WHO Guidance on Preparing for National Response to Health Emergencies and Disasters

World Health Organization

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WHO guidance for developing national health emergency response operations plan (NHEROP) for all hazards

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Abbreviations

CADRI	Capacity for Disaster Reduction Initiative
CONOPS	Concept of Operations
COVID-19	Coronavirus disease-2019
EDRM	Emergency and disaster risk management
EMT	Emergency Medical Team
EOC	Emergency Operations Centre
ERC	Emergency Risk Communication
Health EDRM	Health emergency and disaster risk management
IMS	Incident Management System
MoH	Ministry of Health
NGOs	Nongovernmental organizations
NHEROP	National Health Emergency Response Operations Plan
PDNA	Post-Disaster Needs Assessment
PHEOC	Public Health Emergency Operations Centre
RRT	Rapid Response Team
STAR	Strategic Tool for Assessing Risks
UN	United Nations
WHO	World Health Organization

Executive summary

Emergencies associated with hazards of all kinds – natural, biological, technological and societal – are having a growing impact in many parts of the world and posing ever greater challenges for health and for healthcare systems. The impact of emergencies often delays and disrupts countries' development agendas. And emergencies and disasters also affect people's lives and livelihoods, through their direct impact on health as well as their indirect impact on socioeconomic factors that contribute to resilience.

From the point of view of the United Nations' Sustainable Development Goals and WHO's aim of achieving universal health coverage, emergencies often set back the gains countries had made previously and divert scarce resources from health and socioeconomic development. Although countries do need to take steps, based on the hazards to which they are exposed, to reduce the risk of emergencies and disasters occurring, it has become imperative for countries and communities to prepare for the emergencies and disasters they face. They also need to have in place a thoroughly prepared system for responding to such catastrophes. This requires evidence-based planning in order to ensure a timely and effective response.

It was in this context that WHO organized a technical consultation on global guidance for country health emergency response planning, held in Tunis, Tunisia, from 26-28 August 2019, in order that participants could discuss – based on many country experiences across WHO regions – how countries can better respond to emergencies from all hazards that threaten public health. The consultation brought together experts from countries, international organizations and all levels of WHO with backgrounds and expertise in health emergency and disaster risk management, including leading preparedness and response in the countries. The experiences, lessons learned, views and recommendations expressed by participants during this consultation – as well as the collation of good practices and existing drafts and documents at the regional and global levels – were used to draft this guidance. An early draft of this document was also circulated with, and reviewed by, all relevant technical teams of WHO and as well the participatory partners.

This aim of the guidance is to support countries to develop a comprehensive National Health Emergency Response Operations Plan (NHEROP) for all priority hazards, by proposing standardized steps that can be applied in many settings and contexts using a multisectoral risk management approach. The guidance draws on the International Health Regulations and the Health emergency and disaster risk management (Health EDRM) Framework, and builds on all-hazards country risk profiles and all capacity development plans, including the National Action Plan for Health Security *(1)*. The guidance also refers to the WHO Emergency Response Framework in order to ensure alignment and coordination. The guidance suggests mechanisms countries can use for: engaging the health sector with other sectors around shared tasks and responsibilities; timely outreach to and involvement of stakeholders in all sectors with an all-hazards, whole-of-society approach; developing their NHEROP through a participatory process that brings together government, public health experts, civil society and all relevant sectors to facilitate joint ownership, adoption, testing through simulation and finally successful implementation in responding to emergencies and disasters.

The guidance also captures learning from the COVID-19 response.

Whereas other plans – such as the national health emergency and disaster risk management plan and the National Action Plan for Health Security – are mainly focused on capacity development, NHEROP builds on the existing capacity development plan and frameworks such as the PHEOC framework, and the Health emergency and disaster risk management framework. The NHEROP also supports the development of hazard-specific contingency plans for communities and countries and adds the operational value to countries' response mechanisms.

All these planning processes and plans benefit from various assessments, including risk assessments (e.g. STAR tool), capacity assessments (e.g. joint external evaluation *(2)*, Capacity for Disaster Reduction Initiative (CADRI) assessment tools) and resource mapping (e.g. the Health resources and services availability monitoring system (HeRAMS) *(3)*, and impact analysis on health security investment (REMAP) tool *(4)*). These assessments support countries to prioritize risks and provide information about the availability of capacity and resources for prevention, preparedness, readiness, response and recovery. They also assist with donor coordination, identifying gaps and needs, monitoring of plan implementation and linking different plans to increase efficiency by achieving synergies.

1. Introduction

Countries everywhere are always at risk of experiencing emergencies of one kind or another. Some emergencies – such as disease outbreaks, floods, storms, landslides and earthquakes – are triggered by naturally occurring hazards; others – such as transport crashes, terrorist attacks and conflicts – are often human-induced hazards. In some instances, small-scale emergencies may be of short duration and self-limiting; in others, they may have a much longer-term, more protracted profile and go on to have far-reaching and deep implications for health care delivery and health systems and for the broader socioeconomic-political systems.

When emergencies occur, they share several common features. They provoke increased morbidity and mortality. They disrupt health, social and care services. They may uproot and displace large numbers of people and they may lead to socioeconomic impacts. The growing frequency and scope of climate-related events, conflicts, and displacements indicate that emergencies often occur concurrently or in a cascade, and in ways that exacerbate adverse impacts on individuals *(5-8)*. Moreover, global population growth, the impacts of environmental change, an ageing population, the prevalence of health inequities and the concentration of people in unplanned, urban areas, also mean that when emergencies do occur, they are affecting more people than ever *(9)* – and people who are ill-prepared to respond to health emergencies suffer from excess morbidity and mortality.

Any such public health emergency and disaster situation warrants immediate actions by all systems, sectors and stakeholders, with a defined leadership. A National Health Emergency Response Operations Plan (NHEROP) provides the health sector with guidance as to how to achieve this, with the engagement of all key stakeholders, including communities and governance.

Public health emergencies may also be complex in nature – that is, combining more than one type of hazard. Countries and communities are often exposed to multiple such hazards, either simultaneously or consequentially, such as armed conflict in the aftermath of a natural disaster, a seasonal outbreak in a protracted crisis etc. For example, during the COVID-19 pandemic, several countries also had to face concurrent emergencies requiring immediate response: the earthquake in Croatia, flooding in Indonesia, Yaas cyclone in Bangladesh, explosion in Beirut, or hurricane in the Caribbean islands, not to mention seasonal outbreaks of infectious diseases, are just some examples. In order for the health sector to be able to respond to multiple emergencies of public health concern, it must be properly prepared and must have the capacity to respond, at national level all the way through to local level, through a well-defined emergency response plan.

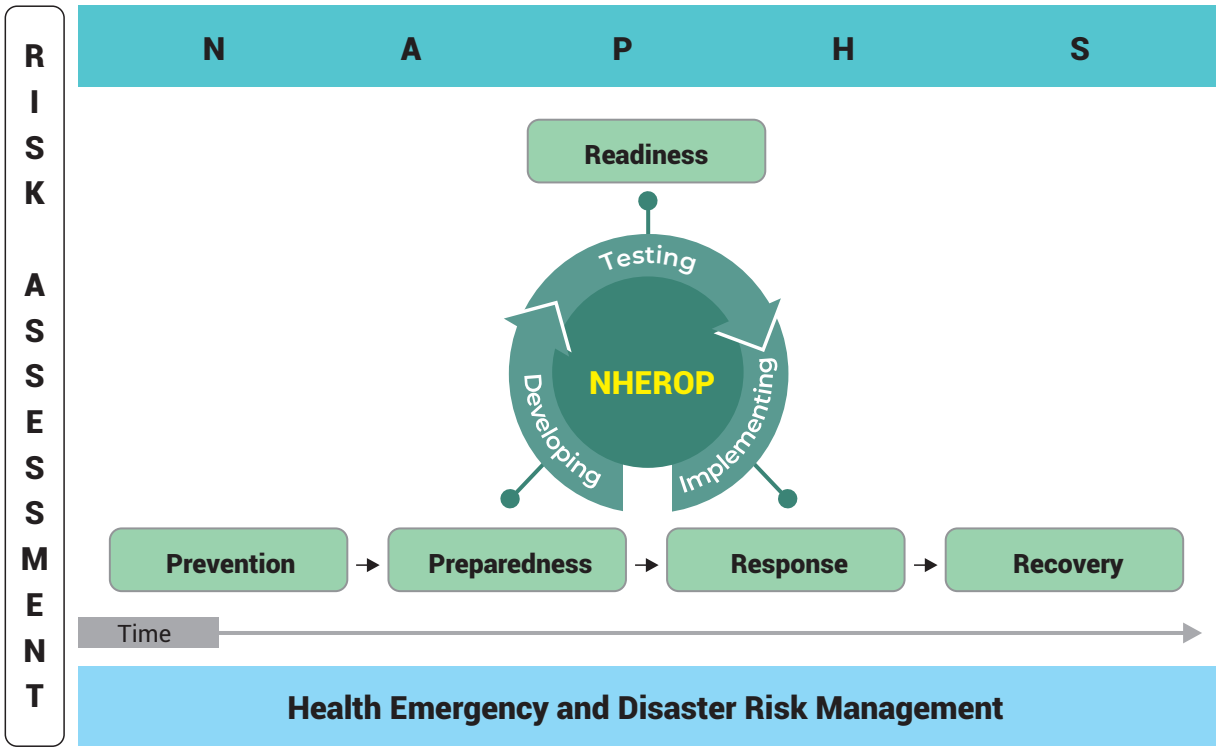
One of the main objectives of emergency preparedness is to prepare the health sector to respond to emergencies, which is a key requirement of the International Health Regulations. WHO works with countries to support them to be prepared for any emergencies arising from the various hazards to which they are exposed. The aim is to manage the risk(s) in communities by means of a systematic and coherent mechanism that engages the various stakeholders of the health sector, including communities and governance. This response mechanism needs to be carefully planned on the basis of the emergency and disaster country risk profile, and works though a structured command and control system – namely a structured and well-defined plan at national level for responding to any public health emergencies.

An NHEROP thus reflects an all-hazards, multi-level and multi-sectoral approach; it includes sudden-onset and slow-onset events, and refers to community-level response actions. A health emergency response plan has been defined as:

A document that describes how an agency, organization or a country will manage its responses to emergencies of various types by providing a description of the objectives, policy and concept of operations for the response to an emergency. It also lays out the structure, authorities and responsibilities for a systematic, co-ordinated and effective response. In this context, emergency response plans are agency- or jurisdiction-specific, and detail the resources, capacities and capabilities that the agency or organization will employ in its response. Also referred to as an emergency or operations plan. *(10)*

An NHEROP is implemented as an integral part of an emergency risk management cycle, in which the steps for comprehensive and effective risk management are defined as: prevention, preparedness, response, and recovery (see Figure 1).

Figure 1. The health emergency and disaster risk management cycle



Legend:
NAPHS: National Action Plan for Health Security or any other capacity development plan
NHEROP: National Health Emergency Response Operations Plan

Response involves the provision of rapid and coordinated actions, during or immediately after an emergency, in order to save lives, reduce health impacts, ensure public safety and meet the basic subsistence needs of affected people. Response usually includes the actions immediately necessary to remove the affected population from ongoing exposure or risk of harm.

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1.1 Rationale

Under the International Health Regulations (2005), Annex 1, Article 6, WHO Member States are required to "establish, operate and maintain a national public health emergency response plan, including the creation of multidisciplinary/multisectoral teams to respond to events that may constitute a public health emergency of international concern" *(11)*.

The emergency response plan establishes the operational framework for the response phase of risk management in countries at national level and links to the response of communities as the first responder. The emergency response plan describes how the health sector structures and organizes itself for emergency response. It sets out the roles, responsibilities, systems and mechanisms for emergency response within the health sector and documents the linkages to other sectors and authorities that are necessary during the response. The emergency response plan covers all phases of an emergency response including activation, grading, operations and de-escalation.

When emergencies strike, timely, coordinated, technically sound and evidence-based actions are needed from all stakeholders, including communities, to reduce the impacts of these hazardous events. Countries and communities are often exposed to multiple hazards at the same time or immediately after one another as a consequence, which means systems must be sufficiently prepared to be able to respond in a timely and efficient way using the existing capacities in place. The extent of the response capacity needed depends on the magnitude of the hazards, which is sometimes predictable through early warning systems.

A national health emergency response is based on the emergency and disaster country risk profile and builds on existing capacity development plans, including the National Action Plan for Health Security, focusing on an all-hazards approach. This alludes to the recognition that there are common elements and common capacities required in the management of risks and in the responses to virtually all types of emergencies. An all-hazards approach to an NHEROP is key to emergency preparedness in order to ensure response is effective. This is expected to support country implementation of the WHO Health emergency and disaster risk management framework and the Sendai Framework for Disaster Risk Reduction 2015-2030 under Priority 4: Enhancing disaster preparedness for effective response, and to "build back better" in recovery, rehabilitation and reconstruction. It is also critical to include consideration of response actions to transboundary events, as required for the implementation of International Health Regulations (2005) *(11)*.

This guidance has been designed for all countries, while recognizing that the needs and capacities of countries and their health systems when confronted by emergencies can differ considerably depending both on country context and on the typology and magnitude of the hazards. The guidance is intended to be generic, and not prescriptive, and has been designed to be adaptable by countries to their situations, contexts, needs, capacities and requirements.

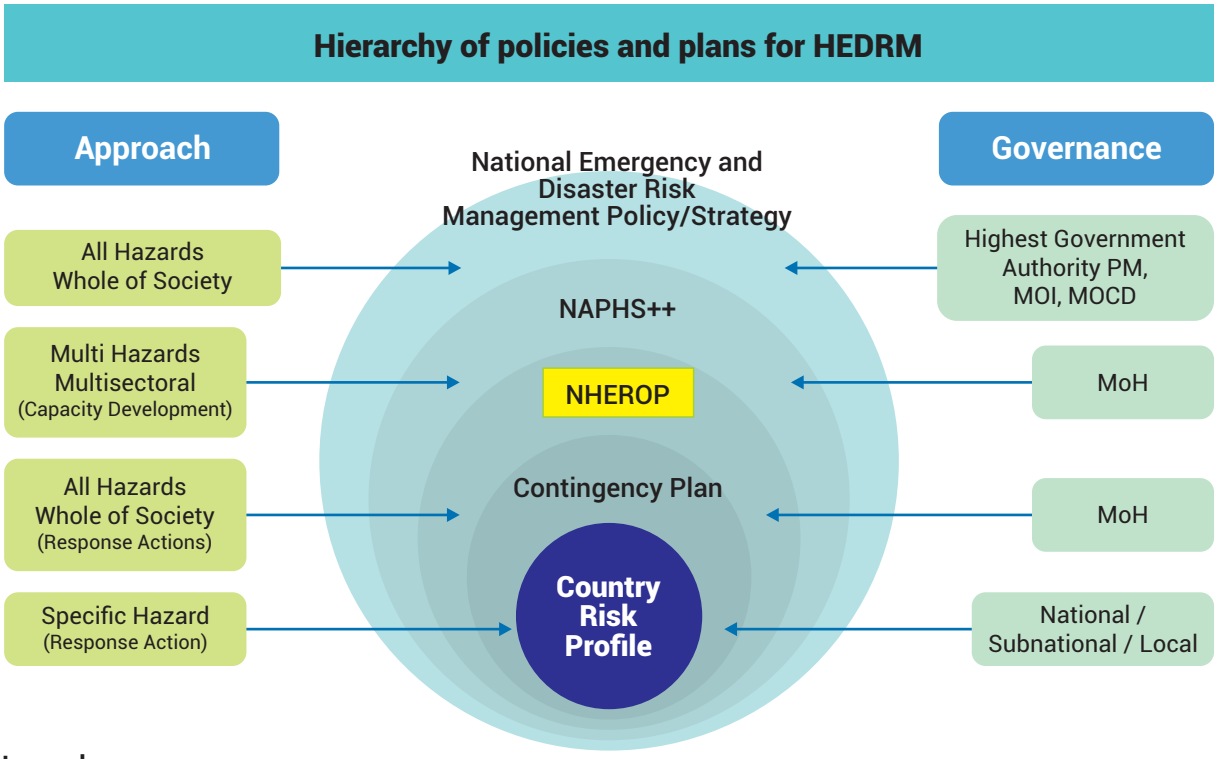
1.2 Hierarchy of plans

All countries have health policies and plans that reflect their health and disease priorities and which are enacted by ministries of health. Countries are also likely to have an all-hazards National Emergency and Disaster Risk Management strategy/policy and other relevant strategies and policies at the highest level

of the national system, which are typically administered by ministries of the interior or national disaster management authorities. The development of an NHEROP must respect these pre-existing policies and strategies.

The NHEROP is the health sector component contained within a national emergency response plan that addresses risks of different hazards. As such, the NHEROP will build on existing capacity development plans, including the National Action Plan for Health Security, and will refer to the country risk profile, which is often developed using WHO's Strategic Toolkit for Assessing Risks (STAR). The NHEROP planning process should identify and complement other sectoral emergency response plans, such as the socioeconomic sector etc, that might have a direct or indirect bearing on the NHEROP.

Figure 2. Hierarchy of policies and plans



Legend:

NAPHS++: National Action Plan for Health Security | ++ Other Capacity Development Plans
NHEROP: National Health Emergency Response Operations Plan
MoH: Ministry of Health
MoI: Ministry of Interior
MOCD: Ministry of Civil Defence
PM: Office of the Prime Minister

1.3 Purpose of this guidance

The purpose of this guidance is to assist countries in developing or updating their NHEROP for all hazards, taking a multi sectoral, whole-of-society approach. The guidance thus describes the steps that should be carried out in developing the NHEROP in order to ensure that it:

- uses the existing capacities of sectors, systems and communities

- links the national response actions to subnational and local response actions, including those of communities as the first responders.
- builds on health sector and health system capacities for managing emergencies.
- establishes and strengthens national coordination mechanisms for health emergency response, engaging the whole of society in a multisectoral approach under government leadership.
- is aligned to and coordinated with any other sectoral emergency response plans.
- provides the basis for contingency planning.[1]

1.4 Who this guidance is for

This guidance is intended to be used by all key stakeholders involved in the management of emergency and disaster risk, including:

- Ministry of health (MoH), who will typically lead the development of the NHEROP and will be responsible for testing, updating, reviewing and activating the plan as and when necessary.
- Representatives from the ministries of interior/defence, disaster management, civil defence, office of the prime minister etc.
- Health authorities at national, subnational and local levels, including community health workers.
- Hospital and health facility-level managers from public and private sectors
- Civil society, including the International Committee of the Red Cross/International Federation of Red Cross and Red Crescent Societies, national and international nongovernmental organizations (NGOs).
- Community volunteers, community health workers, community leaders.
- Emergency managers from other sectors who have roles and responsibilities in health emergency response and will be expected to contribute their knowledge, experience and skills to the development, testing updating, and implementing the NHEROP – sectors such as disaster risk management, water, sanitation and hygiene, housing, transportation, information and communication, defence, finance.

1.5 Guiding principles

The guiding principles of the NHEROP are:

- An all-hazards approach
- Whole-of-society, multisectoral/multidisciplinary engagement
- A community-centered (bottom-up) approach
- Inclusiveness to ensure no one is left behind
- Right based risk informed approach
- Humanitarian principles *(13)*.

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[1] Contingency planning usually refers to planning for specific scenarios or hazardous events that result in organized and coordinated courses of action with clearly identified institutional roles and resources, information processes and operational arrange¬ments for specific actors at times of need *(12)*.

2. NHEROP methodology

This guidance is intended to support countries to develop an NHEROP for all hazards, engaging multiple sectors using a qualitative, discussion-based approach to build on the existing capacities of the health system and health sector. The guidance encourages the inclusive and transparent participation of key stakeholders to develop the NHEROP based on the country's national emergency and disaster risk management policy/strategy/procedures, existing capacity development plans including the National Action Plan for Health Security, country risk profile and as well the country's existing emergency response mechanism at national, subnational and local level. The health sector takes the lead, in close alignment with other sectors including all relevant non-health sectors and local governments. The NHEROP methodology is shown in Figure 3.

2.1 Preparation for the NHEROP

2.1.1 Obtaining political agreement

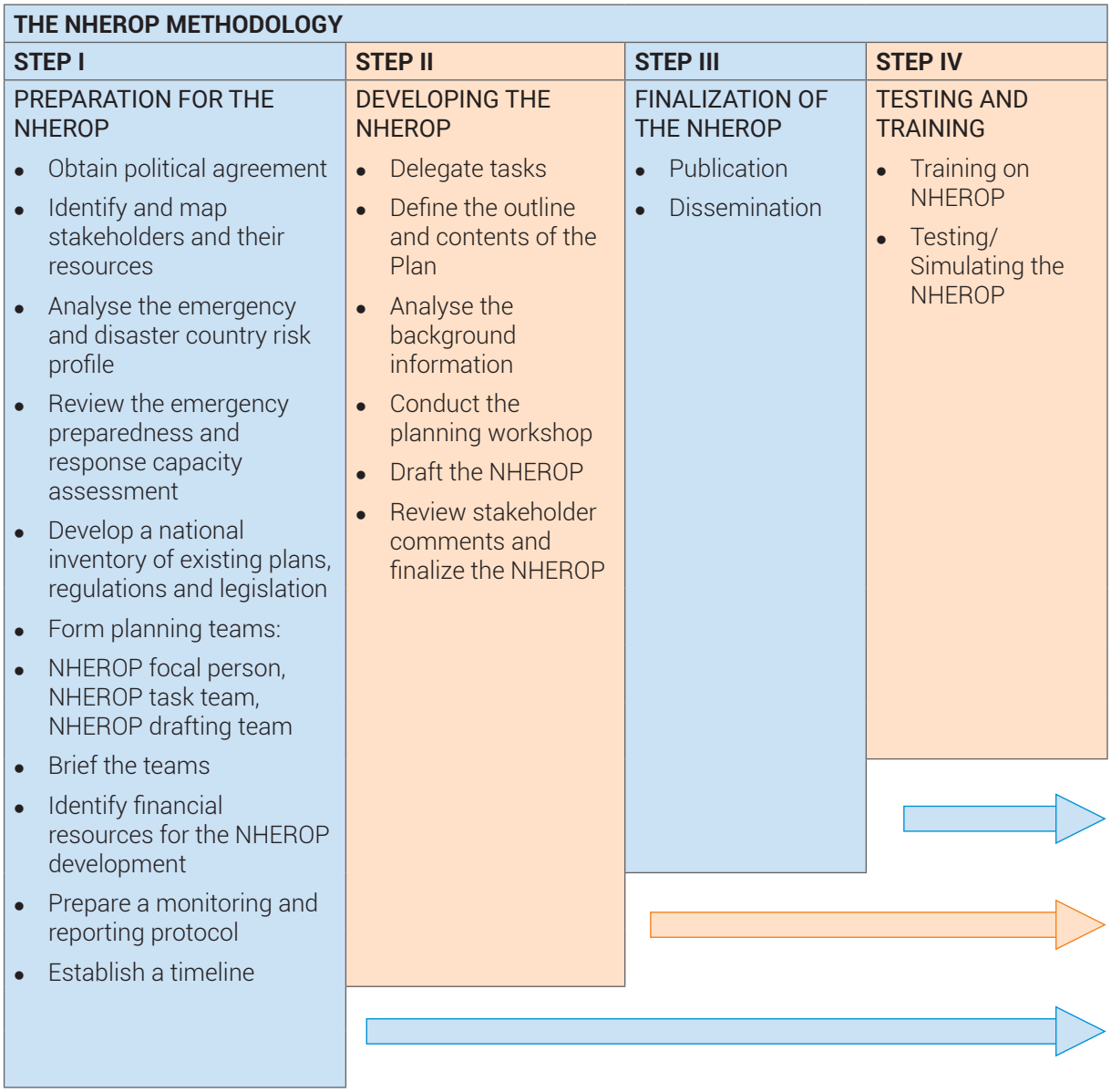
Development of the NHEROP is led by the MoH. This is required to ensure engagement of national policy-makers and decision-makers, key emergency managers from all levels of the health sector, including the private sector, and other relevant sectors beyond health. Political agreement from decision-makers is critical for the development and/or revision of an NHEROP. It ensures the process is prioritized within the MoH and enables the mobilization of financial resources and skilled human resources to develop, test and update the NHEROP.

In addition, senior health officials can help bridge this process with other sectors and/or ministries in order to ensure coherence within the overall country emergency and disaster frameworks and to facilitate commitment, coordination and complementarities for a multisectoral approach to emergency response.

2.1.2 Identifying and mapping stakeholders and their resources

A thorough stakeholder analysis is key and will involve all relevant ministries, government institutions, academic/training bodies, NGOs, private sector groups, health facilities/hospital managers, local government, public health programmes (maternal and child health, nutrition, communicable and noncommunicable disease, mental health, medical supplies and logistics, water, sanitation and hygiene etc.) and community health leads. In some settings it will also involve international organizations and individuals who can contribute technically and provide financial support. Mapping of stakeholders can be done using a simple 4W table (see Annex 3) to indicate (a) who they are, (b) what they normally do, (c) where they are located and (d) what they bring to the process of developing, testing or updating the NHEROP.

Figure 3. The NHEROP methodology



2.1.3 Analysis of the emergency and disaster country risk profile

It is important to conduct thorough analysis of the country risk profile in order to note potential hazards and underpinning seasonality and identify the priority hazards. In the absence of a country risk profile, an assessment of the level of risk posed by existing or emerging hazards needs to be conducted using a systematic and evidence-based method such as the Strategic Toolkit for Assessing Risks (STAR), which will allow a shared understanding of the country risk profile by all stakeholders engaged in the planning process.

2.1.4 Review of the emergency preparedness and response capacity assessment

A thorough review of all capacity assessment reports (completed within the past year) is critical in order to identify the existing capacity and gaps of the health system at all levels. In the absence of any such capacity assessment report, it is essential to obtain a full understanding of a country's capacities as this

provides the critical information needed to gauge the country's operational response capability. A capacity assessment can be made by implementing Joint External Evaluations *(2)*, Simulation exercises (SimEx), After Action Reviews and as part of the Capacity for Disaster Reduction Initiative (CADRI), health system capacity assessment *(14)*, implementation of the Health resources and services availability monitoring system (HERAMs) *(3)* and any other comprehensive capacity assessment which will help to identify the current level of system preparedness for health emergencies.

2.1.5 Develop a national inventory of existing plans, regulations and legislation

It is essential to have exhaustive knowledge of what already exists in the country in terms of emergency response. This allows the planning process to capitalize, improve and/or build on what is already applied and functioning. It also enables coherence, complementarity and interoperability within a multisectoral emergency response framework. The inventory should also include the country's administrative, geographic and demographic profiles.

2.1.6 Formation of planning teams

NHEROP planning is a participatory process which will require stewardship to coordinate the process from the initial development to the dissemination of the plan. Two key teams should be established with representation of key stakeholders, led by the MoH.

A. Identification of an NHEROP focal person

In order to facilitate the NHEROP development process, a focal person – preferably a high-level official from the MoH – should be identified and assigned responsibility for:

(a) managing the process
(b) interacting with all stakeholders and
(c) reporting back to the respective authority/government.

The focal person should be selected by the MoH, or whichever ministry/authority is leading the process. Selection of the focal person should be based on following considerations:

- previous experience with all-hazards preparedness planning in responding to health emergencies
- optimal health sector knowledge, experience and networking using the whole-of-society approach
- familiarity with the health system and health emergency and disaster risk management system
- sound knowledge of the country, its social, economic, political and cultural profile
- experience in working with national and international partners
- good communication and coordination skills
- good project management and team management experience.

B. NHEROP task team

The task team will comprise 4-6 high-level officials who will coordinate/steer the entire process of planning, testing and dissemination. The terms of reference of this task team (see Annex 5) will include:

- Processing the written approval from the authority/MoH for the development of NHEROP.
- Coordinating the participation of stakeholders from different health and non-health sectors, humanitarian and development partners etc.
- Organizing a 5-6 day workshop for the key stakeholders in order to provide information to the planning process, discuss the specifics of response actions for the priority risks/hazards, map the resources for the response etc. as per the planning template in this guidance.
- Monitoring the drafting team's work in progress.
- Processing the approval/endorsement of NHEROP by the authorities/MoH.
- Disseminating the NHEROP.
- Organizing a simulation exercise to test the NHEROP.

C. NHEROP drafting team

A team of 5-10 experts with writing skills and emergency and disaster management knowledge will be established to write the NHEROP following the template, based on the discussion as well as on the information about risks, capacities and resources. The terms of reference of this team will include:

- Drafting the first version of the NHEROP
- Sharing the draft with all key stakeholders for their comments
- Finalizing the NHEROP, with all annexes, based on the comments received from the stakeholders.

D. Using a template to develop NHEROP

The suggested outline in Annex 2 of this guidance can be used as a template to support the drafting of the plan. This is only a template, which the drafting team may use in developing the initial draft by populating, adapting and tailoring it to the existing contexts of the country and its emergency management structure. It is essential for the drafting team to discuss the various issues with the relevant stakeholders in order to attain a consensus, and this template will support that discussion. The template was prepared by compiling existing national health response plans from various countries, especially Australia, Canada, France, Serbia, Sudan, the United Kingdom and others; it aims to identify the most critical components for a response with a view to assisting countries with a comprehensive outline.

2.1.7 Team briefing

Many of the experts/personnel who will be involved in the NHEROP development and/or revision process will need to be briefed on the planning process and principles of health emergency response planning in general, and on health emergency and disaster risk management, in particular.

The NHEROP focal person (with support from WHO if required) will brief all members of the team so they are well informed about the process and aligned on what is expected of them and how the planning process will be managed. The briefing should: (a) cover the history, rationale and aim of the NHEROP, and (b) indicate how the NHEROP will continue to be tested, used and revised, as necessary.

2.1.8 Identifying financial resources to develop the NHEROP

A comprehensive work plan should be developed by the NHEROP task team to estimate the resource requirement. This costing will include:

- cost of the planning workshop
- remuneration of the drafting team and task team
- stationery costs
- printing
- other contingency and logistics

Funding for the development of the NHEROP may come from partners, support through the country workplan, other development projects or allocation by the MoH..

2.1.9 Preparing a monitoring and reporting protocol

A monitoring and reporting protocol for follow-up of the NHEROP planning progress should be developed by the task team with the following considerations:

- Purpose of the plan agreed by all stakeholders;
- Indicators will be used to measure progress;
- the Gantt Chart or equivalent template prepared during the planning phase.

2.1.10 Establish a timeline

An NHEROP planning process which includes preparation, development (writing the plan), dissemination should be completed within 3-4 months. Establishing a timeline for completion of the NHEROP is essential and this must be done as soon as possible after establishing the task team. The timeline must be:

- aligned with any agreement reached with the lead ministry/authority
- consistent with the perceived urgency of the task
- reasonable given the human and other resources available
- reasonable in terms of funding requirements
- explained to the team and refined with the team
- used in monitoring the planning process of a NHEROP.

2.2 Development of the NHEROP

2.2.1 Delegation of tasks

The focal person/team will delegate the tasks to the task team and drafting team. It is recommended that the task team develop a work plan with a timeline for the planning process.

2.2.2 Defining the outline and contents of the plan (see Annex 2)

The outline and proposed contents of the NHEROP will define much of the work that has to be done in developing or updating the Plan. While developing the NHEROP, the idea is to keep it practical and actionable based on the evidence. For each chapter of the plan, the following structure can be used:

Blue boxes

Placed for each emergency response planning section and major components of the NHEROP.

These present the background including overall objective of the activity **(WHAT)**

Orange boxes

Placed under the blue boxes in each section, these describe who are the main stakeholders of the activity **(WHO)**

Yellow boxes

Placed under the yellow boxes in each section, these describe how to find and develop the activity and provides guidance and tools to undertake the process **(HOW)**

The recommended outline and content of an NHEROP could be based on the guiding questions as explained below. Although these questions are not exhaustive, they could be helpful to the planning team in starting the conversation. A detailed outline of a sample NHEROP is available in Annex 2 and should be referred to for guidance. If an alternative or modified "outline and contents" is determined to be appropriate, it should be clearly described and written for ready reference throughout the development process.

2.2.3 Analysing the background information

During the preparation phase several key steps were taken to (a) identify engage government and partners, (b) train personnel (c) identify risk, capacities and gaps, (d) map a range of different resources, (e) draft and disseminate the NHEROP. The results of these steps should now be consolidated and documented to be used for the NHEROP development.

2.2.4 Adapting to emerging challenges: infodemic management

It is important for the planning process to consider adapting the process and the outcome to any evolving changes, requirements and challenges. During the COVID-19 pandemic, the world has been exposed to a great deal of misinformation about COVID-19 that has hindered the management of it. 'Infodemic management' was therefore established to address this challenge and has become an integral component of pandemic response *(15)*.

To manage health emergencies and disasters effectively, countries should consider including infodemic management in national health emergency response planning. An infodemic refers to an overabundance of information, both online and offline, that can include deliberate attempts to disseminate misinformation and undermine health emergency response. Such misinformation or disinformation can harm people's physical and mental health, increase stigmatization and lead to poor observance of public health and social measures. An infodemic can intensify or lengthen outbreaks when people are unsure about what they need to do to protect their health and the health of people around them.

To manage infodemics effectively, countries should systematically use "risk- and evidence-based analysis and approaches to manage the infodemic and reduce its impact on health behaviours during health emergencies" *(16)*.

Infodemic management aims to enable good health practices through four types of activities:

- Listening to understand the communities' questions, concerns, narratives and misinformation
- Delivery of high-quality health information, interventions and programming to promote understanding of risk and health expert advice
- Building resilience to misinformation
- Engaging and empowering communities to take positive action and enact healthy behaviours.

2.2.5 Conducting the planning workshop

A workshop of 5 to 6 days' duration will be conducted with the participation of all key stakeholders to discuss the response actions according to the planning outline. The task team will develop the workshop objectives and materials for the planning. The participants will be distributed in thematic working groups according to the outline.

2.2.6 Drafting the NHEROP

The drafting team will document the discussions and outcome of the working groups and use this to prepare the first draft of the NHEROP as per the outline of the plan. The team will also verify the information provided by the working groups by cross checking the references. The drafting team will also organize the annexes and will pass the first draft of the NHEROP on to the task team.

When the drafting team come to prepare the final version of the NHEROP, drafting team members should also identify areas for future improvement and priorities for the MoH's emergency preparedness efforts, as preparation of an NHEROP can contribute to capacity building.

2.2.7 Stakeholder comments review and finalization of the NHEROP

The credibility of the NHEROP will be influenced by the perceived willingness of the lead ministry/ authority to take on the comments and suggestions received in the review. For maintaining transparency, the following inclusion criteria, along with the draft NHEROP, should be shared with all stakeholders:

- Ideally all comments and suggestions will be "taken on board", but care must be taken to define amendment and additional drafting can be accommodated given the time and cost factors
- comments and suggestions must be given priority, according to their pertinence and relevance to the objective/purpose of the NHEROP

- A version control system should be put in place in order to:
  - keep track of all versions and comments received;
  - provide a "history" of the process;
  - be able to report and answer any questions from stakeholders.

2.3 Finalization of the NHEROP

The final draft of the NHEROP, along with annexes, is developed by the drafting team and reviewed by the task team and the NHEROP focal person incorporating all comments and sections as per the outline.

The final draft of NHEROP will be submitted for clearance by the authorities of different sectors/ stakeholders. Once clearance is received from the stakeholders, the NHEROP will be submitted to the MoH, or equivalent authority as appropriate according to the country practice, for government approval. Once approval is obtained the NHEROP will be ready for publication and dissemination.

2.3.1 Publication

The NHEROP should be published as an official document with a written endorsement at the beginning of the publication. This will add to the plan's credibility and facilitate the next steps that will need to be followed. If resources permit, the plan should be translated into key local languages of the country in addition to the official language. If necessary, funding to assist with publication (electronic and/or printed) should be sought from key ministries and local partners.

2.3.2 Dissemination

Dissemination of the NHEROP should be as wide as possible, but priority should be given to the sectors and stakeholders who participated in its development, or who are mentioned in the plan as being most likely to be involved in activating, implementing and using the plan to respond to the emergencies. The plan should also be shared with national and international partners and relevant international organizations for their information and support.

2.4 Testing and training

2.4.1 Testing /simulating the NHEROP

Testing the NHEROP for coherence, flow and appropriateness is best done using a simulation exercise organized by the focal person and the lead ministry. The simulation exercise should involve all the sectors that are mentioned and that would be expected to play a role in activating the plan if and when an emergency occurs. All the sectors should therefore be invited to propose one or more participants. They may also wish to have "observers" present.

The simulation exercise should be as realistic as possible. This can be ensured by using either:

- a case study drawn from the index country or a neighbouring country, or
- a "fictitious" country created to cover all the key characteristics that need to be addressed in an NHEROP.

The idea is to organize role play situations in which participants are asked to assume responsibility for selected functions included in the NHEROP, while a "moderator" prompts and asks situational questions that call for decisions and steps to be taken within the budgetary framework the country has set.

The simulation result should involve a discussion by the participants and the observers on:

- any weaknesses that were seen in the logic of the NHEROP
- any problems in doing what the NHEROP proposed
- any problems in overall coordination
- any information gaps that had not been previously noted
- any resource gaps that had not been noted
- any problems with official support to solve and recognition of support
- what they feel were training needs required
- what they feel might be barriers to using the NHEROP
- what improvements they feel could be made
- the documentation of the simulation result with clear action points.

2.4.2 Training

Once the NHEROP is published it will be important to develop training on NHEROP for the personnel who were identified in the plan from different sectors, including the community, to improve their understanding of the response actions.

2.5 Regular review

Once the NHEROP has been developed, it is important that it is reviewed regularly so that it remains up to date and reflects any changes to the country's risk profile and capacities.

To facilitate this, countries should:

- Set a tentative timescale for review
- Document the process they have followed
- Keep a record of the participating personnel for future reference.

Review and updating of the NHEROP is recommended:

- after every activation of the plan to respond to an event capturing the lessons learned
- in the absence of actual emergencies, after conducting a routine simulation exercise
- in the context of any changes in government's policy, strategy and procedures
- following any humanitarian situation in the country.

3. Conclusion

Preparing for national health response to emergencies and disasters is vital. A well-structured national response operation plan is a gateway to a well-organized response to any emergency and disaster. An NHEROP can enhance the management of the health sector response to emergencies and disasters, saving lives. It will also help ensure business continuity in the delivery of essential health services in cooperation with the main partners (such as emergency medical services systems, hospitals, health managers), by providing an efficient "Incident Management System" as an integral component of emergency preparedness.

Although an NHEROP cannot fill existing gaps in resources or in skilled staff, it will contribute to organizing the use of existing resources (of all types) as efficiently as possible. An NHEROP will also enable any additional resources to be mobilized and deployed effectively and will enhance the effectiveness of the systems over time during the response. An NHEROP can only describe "how" to respond to an event using what is available at that time and can only refer to what already exists or what may become available during the response.

Activation of an NHEROP and management of a response require there to be a clearly identified and sufficiently equipped national Emergency Operations Centre (EOC); the key sections of the NHEROP should be displayed in the EOC. However, an NHEROP is not a substitute for local capacity and capability to manage health response on site, and so a well-organized intersectoral management system must also be in place, with full integration of the relevant subnational health authorities. If such local capacity does not exist, it is important that this capacity is developed simultaneously, so that it can be immediately activated and deployed when needed.

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Annex 1:

Guiding principles

Table A.1 Guiding principles

Item	Description
Right based risk-informed approach	The risks that emergencies pose to communities are directly related to the communities' exposure to hazards, their vulnerabilities to those hazards, and their risk management capacity before, during and after public health events. Therefore, countries and communities can most effectively minimize the health and other consequences of emergen¬cies by preventing or mitigating hazards, reducing exposure to those hazards, minimizing their vulnerabilities, and/or strengthening their capacities.
Comprehensive emergency management	The comprehensive approach refers to a series of closely interrelated prevention, mitigation, emergency preparedness (including operational readiness), response, and recovery measures. It is based on the premise that prevention and mitigation measures can reduce the likelihood and severity of emergencies; that sound preparedness will lead to more timely and effective response; that coordinated response will result in appropriate targeting of health services to the needs of those affected with a focus on the most vulnerable; and that recovery and reconstruction should be designed to reduce the risks of future emergencies (Build Back Better approach, including strengthening of health systems).
All-hazards approach	Different types of hazards are associated with similar risks to health, and many health emergency and disaster risk management (Health EDRM) functions are similar across hazards (e.g. planning, logistics, risk communications). It is neither efficient nor cost-effective to develop separate, stand-alone capacities or response mechanisms for each individual hazard. Health EDRM policies, strategies and related programmes should therefore be designed to address common issues with common capacities, supplemented by risk-specific capacities.

Item	Description
Inclusive, people- and community-centred approach	Community members are central to effective Health EDRM, as it is their health, livelihoods and assets that are at risk from any hazardous event, including emergencies and disasters. Community members are often well placed to manage their own risks through actions that provide protection to themselves, their families and communities, and are often the first responders to an emergency. Health EDRM employs an inclusive approach based on accessible and non-discriminatory participation. It addresses the needs and capacities of people at greatest risk and disproportionately affected by emergencies and disasters, especially the poorest, as well as women, children, people with disabilities, older people, migrants, refugees and displaced persons, people living in slums and informal settlements, people with chronic diseases, and other subpopulations with higher levels of risks. All Health EDRM policies and practices should integrate gender, age, disability and cultural perspectives, in which the leadership of women, youth and other at-risk groups should be promoted. The resilience of communities can be strengthened by assisting them to identify relevant hazards and vulnerabilities, and by building their capacities to mitigate, prepare for, respond to, and recover from emergencies. Building on the "whole-of-society" concept, effective Health EDRM can only be achieved through the active participation of local governments, civil society and volunteer organizations, the private sector, and individual citizens.

Item	Description
Multisectoral and multidisciplinary collaboration:	Effective management of the risks that emergencies pose to health requires strong, ongoing intersectoral collaboration. The One Health approach, for example, is based on collaboration, communication, and coordination across public health, animal health and other relevant sectors and disciplines to address a health threat at the human-animal-environment interface with the goal of achieving optimal health outcomes for both people and animals. While the health sector takes a leading technical role in managing the risk of communicable diseases, for most types of hazards and events other sectors will play lead technical roles (e.g., agriculture for food insecurity, meteorological services for early warning of cyclones, civil protection for emergency response to floods, etc.). Many Health EDRM activities required to protect health are also managed by other sectors (e.g., maintenance of critical infrastructure such as hospitals, water-sanitation-hygiene for human needs and function¬ing of health facilities, transportation, logistics, emergency services, and food security). The health sector therefore needs to have strong relationships with the many actors who have a role to play in managing risks of emergencies to health. These include urban planners, civil engineers, operators of hazardous facilities, climate information providers, animal health professionals, the media and emergency services. Effective coordination among many disciplines in the health community is also required, such as emergency medicine, disease surveillance, mental health, nutrition, water and sanitation, health information management and many more.

Annex 2:

Suggested outline for an NHEROP

The *WHO guidance on preparing for national health response to emergencies and disasters* is not a standalone document, but forms part of a comprehensive toolkit developed to assist Member States and facilitate emergency response planning in the health sector for all hazards; it may be used in conjunction with other existing tools and methodologies.

The structure of the suggested outline below has been developed drawing on good practices. Member States can and should adapt it to their own context and to the needs of the institution, agency or organization responsible for managing the health emergency response.

Suggested outline for a National Health Emergency Response Operations Plan (NHEROP)

1. Context

- Date of revision:

1.1 Country information

Objective

This section aims to provide a one-page overview of the country and the main factors/specificities that may influence the response to potential emergencies.

Process and tools

Development of this section requires a review of existing materials related to the country profile and context.

Describe the key features of the country, such as:

- Geography
- Climate
- Historical emergency data and information

Suggested annexes for this section:

- Map of the country and administrative boundaries
- Structure of the National Disaster Management Agency (cross-sectoral)

1.2 Health system organization

Objective

This section presents the overall organization and functioning of the health system in order to allow better understanding of how the emergency command and control structure and Incident Management System (IMS) will relate to the routine MoH structure once a response is activated.

Process and tools

Development of this section requires a description of the health system structure during non-emergency phases, based on National Strategic Health Plans and existing structures or organigrams within the MoH. These may be summarized from other official documents.

1.2.1 Structural organization of the health system

- Describe the health system structure

1.2.2 Departments/divisions/functions involved in emergency response

Suggested annexes for this section:

- Organigram of the MoH
- Flowchart of the MoH structure/functioning/information channels, including from national to local levels and back.

1.3 Public health risk profile

Objective

This section summarizes the risk profile of the country and identifies priority hazards according to their level of risk.

Process and tools

Strategic risk assessments should be conducted at the beginning of the health sector planning cycle for emergency response.

Examples of when WHO's Strategic Tool for Assessing Risks (STAR) could be used might include:

- before the development or revision of a health emergency response plan;
- before multisectoral disaster planning activities;
- as the first step to a more in-depth vulnerability and risk assessment for specific hazards (e.g. VRAM or the Hospital Safety Index);
- before the national planning and review workplan meeting in the MoH;
- before resource distribution takes place in the MoH.

Tools/Guidance

- WHO STAR (for publication in 2021, draft available from WHO on request)
- WHO Emergency Response Framework *(1)*.
- Inter-Agency Standing Committee guidance on Emergency Response Preparedness *(2)*

1.3.1 National health emergency risk assessment

- Describe the date, method, and results of the most recent all hazards health emergency risk assessments conducted.
- Describe the range and scales of risks in the country for national health emergency response operations planning.

1.3.2 Priority hazards or scenarios identified for contingency planning

- List all high priority hazards that required hazard-specific plans or high-risk scenarios requiring contingency planning.
- Map locations where priority risks are frequently reported.
- Provide population data and health structure information for those high-risk areas, jointly with the ministry of emergencies or related ministry in-charge with emergencies.

Tools/Guidance

- A WHO guidance for contingency planning *(3)*
- Inter-Agency Standing Committee guidance on Emergency Response Preparedness *(2)*

2. Health emergency resources

Objective

In order to understand the existing capabilities that the country can deploy, this section will list existing plans and resources for health emergency that are both in place and accessible to the health sector.

This should include the availability of resources and funds in other parts of government and internationally that may be directed towards a health response.

Process and tools

A desk review of existing plans and capacity assessments will provide information on the current capabilities available.

This may include published or unpublished capacity assessments, capacity mapping, memoranda of understanding with other sectors, such as:

- self-assessments
- joint external evaluations or core capacity assessments
- intra action reviews *(4)*; after action reviews and lessons identified from previous responses
- simulation exercises conducted.

2.1 Existing legal frameworks and arrangements for emergencies

- List any disaster, health and other legislation regarding health emergency management, with a focus on response.
- List any existing emergency management plans, for example:
  - Existing all-hazards national health emergency response operations plans
  - National emergency or disaster response plan (whole-of-society)
  - Public Health Emergency Operations Centre (PHEOC) plan (national and subnational)
  - Incident Management System (IMS)
  - Contingency plans (including influenza pandemic preparedness plans).

2.2 Existing routine & emergency coordination mechanisms

- Highlight the importance of a multisectoral approach to health emergency response and coordination within, and outside of, the health sector.
- Describe existing coordination mechanisms within the health sector and link to an annex listing health stakeholders involved in emergency response.
- Describe existing coordination mechanisms between the health sector and other national stakeholders (sectors/ministries, etc.), for example:
  - PHEOCs at national and subnational levels
  - Health Sector Working groups
  - National emergency committees or task forces in civil defence/emergency
  - Mechanisms established under the One Health approach to share information; among human health, the animal health sector and the environment sector
  - United Nations and interagency sector/cluster working groups such as UN Country Teams; UN Resident Coordinators/Humanitarian Coordinators
  - working groups involving the national disaster management agency, etc.

2.2.1 Human resources, surge capacities and health partners

2.2.2 Subnational and national surge mechanisms

2.2.3 National rapid response teams and emergency medical teams.

2.2.4 International emergency medical teams

2.2.5 Physical resources

2.2.6 Health facilities

2.2.7 Laboratory networks

2.2.8 Strategic health stockpiles

2.2.9 Blood banks

2.3 Emergency funds

Suggested annexes for this section:

- list of relevant legal instruments and plans for health emergencies
- inventory of health and multisectoral partners involved in emergency preparedness and response
- flowchart of coordination mechanisms (health sector and multisectoral)
- maps of health reference facilities, labs, blood banks and stocks
- list of resources (human, stockpiles, funds) from outside the health sector but that might be drawn on (some countries have sectors with their own health capacities i.e. railway, mining companies, military, foreign emergency medical teams).

3. Emergency activation

3.1 Early warning systems

Objective

This section outlines the surveillance and early warning systems in place for infectious, natural, technological and society hazards.

This section should focus on describing the systems themselves, and also specify the communication channels and feedback mechanisms between the sources of alert and decision-makers.

Public health laboratories can be essential in determining the nature or source of the outbreak, planning the public health intervention, and determining when the outbreak is over. Depending on the pathogen, safe specimen collection, storage, packaging and transportation may all have heightened importance. As many countries will utilize international laboratory testing facilities, clear guidance on these mechanisms should be included in the NHEROP.

Process and tools

The development of this section requires the involvement of the disease control department or directorate of the MoH to summarize the existing surveillance and early warning systems and present the main tools used for this purpose.

it will require coordination and agreement with other ministries and sectors to present the early warning system(s) for other hazards. If such mechanisms are not in place, it will also imply their development and implementation.

Tools/Guidance

- Early detection, assessment and response to acute public health events: implementation of early warning and response, with a focus on event-based surveillance (EBS) *(5)*
- WHO's Early Warning, Alert and Response System (EWARS) *(6)*.

3.1.1 Existing epidemiological surveillance system

3.1.2 National or international reference laboratories for priority pathogens

3.1.3 Shipment modalities of pathogens inside and outside the country

3.1.4 Multi-hazard early warning systems; systems for flood, cyclone, extreme heat, drought, tsunami and other hazards

3.2 Alert, verification and investigation

Objective

This section aims to present how an alert (i.e., epidemic threshold passed based on indicator-based surveillance) or rumour (i.e. an unverified instance of event or disease picked up from event-based surveillance) will be managed.

The section will also present the roles, responsibilities and expected outputs of Rapid Response Teams (at national and/or provincial /district level) and the formal mechanisms in place to activate and oversee these teams.

This section should also include provisions and responsibilities for rapid risk assessments for all types of emergencies.

Process and tools

Development of this section requires the compilation of existing documents relating to Rapid Response Teams' missions in order to extract all relevant information. Key documents that may need to be produced include: generic terms of reference, activation protocols, chain of command, etc.

Development of this section may require the creation of a specific working group. WHO's rapid response team training materials and the involvement of key persons who have attended the training can provide valuable sources of information for this working group.

Tools/Guidance

- WHO rapid response team training *(7)*
- WHO rapid risk assessment guidance *(8)*.

3.2.1 National and subnational Rapid Response Teams (RRTs)

3.2.2 Procedure for deploying RRTs and resource allocation

3.2.3 Rapid risk assessments

Suggested annexes for this section:

- Official documents establishing the rapid response team (decree, memorandum of understanding, etc.).
- Rapid response team concept of operations/terms of reference (including equipment list, roster and contact details of rapid response team members).
- Rapid risk assessment and situation analysis template. Rapid risk assessments have to be undertaken, recorded and reported. This is important in decision making to guide initial effective emergency response for public health events. A situation analysis is conducted for sudden-onset emergencies.
- Situation report template.
- Existing national Emergency Medical Teams (EMTs) allowed to work in emergencies.

3.3 Emergency Risk Communication (ERC)

Objective

This section will describe the communication activities that the health sector will conduct during the emergency response where challenges due to fear, confusion and misinformation may occur. Effective and timely communication during the early stages of a response are crucial; nevertheless, risk communication activities will continue throughout the emergency, including towards the end.

Emergency risk communication includes communicating to the public in a timely, transparent manner even in a context of high uncertainty; coordinating communication to targeted audiences

to allow them to make informed health decisions; engaging with affected communities, maintaining two-way communication; and using effective communication channels and engaging stakeholders. The role and importance of trust are central to effective emergency risk communication and community engagement.

A separate emergency or crisis communication plan may be developed, in which case it should be referenced within the NHEROP or annexed to the NHEROP. Where the MoH does not lead ERC (e.g. for emergencies with health consequences, such as an earthquake), then it must act as a support agency, providing public health expertise, as required.

Process and tools

If a separate ERC or crisis communication plan exists for the health sector, a summary of the plan should be included within the NHEROP. Interactions with other sectoral communication should be highlighted with key responsibilities for sharing health messages outlined.

If no communication plan exists in the health sector, a process for its development should be considered. This would include training of key personnel on effective communication, especially risk communication, in emergencies, capacity mapping for priority interventions, plan and process writing, testing and adoption. ERC planning must occur well in advance and be a continuous process with a focus on preparedness as well as response. Planning should be sensitive to stakeholders' needs, participatory, responsive to the context and incorporate feedback from affected groups.

Best ERC planning practices:

- planning functions best through collaboration among constituent groups – health and emergency response agencies, emergency systems and other public services need to collaborate and establish communication networks in preparation for events;
- communication planning must consider the community structures, cultures and lifestyles of different segments of the public; and further, design disaster education and preparation around these social structures;
- planning must identify and involve multiple channels and means of communicating disaster and emergency messages;
- whenever possible, potentially at-risk communities and populations must be involved at the planning stage for best results;
- planning should include the establishment of mechanisms for monitoring and assessing the effectiveness of messages and adjusting them as necessary.

Tools/Guidance

- WHO National health ERC: five-step capacity building package *(9)*
- WHO Guideline for Emergency Risk Communication (ERC) policy and practice *(10)*
- WHO e-learning course on ERC *(11)*.

3.3.1 Emergency risk communication plans

- If available, provide a summary of any existing ERC plans
- Describe timelines for communication activities and products
- Identify and activate spokespeople for health emergencies.

3.3.2 Protocol for early emergency communication

- Identify who has the overall responsibility to announce the health threat early and how communication messages are issued.

3.3.3 Coordinating public communications and stakeholder lists

Describe the following processes and/or link to relevant Standard Operating Procedures:

- supporting the lead agency for public communication
- linking national, regional and local ERC operations
- selecting relevant partners, and coordinating communication strategies
- assigning responsibilities for internal and external communication
- coordinating message preparation, consistency and dissemination.

3.3.4 Two-way communications mechanisms.

Describe the following processes and/or link to relevant Standard Operating Procedures:

- Community rumour management
- Define key communications audiences (e.g., communities, healthcare workers, religious leaders, educators etc.)
- Translation of materials into relevant languages, and adaptation to literacy levels.
- Suggested annexes for this section:
- ERC Plan if available.
- Public Communications Standard Operating Procedures
- Advanced preparation of communication materials for health care workers and the population (infection prevention and control).

3.4 Activation of the NHEROP

Objectives

This section aims to describe how events will be declared as emergencies (thereby triggering the activation of the NHEROP), and it will describe the criteria to declare emergencies at different levels (this is sometimes described as "grading"). It addresses why it is important to determine the appropriate structures and resources to be mobilized for the response.

Grading relates to the assessment of the level of risk associated with an incident, considering factors such as its geographic extent or scale, complexity, severity and duration, and the availability of existing resources required to respond.

Assigning a level to an emergency is a practical way for responders to better understand the situation and the scope of the emergency. It also raises awareness of individual responsibilities within a concept of operations and can be used as an indicator when communicating with senior leadership on the need for commitment and additional support (from within or outside the country).

The initial emergency level (or grading) is based upon a rapid risk assessment. The level assigned should be reviewed regularly to ensure that the response is appropriately scaled, managed and adequately resourced through an escalation/de-escalation process.

Therefore, this section should define the key criteria for characterizing an emergency, how this characterization will be done (with which information) and, finally, who is entitled to declare the emergency at an appropriate level.

Process and tools

If a public health emergency operations centre (PHEOC) or similar structure/group exists in the country, it should be in charge of developing this section.

Process

The development of this section requires establishing a scale to define health emergencies. This exercise is closely linked to the CONOPs model(s) to be developed in Section 4 of this manual. Therefore, it is suggested that the emergency grading system and the command and control model are developed together.

The level of emergency can be defined based on criteria related scale, morbidity and mortality associated with the emergency and the increasing requirement of response resources (scale, severity, complexity and duration). The higher the level of an emergency, the greater the response and management resources that will required.

The example of the "grades" or "levels" contained in this toolkit are: Level 1; Level 2; and, Level 3 emergencies. Countries may adopt different ways of describing the different levels (e.g. local/regional/national or minor/moderate/major etc.).

The lowest grading (e.g. Level 1) usually refers to an incident for which the decentralized structures of the health sector are relatively well equipped and capable to respond. Even if additional resources and staff might need to be deployed temporarily, the management and coordination of the response will remain at the local level.

The highest grading (e.g. Level 3) would be characterized by extensive impact on the population and great stress and burden on the health system. It would require a coordinated, multisectoral and multi-jurisdictional response, with likely international assistance.

The declaration of an emergency and its level triggers the activation of specific response management models defined in the concept of operations (section 5) and will often catalyse the release of additional financial resources from international actors. This needs to be described within an Activation Protocol.

Provided tools

Example of an existing emergency grading scale (see below).

3.4.2 Health emergency levels

- Insert description of levels and extent of resources required to respond.
- Insert description of linkages to grading in other sectors/line ministries.

Table A2.1 Descriptions of Health emergency level

	Level 1	Level 2	Level 3
Scale	[insert trigger]	[insert trigger]	[insert trigger]
Complexity	[insert trigger]	[insert trigger]	[insert trigger]
Severity	[insert trigger]	[insert trigger]	[insert trigger]
Duration	[insert trigger]	[insert trigger]	[insert trigger]

The grading of the emergency is decided by: [Insert function here]

3.4.3 Activation of NHEROP and information dissemination

The National Health Emergency Response Operations Plan may be activated by: [Insert function here].

An activation of the plan triggers the notification of the following:

- Ministers: [Insert function here]
- Deputy Director of Health: [Insert function here]
- National/Subnational PHEOC: [Insert function here]
- Finance and Administration: [Insert function here]
- Public Information: [Insert function here]
- Provincial Health: [Insert function here]
- District Health: [Insert function here]
- Local administrations: [Insert function here]
- Etc. (logisticians...)

Suggested annexes for this section:

- Draft Emergency Grading and Activation memorandum to be used.

4. Emergency response

Objective

This section of the NHEROP details the mechanisms used to manage an emergency response, scaling it up and down as required:

- how incidents are communicated to the MoH leadership;
- what mechanisms are used to officially activate the PHEOC;
- which structures will be put in place at the strategic level, operational level and field level for an efficient and accountable response;
- which platforms for coordination between the health and non-health sectors exist during a response phase, and how the health sector relates to these

4.1 Key structures and concepts

Objectives

This section should describe the country-wide structures in place to manage and coordinate emergency response operations. This should include the different levels at which response structures exist, so that the CONOPS and the IMS can be easily understood by all stakeholders. Describe the structures and their mandates at the different administrative levels of government – national, provincial and district – within the routine health system. If a country defines response functions in strategic, operational or tactical terms, this can also be included.

Process and tools

If a public health emergency operations centre (PHEOC) or similar structure exists in the country, it should be in charge of coordinating the development of this section.

Developing this section involves summarizing the emergency response structures available at the different administrative levels of the country and defining the functions of government accountable for the management of emergencies at the strategic, operational and tactical levels. The summary above can be adapted to the country-specific context (i.e. clarifying any autonomous or federalised system to be taken into account).

Provided tools

- WHO PHEOC Framework *(12)*

4.1.1 Responsibilities and response structure at different health system levels: national, subnational and local.

4.2 Concept of operations

Objectives

A concept of operations, or CONOPS, should detail the mechanisms used to manage an emergency response. The CONOPS describes the accountabilities and explains how the overall system is intended to function.

A CONOPS contains the following elements:

Instructions about when, at what level and by whose authority the PHEOC (if one exists at national/subnational levels) will be activated.

Identification of an authority structure or matrix for decision-making (Command and Control).

Identification of all intended levels and players involved in response and response management, and where each responsible organization fits into the response system (Coordination)

It is not necessary to include the full national-level CONOPS; a summary is sufficient, provided the full document is available elsewhere.

Process and tools

If a PHEOC or similar structure/group exists in the country, it should be in charge of coordinating the development of this section.

Process

A CONOPS working group should be constituted to understand the challenges of decision-making and delegation of authority. It might be useful to bring in people from across the health sector (i.e. the programs involved in emergency response as well as subnational and local actors) and from other sectors to share expertise on the subject (e.g., civil protection, national disaster management authority, etc.).

Based on the emergency scale levels adopted in section 4, a command and control model has to be developed. The model will have a series of organigrams, one for each of the emergency levels described in section 0 above. Each of these organigrams should establish who will be involved at the national, regional and local levels (or strategic, operational level and field levels). Reporting lines and accountability also have to be clearly delineated. An example of such a model is found below (an editable version is provided in the NHEROP Template).

The same working group should review existing platforms and mechanisms for coordination with key health partners and other sectors (inter-ministerial, humanitarian platforms, civil–military, technical and financial partners, civil society, private sector, etc.).

The members of the working group should also confirm their own roles during an emergency response and, define the routine coordination platforms that will maintain an active role during a response, explain their interaction with the health sector command and control structures (i.e. at which levels they interact).

Provided tools

- WHO PHEOC framework (23).
- IMS Management tools.

4.2.1 Activation protocols

- Insert explanation of how the rapid risk assessment recommendations will be reviewed and how the emergency level will be formally assigned.
- Refer to activation levels for the NHEROP – describe link to the activation of the PHEOC at national and subnational levels.
- The authority to activate the PHEOC(s) and determine the level of activation sits with: [Insert function here].
- Insert description of how the activation decision will be communicated (by who and to whom).
- Describe who will be responsible for developing an incident action plan and how it will be disseminated.

4.2.2 Command and control structures

- Insert presentation of the command and control model, with organigram for each emergency level (an example is provided in Figure 1 below).
- Insert accountability and reporting lines for the response management (organigrams should be included in the main document as they are key to the plan).

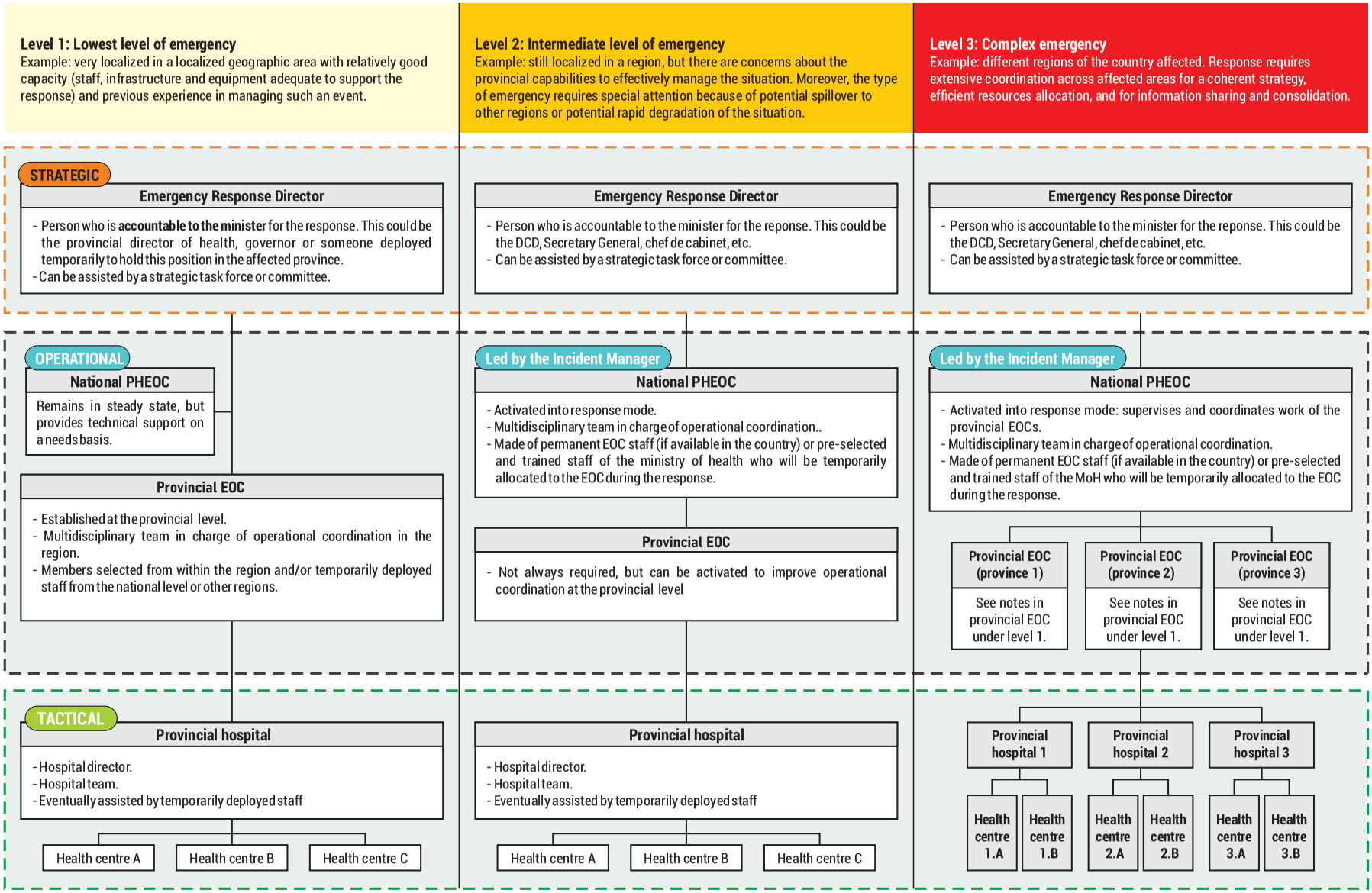
4.2.3 Provisions for multi-agency and multisectoral coordination

- Refer to section 3.2 and highlight any changes made to routine coordination mechanisms.
- Specify who leads these platforms and whether the health sector has a leadership role or not.
- List mechanisms for coordination with other sectors
  - inter-ministerial
  - humanitarian platforms
  - civil-military,
  - technical and financial partners
  - civil society, private sector, etc.
- Specify if (and how) these platforms interact with the command and control structure and at which level.

Suggested annexes for this section:

- CONOPs for each emergency level
- Template Incident Action Plan to be used
- Terms of Reference for coordination platforms and mechanisms
- Contact list for coordination platform members.

Figure A2.1 Example of a command and control structure across emergency levels



4.3 Incident Management System (IMS)

Objective

This section will summarize the IMS to be established at national and subnational levels. It will explain:

- key functions that need to be present to effectively manage the emergency;
- key responsibilities and related tasks for each function;
- for each of these responsibilities and tasks, their level of command and control: strategic, operational or tactical level (i.e. linking them to the command and control structures);
- urgent tasks assigned to each function for the first 72 hours of the response.

Process and tools

If a PHEOC exists in the country, an IMS should already be available. In this case, it only requires summarizing in this document.

If an IMS does not exist already, firstly, the key functions within the IMS should be identified and WHO's framework for PHEOCs can be used to guide this process. Best practices recommend the establishment of at least the following functions: management, planning, operations, logistics, finance and administration. Each of these could then be divided further (e.g. operations would include health services, laboratories, case management and surveillance, among others).

After identification, each function should be described by clearly establishing the roles and tasks to be performed during an emergency response.

Management

Key responsibilities and related activities with regard to strategic and operational decision-making, coordination and management of the IMS, resource mobilization, risk and crisis communication, coordination/liaison with other actors/sectors and security management of staff. These responsibilities and activities should be linked to the command and control structure (specifying to which command level they are associated).

Information management and planning

Key responsibilities and related activities with regard to data collection and analysis, and development of the specific response plan for that event (using the contingency plan as a model). These responsibilities and activities should be linked to the command and control structure (specifying to which command level they are associated).

Health operations and technical expertise

Key responsibilities and related activities with regard to guidance, standards, emergency response plans for each function or health service area, and implementation of the response both at field level and higher level. These responsibilities and activities should be linked to the command and control structure (specifying to which command level they are associated).

Logistics

Key responsibilities and related activities with regard to supply of equipment, inventories and stock management, transport of goods and persons, telecommunications, assets management, health infrastructure, water, hygiene and sanitation activities. These responsibilities and activities should be linked to the command and control structure (specifying to which command level they are associated).

Administration and finance

Key responsibilities and related activities with regard to cash-flow management, tracking of material and human resource costs, budget preparation and monitoring, and production and maintenance of administrative records and reports. These responsibilities and activities should be linked to the command and control structure (specifying to which command level they are associated).

Tools

- Tier 2: WHO IMS e-learning *(14)*.
- Working templates and forms, see IMS management tools.

4.3.1 IMS: management function and subfunctions

- Decision-making
  - description of the overall strategic and operational decision-making process for health emergencies management
  - identification of persons/functions entitled to make decisions
  - description of the consultative process
  - description of how decisions are tracked and transmitted.
- Coordination and management of the IMS at national, subnational and local levels
  - description of internal coordination mechanism of the IMS
  - list of regular meetings, processes for information sharing, mechanisms for recording and following up decisions, etc.
- Resource mobilization / external relations
  - identification of sources of emergency funds
  - presentation of who is entitled to free emergency response funds
  - description of the process for activation of and access to emergency response funds and supplies.
- Public communication
  - presentation of the risk and crisis communication strategies for multi-hazard emergency response. Communication strategies might need to be adjusted in risk-specific contingency plans;
  - identification of key communication resources (spokespersons, media, etc.);
  - presentation of key communication tools (supports, templates, etc.).

- Intersectoral operational coordination and liaison
  - presentation of health partners and bodies outside the health sector involved in response
  - exposition of how they are related to the IMS and how communication and operational coordination is organized
- identification of where the health sector does/does not have a leading role in response activities.
- Staff security management
  - presentation of different bodies and entities related to security management
  - definition of the mechanism for coordination and collaboration with the security sector
  - presentation of protocol and decision-making process related to critical security incident management.

Suggested annexes for this section:

- Relevant Job Action Sheets
- Flowchart for decision-making (can be included in the core document).

4.3.2 IMS: information management and planning function and subfunctions

- Describe how health information and operational information will be managed during a health emergency (situation reports, line lists, databases, etc.).
- Indicate process and tools for medical/epidemiological data collection and analysis.
- Provide templates for intervention proposals, and identification of who is responsible for their production/approval.

Suggested annexes for this section:

- Relevant Job Action Sheets.
- Template Situation report (Sitrep).
- Template line-list.

4.3.3 IMS: health operations and expertise function and subfunctions

- Refer to section 3 of the plan and highlight the linkages to other IMS functions.
- Presentation of an organigram and line management for technical coordination within the health system (national-provincial-local).
- Identification and description of roles, responsibilities, tasks and indicator for all functions or services in the emergency response (see WHO Health EDRM Framework, Annex 2 – component and functions, Component 8: health and Organigram and line management for technical coordination). (Can be included in the core document).
- List/roster of experts.
- Mapping of key health structures and services.
- Roles and responsibilities, key tasks of all functions and services for emergency response.
- Contact list of technical partners.
- Related services.

- Identification of key health infrastructures and services and their stocks/capacities to rely on in case of response (heath services, laboratories, hospitals, etc.).
- Descriptions of key technical partners or actors and how/when to mobilize them (coordination mechanism).
- Presentation of a concept of operations for response, including scalability of operations (strategy for response), and who is in charge of producing it.

4.3.4 IMS: logistics function and subfunctions

- Procurement plan for national and international supplies, including a list of main national/international suppliers (to be added as annex).
- Procurement process from request to approval
- Emergency stocks available in the country and how they can be accessed
- Telecommunication assets available and their management
- Fleet available (cars, trucks, motorbikes, etc.) and how to mobilize them for the response
- Other possibilities for transport (collaboration with other sectors or partners, rental vehicles, etc.).

Suggested annexes for this section:

- supplier list
- procurement plan and process
- national/provincial emergency stock
- stock management system from request to delivery
- fleet management system
- contract templates etc.

4.3.5 IMS: Administration and finance function and subfunctions

- Link to planning and operations functions for surge capacity (budgeting, recruitment, procurement and administrative support)
- Identification of who is responsible for producing budgets
- Identification of who is entitled to approve budgets and how
- Protocol for approval of expenses
- System for budget follow-up
- Protocol for cash flow management (this information might be sensitive and might not be public)
- Mechanisms for accountancy and financial accountability.

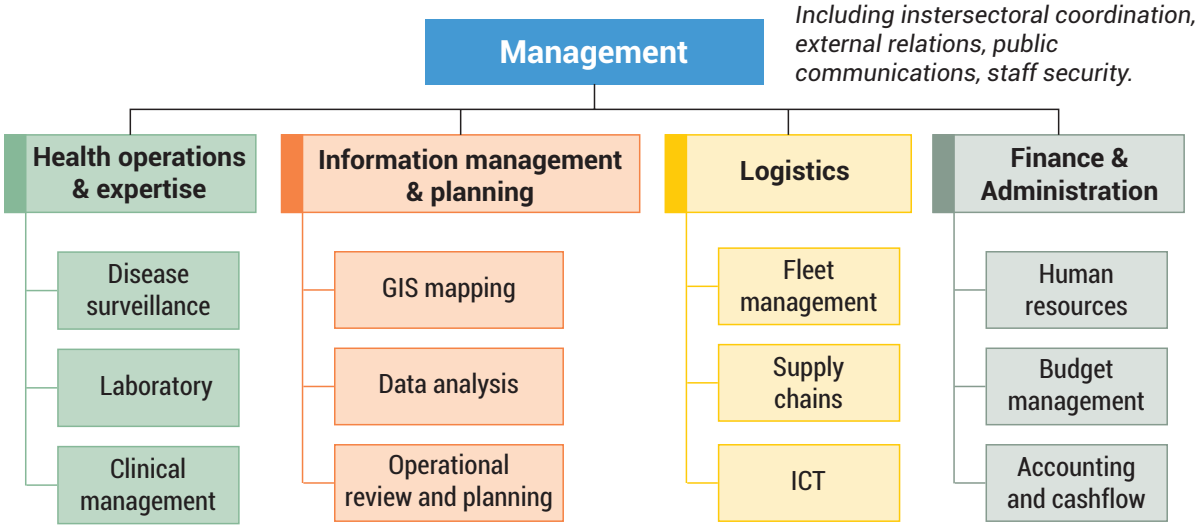
4.3.6 Engagement of subject matter experts, scientists and other resources

- Describe how technical human resources can be scaled up (use of roster, etc.) and mobilized.

Suggested annexes for this section:

- List of qualified technical human resources.

Figure A2.2 IMS organigram to be adapted at country level



5. De-activation and post-emergency response

Objectives

This section explains how decisions to ensure continuity of services to address the ongoing needs from the event through rehabilitation and recovery process, while scaling-down and finally closing an emergency response are made and how important duties will be managed during the phase-out (reporting and management of remaining resources). Eventually elevated levels of morbidity and mortality shift towards routine levels, signalling that the emergency response is in the final stages, that emergency response activities can be progressively deactivated and that an orderly return to non-emergency status can commence.

Deactivation relates to the orderly, progressive cessation of activities and functions as the emergency is brought under control.

Demobilization deals with dismantling the incident-specific response infrastructure and re-allocating resources as necessary, including:

- response resources and equipment, including personnel, must be accounted for and returned.
- unused resources and donations must be returned or allocated.
- incident-specific financial accounts must be finalized and closed.
- public health care, prevention and mitigation initiatives undertaken as part of the response should be shifted to sustained rehabilitation, recovery and prevention programmes, along with any uncommitted funding.

The section should also present the process for conducting an after-action review, and how to capitalize or incorporate lessons learned into revisions of this NHEROP and/or into the roadmap for emergency response planning.

Process and tools

For this section, the PHEOC or similar structure will have to develop procedures for decision-making on when to scale down an emergency response and/or when to declare the end of the response. Alongside these criteria, it will be useful to define the decision-making process and the principal actions to be undertaken for the efficient implementation of the scaling down process.

Standard Operating Procedures for deactivation may be focused on achieving an orderly return to non-emergency status by progressively scaling back response activities. Procedural instructions will be of the following kinds:

- Procedures for monitoring ongoing needs, including emerging risks, medium and long-term effects.
- Linking plans for rehabilitation and recovery plans, including the transition from response to recovery.
- Procedures for deciding how and when to disengage from response activities.
- Procedures for providing direction related to:
  - demobilizing
  - accounting for response resources, including personnel.
- Procedures for reporting and conducting evaluation process for the response such as an after-action review.

Tools

- Model deactivation protocol.
- Guidance on how to conduct an after-action review *(13)*.

5.1 Deactivation, demobilization and response review

5.1.1 Deactivation

- Describe the considerations (e.g. continued need for emergency resources) and criteria for response scale-down (e.g. from Level 3 to Level 1)
- Define the response level review process (who recommends? who decides? how often is it reviewed?)
- Describe how the end of the emergency is declared and successive steps.

5.1.2 Resource and asset reallocation

- When to do inventories of remaining resources and assets.
- Who is responsible for developing inventories?
- Who is responsible for decision-making on reallocation of remaining resources and assets, and the process of decision making.

5.1.3 Reporting, evaluations and lesson-learning processes

- List the end of response reports to be produced; for whom and for what; Who is responsible for producing those reports.
- List the response evaluation mechanisms to be employed including:
  - When to conduct an after-action review *(13)*
  - How to conduct an after-action review
  - To whom and how to disseminate findings and lessons learned
  - How to capitalize on findings and lessons learned.

Suggested annexes for this section:

- Template deactivation memorandum
- Template inventory
- Template for material and equipment handover.

5.2 Recovery

Objectives

This section aims to explain the linkage between the response phase and the shift to recovery *(15-19)* as part of the risk management cycle. It is well understood that recovery actions should start during the emergency response phase.

A full recovery plan is not developed within the NHEROP and this should be addressed separately through other frameworks including the relevant guidance to national and international stakeholders involved in the health sector during post-disaster needs assessments (PDNA) processes and recovery planning.

Early recovery should be considered in the NHEROP. This is an approach that addresses recovery needs that arise during the emergency response phase of an emergency, using mechanisms that align with development principles. It enables the health system to address the ongoing health needs of people and systems for rehabilitation and recovery from the emergency and for communities to use the benefits of emergency response, including humanitarian action, to seize development opportunities, builds resilience, and establishes a sustainable process of recovery from crisis.

This section of the NHEROP should address that required adjustments in the coordination mechanisms are explained as are the mechanisms required to move public health programs shifted to early recovery, sustained mitigation and prevention programmes, along with any uncommitted funding.

Maintenance and/or rehabilitation of health services may be considered, but aspects that are risk-specific are not included in this section of the plan and should be part of hazard-specific contingency planning.

Process and tools

The development of this section requires reflection on how the ongoing needs arising from the event will be monitored and assessed and how the rehabilitation and recovery of individuals, communities and health systems will be supported. It should be aligned with the objectives and methodologies of health emergency response, health emergency and disaster risk management and the national plan for health system strengthening.

Interaction and collaboration with multisectoral groups and platforms for recovery in countries including national governments and the international community should be identified. The role or added value of the health sector in the recovery process should be defined.

Tools/Guidance

- PAHO and WHO Disaster Recovery Guidance Series: Health Sector Recovery (15).
- Global Health Cluster guidance on recovery (16).
- World Bank PDNA Guideline for Health (17).

5.2.1 Handover process to recovery

- Accountabilities for recovery at different administrative levels (national, provincial, district)
- List departments/functions in charge of recovery processes within the MoH.

5.2.2 Role and interaction of health sector in multisectoral recovery processes

- Monitoring of ongoing and longer-term health needs and risks associated with the event and the consequences of the response
- Multisectoral recovery frameworks and health sector strengthening plans
- Health emergency and disaster risk management strategies
- Rehabilitation services, mental health and psychosocial support services
- Community-level post-incident recovery.

5.2.3 Resource mobilization opportunities and frameworks

- List the national and international sources of funding for recovery. These may include UN-led and World Bank led recovery programmes.

Suggested annexes for this section:

- Procedures for monitoring of emerging, continuing and longer-term risks and needs of communities affected by the event.
- List of key plans for rehabilitation, mental health and psychosocial support and other key services.
- List of key plans and strategies on health system strengthening on which a recovery plan could be based.

- List of business continuity and contingency planning of all priority public health programmes for the community and country.
  - Maternal and child health.
  - Communicable diseases like TB, malaria, dengue etc.
  - Noncommunicable diseases
  - Migration or population displacement
  - Any others
- List of existing platforms and working groups likely to lead a multisectoral recovery process
- List of key civil society actors involved in community recovery process.

6. List of annexes

Insert a list of annexes to the NHEROP with their last date of revision and current owner (see Table A2.2).

Table A2.2 Template list of annexes to the NHEROP

Annex	Name	Version / date	Owner
e.g. Annex 1	e.g. CONOPs for Level 1 emergency	e.g. Version 1.1 / February 2021	e.g. PHEOC incident manager
e.g. Annex 2	e.g. CONOPs for Level 2 emergency	e.g. Version 3.1 / March 2022	e.g. PHEOC incident manager
e.g. Annex 3	e.g. SOP for RRTs	e.g. Version 4.2 / January 2023	e.g. Head of disease surveillance and response

Annex 2. References

1. Emergency response framework. Second edition. Geneva: WHO; 2017 (https://apps.who.int/iris/bitstream/handle/10665/258604/9789241512299-eng.pdf?sequence=1, accessed 11 November 2020).
2. Risk analysis and monitoring, minimum preparedness, advanced preparedness and contingency planning. Draft for field testing. Inter-Agency Standing Committee; 2015 (https://interagencystandingcommittee.org/node/10186, accessed 7 December 2020).
3. WHO Guidance for Contingency Planning. Geneva: WHO; 2018 (https://apps.who.int/iris/bitstream/handle/10665/260554/WHO-WHE-CPI-2018.13-eng.pdf, accessed 7 December 2020).
4. Guidance for conducting a country COVID-19 intra-action review (IAR). Geneva: WHO; 2020 (https://www.who.int/publications/i/item/WHO-2019-nCoV-Country_IAR-2020.1, accessed 4 March 2021).
5. Early detection, assessment and response to acute public health events: implementation of early warning and response with a focus on event-based surveillance: interim version. WHO; 2014 (https://apps.who.int/iris/handle/10665/112667, accessed 14 December 2020).
6. Early warning, alert and response system (EWARS). [webpage] WHO; no date (https://www.who.int/emergencies/surveillance/early-warning-alert-and-response-system-ewars/, accessed 11 November 2020).
7. Training of Trainers for Rapid Response Teams Training. [training toolkit] WHO; no date (https://extranet.who.int/hslp/?q=content/training-trainers-rapid-response-teams-training, accessed 11 November 2020).
8. Rapid risk assessment of acute public health events. Geneva: WHO; 2012 (https://apps.who.int/iris/bitstream/handle/10665/70810/WHO_HSE_GAR_ARO_2012.1_eng.pdf;jsessionid=3B7CB0E74F993699A5AA5E7D8ECDBE57?sequence=1, accessed 11 November 2020).
9. Emergency risk communication five-step capacity-building package. Copenhagen: WHO; 2018 (https://www.euro.who.int/en/health-topics/health-emergencies/pages/whos-work-in-emergencies/risk-communication-in-emergencies/national-health-emergency-risk-communication-training-package, accessed 11 November 2020).
10. Communicating risk in public health emergencies: a WHO guideline for emergency risk communication (ERC) policy and practice. Geneva: WHO; 2017 (https://apps.who.int/iris/handle/10665/259807, accessed 11 November 2020).
11. Risk communication essentials [online training course]. WHO; no date (https://openwho.org/courses/risk-communication, accessed 14 December 2020).
12. Framework for a Public Health Emergency Operations Centre. Geneva: WHO; November 2015 (https://www.who.int/ihr/publications/9789241565134_eng/en/, accessed 7 December 2020).
13. Guidance for after action review (AAR). Geneva: WHO; 2018 (https://www.who.int/ihr/publications/WHO-WHE-CPI-2019.4/en/, accessed 5 March 2021).

14. IMS Tier 2: Working in WHO's Incident Management System [online training course]. WHO; no date (https://openwho.org/courses/incident-management-system-tier2, accessed 14 December 2020).

15. Disaster Recovery Guidance Series: Health Sector Recovery. Pan American Health Organization, International Recovery Platform, Global Facility for Disaster Risk Reduction; no date (https://www.paho.org/disasters/index.php?option=com_docman&view=download&category_slug=books&alias=2564-health-sector-recovery-564&Itemid=1179&lang=en, accessed 14 December 2020).

16. Inter-Agency Standing Committee. Global Cluster. Health Cluster Guidance Note on Health Recovery. 2008 (file:///Users/Inna/Downloads/health-cluster-guidance-note-on-health-recovery.pdf, accessed 14 December 2020).

17. PDNA Guidelines Volume B. Global Facility for Disaster Risk Reduction, World Bank, European Union, WHO; 2013 (http://documents1.worldbank.org/curated/en/746581493631509387/pdf/114677-WP-PUBLIC-pdna-guidelines-vol-b-health.pdf, accessed 14 December 2020).

18. Everybody's business: whole-of-society action to manage health risks and reduce socio-economic impacts of emergencies and disasters: operational guidance. Geneva: WHO; 2020 (https://apps.who.int/iris/handle/10665/339421, accessed 4 March 2021).

19. Manifesto for a healthy recovery from COVID-19: Prescriptions for a healthy and green recovery from COVID-19. WHO; 26 May 2020 (https://www.who.int/news-room/feature-stories/detail/who-manifesto-for-a-healthy-recovery-from-covid-19, accessed 5 March 2021).

Annex 3:

4Ws stakeholders table for all-hazards preparedness planning

Table A3.1 4Ws stakeholders table for all-hazards preparedness planning

Who they are List all stakeholders	**What type of work they do** Programmes such as health services, training, research, funding, etc.	**Where are they located** Address	**What they bring to the development/updating of the NHEROP** Contribution/resource/value

Annex 4:

4Ws human resources table

Table A4.1 4Ws human resources table

Who they are Please list full names	**What skills they have** Organizational, digital, interpersonal, etc.	**Where located** Please indicate address	**How they can be contacted** Please fill in mobile phone number

Annex 5:

Terms of reference for the NHEROP team

Terms of reference for the preparation and development of a National Health Emergency Response Operations Plan (NHEROP).

Purpose: To prepare for and develop (or update) an NHEROP that can guide [country name] in all-hazards preparedness planning for responding to a health emergency.

Organization: National team representing relevant sectors of government and partners drawn from [country] and external sources as required.

Lead: Ministry of Health (or another ministry).

Team lead: Name of team leader.

Address: Location of team leader and contact details.

Partners: Other ministries and sectors of government.
Groups drawn from private sector, NGOs, international organizations.

Activities:

- Work closely with the lead ministry and coordinate with all other relevant ministries on a regular basis.
- Prepare a workplan and timeframe for approval by the lead ministry.
- Identify potential sources of human, material and financial resources and seek confirmation of collaboration and timely contributions.
- Develop terms of reference for each member of the planning team.
- Develop team organigram with task-outline for preparatory phase.
- Identify types and sources of information required and work with all relevant sources to encourage good access to essential data.
- Prepare report of steps/actions required in preparing the NHEROP.
- Present preparatory report to lead for review and make necessary adjustments identified by lead and partners.
- Work with lead to identify and organize NHEROP development team if different from preparatory team.
- Prepare a work plan and timeframe for approval by lead ministry.
- Develop team organigram with task-outline for development of the NHEROP.
- Confirm all partners continue to be involved, together with access to human, material and financial resources.
- Develop NHEROP, identifying and accommodating possible problems.

- Define the milestones with the lead ministry and partners.
- Engage in ongoing review of all requirements, and report on if and how these are being met.
- Engage in ongoing discussion/meetings with the lead ministry and partners on progress as per milestones.
- Resolve problems/gaps encountered and report on these.
- Prepare plan for simulation exercises and results reporting.
- Ensure institutional back-up for sustainability of process.

World Health Organization

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