restoration of damaged health facilities• First response and psychosocial support• Evacuee and shelter management• Relief distribution and humanitarian assistance
MPS	<ul style="list-style-type: none">• Provide first response including flood drainage support• Assist in rapid situation and damage assessment• Provide public safety and security for health facilities• Participate in repairing and restoration of damaged health facilities

29.2 PANDEMIC INFLUENZA

For more details, please refer to Health Protection Agency's Pandemic Influenza Preparedness and Response Plan.

29.3 MASS CASUALTY INCIDENTS

Introduction

Mass Casualty Incidents are occasional phenomena that occurs in many island communities which require swift response from the health care facilities within the islands in order to save lives of the involving people.

The MCI plan outlines the sequence of events that will be implemented nationally at HEOC by the MoH, public health care facilities and private health organizations. The plan includes roles and responsibilities of the national agencies and departments, partner organizations and private sector health service providers in response to mass casualty and fatality incidents.

Purpose

The purpose of the MCI Plan is to provide national direction on the management of a mass casualty incident where the health impact of the incident has the potential to overwhelm the various levels of response capacity at island/atoll, city and national level. It also provides guidance and coordination to the health sector in the event of an incident resulting in a large number of casualties.

The following tables represent the actions and responsible person, department and organization during the preparedness and response phases of the urban flood management in the health sector.

Preparedness Actions

Hazard	Mass Casualty Incidents	
Phase of Emergency Management	Preparedness	
Responsible Person / Department or Section	Head of Institution (HoI) Head of Agency/Authority (HoA) Head of Department/Division (HoD) Head of Section (HoS) In-Charge (IC) Health Emergency Operations Center (HEOC)	
Organization	Action	Responsibility
Ministry of Health	<ul style="list-style-type: none"> Develop and maintain PHE supporting plans and procedures for MCI 	HoD of ERP Section - HPA
	<ul style="list-style-type: none"> Establish communication system and maintain notification rosters for ministry staff, hospital and health care providers, points of contacts of cooperating agencies, and other stakeholders. 	
	<ul style="list-style-type: none"> Maintain inventory and mapping of resources available for possible MCI response operations 	
	<ul style="list-style-type: none"> Ensure participation and actively engage all relevant organizations, departments, agencies and public health care facilities in the government and key non-governmental stakeholders, including the MRC, private health care facilities, as well as the public in PHE related preparedness activities, including stakeholder meetings, planning, training, education and exercises. 	EPR - HPA
	<ul style="list-style-type: none"> Maintain HEOC functional and operational. 	EPR HoA
	<ul style="list-style-type: none"> Conduct planning and training for cooperating agencies and other stakeholders. 	
	<ul style="list-style-type: none"> Conduct exercises that include cooperating agencies and other stakeholders. 	
Hospitals and Public Health Care Facilities in Male' City	<ul style="list-style-type: none"> Develop and maintain HERP to include hazard specific plan to MCI 	
	<ul style="list-style-type: none"> Conduct health emergency training and drills for staff. 	

	<ul style="list-style-type: none"> Establish communication with HEOC and other health care providers in the city. 	
	<ul style="list-style-type: none"> Maintain adequate stock of medicines and other required supplies. 	
	<ul style="list-style-type: none"> Arrange a mechanism to receive early warning and public information. Update and maintain emergency point of contact list 	
	<ul style="list-style-type: none"> Contingency planning including surge capacity and continuity of functions. 	
	<ul style="list-style-type: none"> Formulate rapid response teams and coordination with other responding agencies. 	
City Hospitals and Atoll Hospitals	<ul style="list-style-type: none"> Develop and maintain HERP to include hazard specific plan to respond MCI 	
	<ul style="list-style-type: none"> Conduct health emergency training and drills for staff. 	
	<ul style="list-style-type: none"> Establish communication with HEOC and other health care providers in the city and atoll. 	
	<ul style="list-style-type: none"> Maintain adequate stock of medicines and other required supplies for surge capacity 	
	<ul style="list-style-type: none"> Arrange a mechanism to receive early warning and public information. Update and maintain emergency contacts of various agencies. 	
	<ul style="list-style-type: none"> Contingency planning including surge capacity 	
Island Health Centers	<ul style="list-style-type: none"> Develop and maintain HC ERP to include hazard specific plan to respond to MCI 	
	<ul style="list-style-type: none"> Train health center staff on disaster medical response and conduct joint drills with local council and CERT. 	
	<ul style="list-style-type: none"> Establish and maintain communication with atoll hospitals and other neighboring island health centers. 	
	<ul style="list-style-type: none"> Maintain adequate stocks and medical supplies. 	
	<ul style="list-style-type: none"> Arrange a mechanism to receive early warning. Update and maintain list of emergency contacts. 	
	<ul style="list-style-type: none"> Surge capacity planning 	

Response Actions

The response actions summarized below identify activities undertaken by the government health agencies/entities when the public health is compromised by flooding due to extreme weather events. Other than local councils and disaster management units, additional agencies may be involved in response activities, depending on the scope of the incident. Refer to the Basic Plan for coordination and stakeholder specific responsibilities.

Hazard	Mass Casualty Incidents
Phase of Emergency Management	Response
Responsible Person / Department or Section	Head of Institution (HoI) Head of Agency/Authority (HoA) Head of Department/Division (HoD) Head of Section (HoS) In-Charge (IC) Health Emergency Operations Center (HEOC)

Organization	Action	Responsibility
Ministry of Health	<ul style="list-style-type: none"> • Activate HEOC based on requirements. 	
	<ul style="list-style-type: none"> • Implement and execute the relevant part of HEOP 	
	<ul style="list-style-type: none"> • Monitor and update situation to higher leadership 	
	<ul style="list-style-type: none"> • Initiate appropriate MoH response at national or agency level. 	
	<ul style="list-style-type: none"> • Coordinate and liaise with health sector agencies, private health care organizations and partners. 	
	<ul style="list-style-type: none"> • Risk communication and provide public information 	
	<ul style="list-style-type: none"> • Standby NRRT and deploy when required. 	
	<ul style="list-style-type: none"> • Keep relevant departments, agencies and organizations informed and notified. 	
	<ul style="list-style-type: none"> • Coordinate, support and assist in surge capacity 	
Hospitals and Public Health Care Facilities in Male' City	<ul style="list-style-type: none"> • Alert respective hospital departments and key personnel 	
	<ul style="list-style-type: none"> • Activate HERP – MCI response SOP 	
	<ul style="list-style-type: none"> • Provide emergency disaster medical and triage service 	
	<ul style="list-style-type: none"> • Standby HRRT and deploy when required. 	
	<ul style="list-style-type: none"> • Keep public informed and HEOC notified with situation updates. 	
	<ul style="list-style-type: none"> • Request support and assistance from HEOC when local resources are overwhelmed. 	
City Hospitals and Atoll Hospitals	<ul style="list-style-type: none"> • Alert respective hospital departments and key personnel 	
	<ul style="list-style-type: none"> • Activate HERP – MCI response SOP 	
	<ul style="list-style-type: none"> • Provide emergency disaster medical and health service if required. 	
	<ul style="list-style-type: none"> • Standby RRT and deploy when required. 	
	<ul style="list-style-type: none"> • Activate surge capacity protocols 	
	<ul style="list-style-type: none"> • Keep public informed and HEOC notified with situation updates. 	
	<ul style="list-style-type: none"> • Standby to support Atoll / City DM units and Island health centers on request. • Request support and assistance from HEOC when local resources are overwhelmed. 	
Island Health Centers	<ul style="list-style-type: none"> • Alert respective health center departments and key personnel 	
	<ul style="list-style-type: none"> • Activate HC ERP – MCI response SOP 	
	<ul style="list-style-type: none"> • Provide emergency disaster medical and triage service and evacuation 	
	<ul style="list-style-type: none"> • Call for and get help from first response agencies if available and CERT 	
	<ul style="list-style-type: none"> • Activate surge capacity plan 	
	<ul style="list-style-type: none"> • Keep public informed and Atoll EOC notified with situation updates. 	
	<ul style="list-style-type: none"> • Standby to support Island DM unit and CERT on request. • Request support and assistance from Atoll Hospital if overwhelmed. 	

MoH, government hospitals, health centers and health facilities shall maintain resources and adequate stock to surge capacity and support the response to MCI emergencies. MoH or Logistics Section of the HEOC if activated, would facilitate logistics and transportation. Identified NRRT will be arranged as per requirement and kept standby for possible deployment.

During health emergency activations, all resources, including government and local councils, shall be requested and acquired in accordance with the existing rules and regulations. However, resource management and medical evacuation process should be coordinated with Asanda and if available use of air assets options.

Other Agencies and Entities

Name	Roles
CERT	<ul style="list-style-type: none"> • Assist in first response • Provide support in casualty evacuation • Provide security for triage at incident sites
MNDF	<ul style="list-style-type: none"> • Provide first response including first aid and triage • Support patient movement and evacuations • Provide transportation via sea ambulance and air • Firefighting, search and rescue
MRC	<ul style="list-style-type: none"> • Volunteer management • First response and psychosocial support • CERT mobilization
MPS	<ul style="list-style-type: none"> • Provide first response • Provide safety and security for incident site • Traffic management and crowd control

Legislations, Regulations, Policies and Procedures state all the main documents that this Plan works in conjunction with, and refers to. All the policies, procedures, guidelines and SOP's in this section will work hand in hand during a public health emergency operation.

30 LEGISLATIONS, REGULATIONS AND POLICIES

Disaster and emergency management in the Maldives has become of national concern since the Asian Tsunami of 2004. Within the last decade, tremendous efforts has been undertaken to create laws stipulating disaster management including public health emergencies. Hereunder are applicable laws and ordinances that provide Legal Basis to the practice of emergency management in the Maldives. All disaster and emergency responders are required to at least partly familiarize themselves with them:

The following laws and regulations directly related to public health:

At national level, the Constitution and several Acts structure the State's engagement to prepare for and respond to emergencies. Article 253 of the 2008 **Constitution of Maldives** states that: "In the event of natural disaster, dangerous epidemic disease, war, threat to national security, or threatened foreign aggression, the President may declare a state of emergency in all or part of the country for a period not exceeding thirty days." The Constitution establishes the fundamental duties of the State and the rights of citizens in relation to the environment, the continued well-being of the population and their protection from hazards.

The **Disaster Management Act 28/2015** identifies some of the responsibilities of the Ministry of Health as below mentioned.

- The Ministry of Health should undertake measures to ensure that health facilities and buildings are safe from disaster risks
- The Ministry of Health should implement necessary actions to reduce risks of possible health hazards due to disasters
- The Ministry of Health shall develop capacity to ensure disaster related health and medical services continuity, and make arrangements to prepare health sector emergency response plan.
- The Ministry of Health should coordinate with relevant institutions/personnel to provide the special health services required during disasters.

The **Act on Decentralization of the Administrative Divisions of the Maldives** asserts in its Article 24 that the Island Councils are mandated to establish a mechanism for effective disaster response.

The **Armed Forces Act** in its Article 7 gives mandate to the Armed Forces to lead and coordinate with the relevant government agencies all activities necessary to save the lives of people and to protect property in case of disasters, including in case of fires, maritime incidents or land and maritime hazards and disasters.

The **Police Act** in its Article 6 identifies the responsibilities of Police in case of disasters, namely to save the lives of people, households and property in case of a natural disasters or other type of disasters. The Police is also responsible for helping the victims and assist in maritime incidents and other emergencies.

Finally, the **Maldives Red Crescent Act** in its Article 3 states that the primary objective of the Maldivian Red Crescent (MRC) is to provide humanitarian aid, prevent and alleviate human suffering.

The **Public Health Protection Act (7/2012)** establishes the policies for the protection of public health and constitutes to this effect the Health Protection Agency (HPA) within the Ministry of Health. Its objectives are:

- Establishing the main policies to protect public health in Maldives
- Identifying the persons responsible for protection of public health in Maldives, determining the structure they would be placed in and their main responsibilities
- Identifying communicable, dangerous and notifiable diseases, and policies on how such diseases can be classified
- Identifying lifestyle-related diseases and non-communicable diseases, increase public awareness on such diseases and establish policies to protect public from them
- Establishing policies to respond to public health emergencies
- Classifying situations which may be harmful to health and establish measures to take in such a situation
- Establishing roles and responsibilities of island, atoll and city councils for the protection of public health
- Making each Maldivian citizen a responsible and accountable person with regard to public health protection
- Identifying offences which endanger public health protection and determine punishments for such offences

The **Health Master Plan 2016-2025** identifies three strategic focus areas: Governance, Public health protection and Health care delivery. Each of these focus areas is articulated in several strategic directions to build public trust in the health system, to reduce the disease and disability burden among the population and to reduce inequalities in access to health care. The health system's approach to emergency risk management for health will build upon the same strategic areas and directions.

Under the focus area of Health Care Delivery, one strategic direction is dedicated to emergency risk management for health, including specific indications on increasing preparedness and enhancing response capacity:

Establish capacity for health and medical response in national disasters and emergencies.

- ✓ Strengthen implementation of a health sector response plan and standard operating procedures for disasters and more frequent emergencies in alignment with national disaster management plans.
- ✓ Develop rapid response teams in urban (Central and Regional) and rural levels as first responders and conduct regular drills to maintain necessary skills and effectiveness of the response.
- ✓ Strengthen implementation of contingency plans to deliver health care services in situations where health services get disrupted in disaster or emergency situations.
- ✓ Maintain a national stock of emergency health supplies and health technologies for prevention of diseases and provision of health care in emergencies.
- ✓ Support establishment of integrated national emergency services (such as 911 services).
- ✓ Develop country capacity for the delivery of ambulance services (land, sea, air) supported by trained paramedics towards establishing an emergency medical service in the country.
- ✓ Enhance the capacity within the health sector to respond to public health emergencies such as epidemics and pandemics.
- ✓ Strengthen partnership with Maldivian Red Crescent and other nongovernmental bodies to develop health sector preparedness and responses in provision of relief, rehabilitation and mitigation in disasters and emergencies.

International treaties and Global Initiatives

- International Health Regulations 2005 (IHR 2005)
- Sustainable Development Goals (SDGs)
- Climate Change
- UNITED NATIONS 2015. Sendai Framework for Disaster Risk Reduction 2015-2030. Geneva, Switzerland: UNISDR.
- The Pandemic Influenza Preparedness (PIP) Framework
- The Paris Agreement on Climate Change and Health (Paris Declaration)
- The Global Health Security Agenda (GHSA)
- Universal Health Coverage (UHC) 2030.

Other Plans, SOPs and Guidelines

- Guide on Event Based Surveillance. Public Health Surveillance Section, Health Protection Agency. Ministry of Health
- The Sphere Hand Book – Humanitarian Charter and Minimum Standards in Disaster Response

