Ministry of Health

# KENYA PUBLIC HEALTH EMERGENCY OPERATIONS CENTER (KPHEOC) HANDBOOK

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# ACRONYMS AND ABBREVIATIONS

| | |
|---|---|
| AFRO | WHO Africa Region |
| CDC | Centers for Disease Control and Prevention |
| CDH | County Director of Health |
| CIR | Critical Information Requirements |
| COVID-19 | Coronavirus Disease (2019) |
| DG | Director General for Health |
| EBS | Events Based Surveillance |
| EEI | Essential Elements of Information |
| EVD | Ebola Virus Disease |
| IBS | Indicator Based Surveillance |
| ICT | Information and Communications Technology |
| IDSR | Integrated Disease Surveillance and Response |
| IHR | International Health Regulations 2005 |
| IM | Incident Manager |
| IMS | Incident Management System |
| JAS | Job Action Sheet |
| KPHEOC | Kenya Public Health Emergency Operations Center |
| LNO | Liaison Officer |
| MOH | Ministry of Health |
| NDOC | National Disaster Operations Center |
| PHEIC | Public Health Emergency of International Concern |
| PHEOC | Public Health Emergency Operations Center |
| RRT | Rapid Response Team |
| SITREP | Situation Report |
| SOP | Standard Operating Procedure |
| SPOTREP | Spot report |
| WHO | World Health Organization |

# FOREWORD

Countries around the globe, Kenya included, are grappling to contain the COVID-19 pandemic. To succeed, they need an effective, well-coordinated and efficient system for response to this pandemic, and any other public health emergency that may emerge in the future. A functioning public health emergency operations center (PHEOC) serves as the central platform for coordination of response to public health emergencies including international threats from emerging and re-emerging epidemics/ pandemics, as mandated by the International Health Regulations (IHR) 2005.

In tandem with this, the Kenya PHEOC was inaugurated in 2016 by the Ministry of Health and tasked with the responsibility of coordinating the preparedness for and response to public health emergencies. Its central role in the fight against the COVID-19 pandemic has created the imperative to guide its operations using a standardized approach that is grounded in evidence. As a corollary to this, the PHEOC handbook was conceptualized and written to address this need. In addition to the national PHEOC, this handbook will guide the newly established and other upcoming county level PHEOCs in the establishment of structures and systems for effective and efficient public health emergency response.

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**Ag. Director General for Health**

# ACKNOWLEDGEMENTS

This handbook is the product of extensive collaboration between various departments in the Ministry of Health (MOH). The work was led by the Public Health Emergency Operations Centre (PHEOC) with significant input from the Division of Disease Surveillance and Response (DDSR); the Division of Monitoring, Evaluation, Research and Health Informatics; and the Department of Port Health among others. Additionally, significant input has been provided by various county departments of health, the Council of Governors, and other government ministries and agencies including the National Disaster Operations Center (NDOC), the National Multi-Agency Command Center (NMAC), the National Disaster Management Unit (NDMU), the Kenya Airports Authority and the Ministry of Interior and Coordination of National Government.

The MOH acknowledges with gratitude the important contribution of technical partners including the World Health Organization, US Centers for Disease Control and Prevention (CDC), USAID-Afya Halisi Project and PATH to complete the document. A full list of collaborators is provided within the Handbook.

The Handbook made extensive reference to the WHO's Framework and Handbook for development of PHEOCs (A and C). A list of references is provided in the bibliography.

# EXECUTIVE SUMMARY

Kenya faces diverse threats to public health including infectious disease outbreaks, natural hazards, the health consequences of climate change, wars, and contamination from chemical, biological and radiation agents. These threats have the potential to disrupt livelihoods, destroy infrastructure, interrupt economic activities, retard development and lead to diversion of resources to response activities.

The Ministry of Health at the national and county levels has a responsibility to prepare for, prevent, detect, respond to and mitigate public health threats from within and without the country's borders - constituting its emergency management plan. The Public Health Emergency Operations Center (PHEOC) coordinates emergency responses and is a component of this plan. As health is a devolved function, counties also have a primary responsibility to prevent, prepare for, detect, and respond to public health threats within their areas of jurisdiction.

The Ministry of Health in the Medium Term Expenditure Framework 2021/22 to 2023/24 has set out to collaborate with County Governments in setting up sub – national PHEOCs. The preparedness for and response to public health emergencies is a multiagency effort and not the sole responsibility of the Health Sector. In order to effectively coordinate an emergency response, guidance is needed on setting up and operating PHEOCs. This handbook provides guidance to national and county levels in their efforts to set up and/ or strengthen their PHEOCs, ensure preparedness and guide implementation of an emergency response. It details the key components and requirements of a PHEOC, the functions of various officers of the PHEOCs, required staffing, and plans and procedures for operationalizing PHEOCs. Further, it details the steps to be carried out in implementing an emergency response and provides guidance on training and exercises to enhance preparedness. Finally, it provides guidance on monitoring and evaluation in the context of a PHEOC. For each of these sections, the Handbook provides templates and/or sample tools to guide use.

# 1 INTRODUCTION

## 1.1 Background on the Kenya PHEOC

Kenya has faced diverse threats to public health including infectious disease outbreaks, natural hazards, health consequences of climate change, wars, as well as contamination from chemical, biological and radiation agents, among others. These threats have the potential to disrupt livelihoods, destroy infrastructure, interrupt economic activities, retard development and lead to diversion of resources to response activities. Public health threats are indeed a threat to the realization of Kenya's Vision 2030 and global Sustainable Development Goals.

One of the responsibilities of the health system is to prevent, prepare for, detect and respond to public health threats – this constitutes the emergency management plan[1]. Therefore, one of the critical roles of a health system is to conduct surveillance of and coordinate response to threats and events that could directly or indirectly affect the health of populations and overwhelm the health system's capacity. While the Ministry of Health (MOH) has responded to public health emergencies using existing structures in the past, the efficacy levels were not fully attained. This gave rise to the need for establishment and operationalization of a Public Health Emergency Operation Centre (PHEOC)[2] The PHEOC's mandate is to coordinate the implementation of this emergency management plan.

The Kenya PHEOC was inaugurated on 17th May 2016 by the Cabinet Secretary for Health and the World Health Organization Country Representative. Since its inception the PHEOC has been able to participate in simulation exercises; conduct a baseline assessment on establishment of virtual PHEOCs in four pilot counties (Busia, Turkana, Nairobi and Garissa); and coordinate response to disease outbreaks and emergencies in the country. This includes coordination of polio supplementary immunization activities and monitoring of the tenth and eleventh Ebola Virus Disease (EVD) outbreaks in the Democratic Republic of Congo. As of October 2020, the PHEOC is coordinating the response to the COVID-19 pandemic which has affected all 47 counties with 99,308 cases and over 1,734 deaths reported as of 20 January 2021, just over ten months after the first case was reported in the country.

The PHEOC is part of a network of national and international Emergency Operating Centers (EOCs); these include the National Disaster Operations Center (NDOC), the National Disaster Management Unit (NDMU) and EOCs within the World Health Organization (WHO), US Centers for Disease Control and Prevention (CDC) and the Kenya Red Cross (KRC). This network plays a central role in the coordination of emergency response using the all-hazards approach.

Further, there are PHEOCs being established at county level in close collaboration with Ministry of Health and support of development partners. These PHEOCs will work in concert with the national PHEOC during both preparedness and response phases guided by the Concept of Operations (CONOPS) described in detail in chapter 3 of this handbook.

## 1.2 Objectives of the PHEOC

The objectives of a PHEOC include:

1. Coordination of the response to public health events / emergencies with all relevant stakeholders including county and national government entities and non-government agencies entailing:
    - Mobilization and deployment of resources, including surge capacity, services and supplies to support all PHEOC functions.
    - Timely, event-specific operational decision-making using available information, policy, technical advice and plans.
2. Collection, collation, analysis, presentation and utilization of health event data and information to guide the response.
3. Designing appropriate health messages for creation of public awareness, community engagement and social mobilization.

## 1.3 Scope of the PHEOC

The PHEOC's focus is on public health aspect of the following events:

- Natural events such as:
    - Disease outbreaks
    - Natural hazards
- Man-made events such as:
    - Radiological or nuclear events
    - Mass casualty incidents
    - Bioterrorism and other biological events
    - Chemical incidents
    - Any other Public Health Events of International concern (PHEICs)

## 1.4 Purpose of the Handbook

The purpose of this handbook is to provide guidance on public health emergency response coordination at all levels in the health sector. It dovetails with pre-existing emergency response working documents including the Kenya Health Sector All-hazards Response Plan (2018); the National Disaster Response Plan (2009); and the National Emergency Response Plan (2014) among others.

The Handbook will give guidance to counties as they establish PHEOCs, clarify the roles of both county and national PHEOCs, and give direction on interaction between national, county and international EOCs/ agencies.

The Handbook shall be reviewed every five years or more frequently if the need arises.

# 2

# PHEOC POLICY AND PLANNING CONTEXT

## 2.1 Legal authority for the PHEOC

Kenya is party to the International Health Regulations (IHR) (2005), This legal instrument obligates state parties to develop, strengthen and maintain capacity to respond promptly and effectively to public health emergencies. Member states are expected to establish PHEOCs to strengthen communication and coordination for effective public health response.

Globally, there are additional legislative frameworks and policies that address disaster management. These include Hyogo Framework 2005, Sendai Framework for disaster risk reduction, and the Sustainable Development goals (SDGs), to which Kenya is a signatory.

Presently Kenya does not have a specific legal framework establishing PHEOCs, however legislation and policies covering issues on management of public health emergencies exist. These include the Constitution of Kenya 2010, the Public Health Act (Chapter 242), the Meat control Act (Chapter 356), the Animal Disease Act (Chapter 364), the Food, Drugs and Chemical Substances Act (Chapter 254), and the Health Act 2017, among others. These pieces of legislation authorize the public health authorities, particularly the Cabinet Secretary of Health, to take relevant actions during public health crises. In addition, the Kenya Health Policy (2014-2030), provides direction on preparation for and response to public health emergencies.

## 2.2 Planning context: assessing risk, requirements and constraints for the PHEOC

The Kenya PHEOC is part of a comprehensive risk management program that integrates management of all hazards within national and other incident management systems, and that involves all relevant agencies both within and without the health sector. The Kenya PHEOC was established in the context of the following national plans: Kenya Health Sector Strategic Plan, The Kenya Health Sector All Hazards Response Plan, and the Kenya National Action Plan for Health Security (NAPHS). These plans provide guidance regarding preparing for, mitigating against, detecting and responding to public health emergencies in line with the One Health approach. A sample hierarchy of plans for a public health emergency management program is illustrated in annex 1, showing plans within the PHEOC, the Ministry of Health and across sectors.

Analysis of the hazards, vulnerabilities and consequent risks to which the PHEOC may be required to respond drives the planning process for the PHEOC. This further requires an assessment of its baseline response capacity in order to identify gaps. These processes are described below.

### 2.2.1. Risk Assessment

Risk assessment is a component of a comprehensive risk management program. It helps identify threats, determine their likelihood of occurrence, and the likely magnitude of public health impact in order to prioritize and plan for a response - all within an all-hazards approach. The Ministry of Health as the lead agency of a steering committee comprising multiple stakeholders should undertake a public health risk assessment in the face of an imminent threat such as from disease outbreak reports, forecasts of heavy rains and flooding, etc. The goal of the risk assessment is to determine the nature and magnitude of the response that will be required to mitigate the impact of the impending hazard.

Risk assessment involves the following five steps:

1. Identifying hazards and risks (latent and potential harms)
2. Evaluating the vulnerability of the population(s)
3. Analyzing the risks with respect to consequences of exposures.
4. Prioritizing risks to determine the threat level.
5. Evaluation of prevention and mitigation options to manage the risks and minimize potential harm.

The risk analysis matrix illustrated in figure 1 below will be used to guide the risk assessment process.

Potential impact of outbreak/ public health event

| Likelihood of occurrence | Negligible | Minor | Moderate | Significant | Severe |
|---|---|---|---|---|---|
| Very likely | Medium | High | High | Very high | Very high |
| Likely | Low | Medium | High | High | Very high |
| Possible | Very Low | Low | Medium | High | High |
| Unlikely | Very Low | Low | Low | Medium | High |
| Very unlikely | Very Low | Very Low | Low | Medium | Medium |

Figure 1: RISK ANALYSIS MATRIX

Hazards may be categorized as follows:

- Natural hazards, including:
  - Biological: zoonoses, epidemics, vector-borne disease, foodborne disease, etc.
  - Hydro-meteorological,
- Hydrological: floods, landslides
  - Meteorological: extreme weather, storms, extreme temperature
  - Climatological: drought, wildfire
- Geological: earthquake, volcanic activity

Human induced hazards, such as:

- Technological: industrial hazards, structural failures, transportation accidents, fires and explosions, hazardous materials (chemical, biological, radio-nuclear), food/water contamination, extreme air pollution, etc.
- Societal: armed conflict (national, international), terrorism (chemical, biological, radio-nuclear, explosives), displacement of populations (refugees and internally displaced persons), etc.

While some of these are not public health emergencies as such, they may have significant public health consequences necessitating a public health response. A template for risk assessment is found in annex 2.

### 2.2.2 Capacity and capability assessment

Upon completion of the risk assessments, an estimation of required capacities (resources and infrastructure) and capabilities (knowledge, skills and abilities) to respond to identified risks is carried out. A gap analysis is conducted by comparing the required capacities and capabilities against existing PHEOC capacities and capabilities to determine the gap.

The absence of capacities and capabilities amplifies vulnerability, and therefore risk.

A capacity and capability assessment seeks to identify opportunities to address gaps in the PHEOC's capacity and capabilities through resource mobilization such as from:

- Parties and agencies with relevant roles and responsibilities (e.g. hospitals, clinics, existing PHEOCs)
- Competent human resources (e.g. health service staff of all types)
- Specialized physical resources (e.g. microbiology and toxicology laboratories)
- Mutual aid agreements with other jurisdictions (e.g. access to specialized resources not available locally).

### 2.2.3 Planning goals of the PHEOC

Risk and capacity assessments will identify gaps or shortfalls in planning, management and resources constituting a needs assessment.

A needs assessment will identify some needs and opportunities that cannot realistically be addressed through the PHEOC. These needs should be addressed by the relevant authorities beyond the PHEOC. Information derived from the needs assessment will therefore guide planning for collaboration between the PHEOC and other departments or partners with the relevant mandate and resources. An example might be the need to implement programs that reduce the impact of some hazards or threats (e.g. vaccination of the general population). This is consistent with the first function of comprehensive emergency management – prevention/ mitigation and preparedness, for which the PHEOC is not directly responsible. While risk assessments commonly focus on the negative aspects or downside of risk, impact reduction programs represent the upside of risk assessments – i.e. the positive opportunities.

### 2.2.4 Review of findings and recommendations from past events and exercises

Part of the planning process should entail a review of the conclusions and recommendations from in-action reviews, after-action reviews/ evaluations (covered in detail in chapter 7); these identify the strengths and weaknesses in existing response and management plans including reviews of drills and activations. Their findings and recommendations will inform initiation of quality improvement interventions.

This is a key preparedness process that determines the robustness of existing systems and plans, and the investments required to build effective response capability and capacity.

### 2.2.5 Developing an overarching plan

The needs assessment and recommendations from past reviews provide useful information to guide planning in the PHEOC. Four general types of plans are required[18]:

- An Emergency Operation Plan (EOP) describes how the various components of the emergency response system will work together to achieve coherent responses to public health emergencies. It is built on what is already in existence.
- A technical, all-hazards PHEOC plan, manual or handbook assists assigned personnel to perform their roles and functions in the center.
- A hazard-specific plan describes response requirements for a particular type of incident or event. The plan describes processes and activities undertaken in response to an event where an agency other than the public health authority takes the lead but for which there are secondary public health consequences (e.g. release of hazardous material).
- A prevention and mitigation plan that outlines the measures taken to reduce the impact of priority risks before and during a risk event.

These plans are explained in detail in the subsequent chapter under section 3.2.1.

# 3

# STRUCTURE AND FUNCTION OF THE PHEOC

## 3.1 Organizational Location and Structure of PHEOC:

The National PHEOC falls under the Directorate of Public Health (DOPH) that reports to the Office of the Director General. The County PHEOC would fall under the County Director of Health (CDH) or where there are several directors, the County Director for Public Health (CDPH). The national PHEOC coordinates with national disaster management entities through the Office of the Director General.

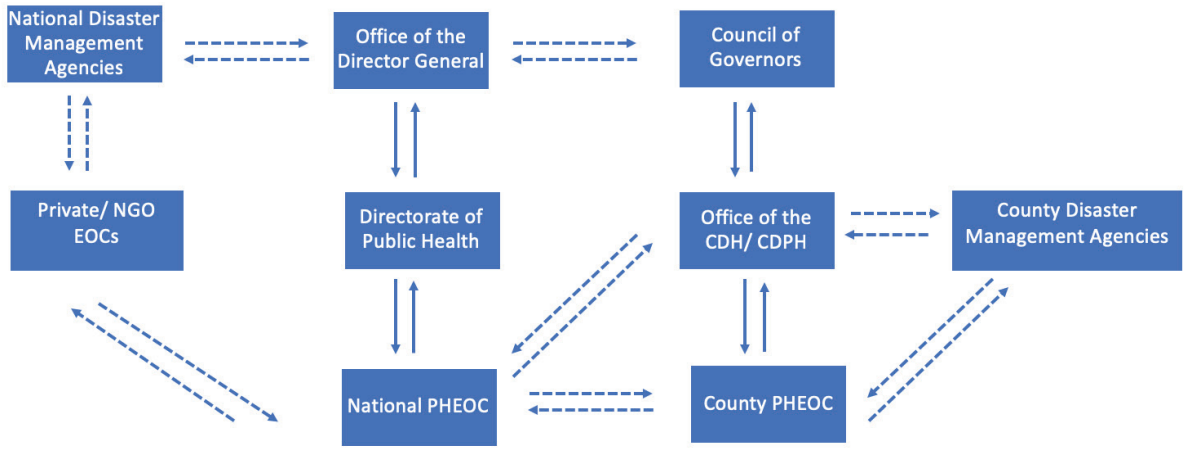


**Figure 2: Organizational structure showing the position of the PHEOC in the Ministry. National disaster agencies include the NDOC, NDMU, etc**

The organizational structure of the PHEOC both at the national and county levels is modular, adaptable and scalable to allow elements to be activated or deactivated as the needs of the emergency or disaster change over time. The structure provides for expansion as additional resources are required. Each section must have a person in charge. However, a supervisor may supervise more than one section. Figure 3 below illustrates the basic organizational structure of PHEOC.

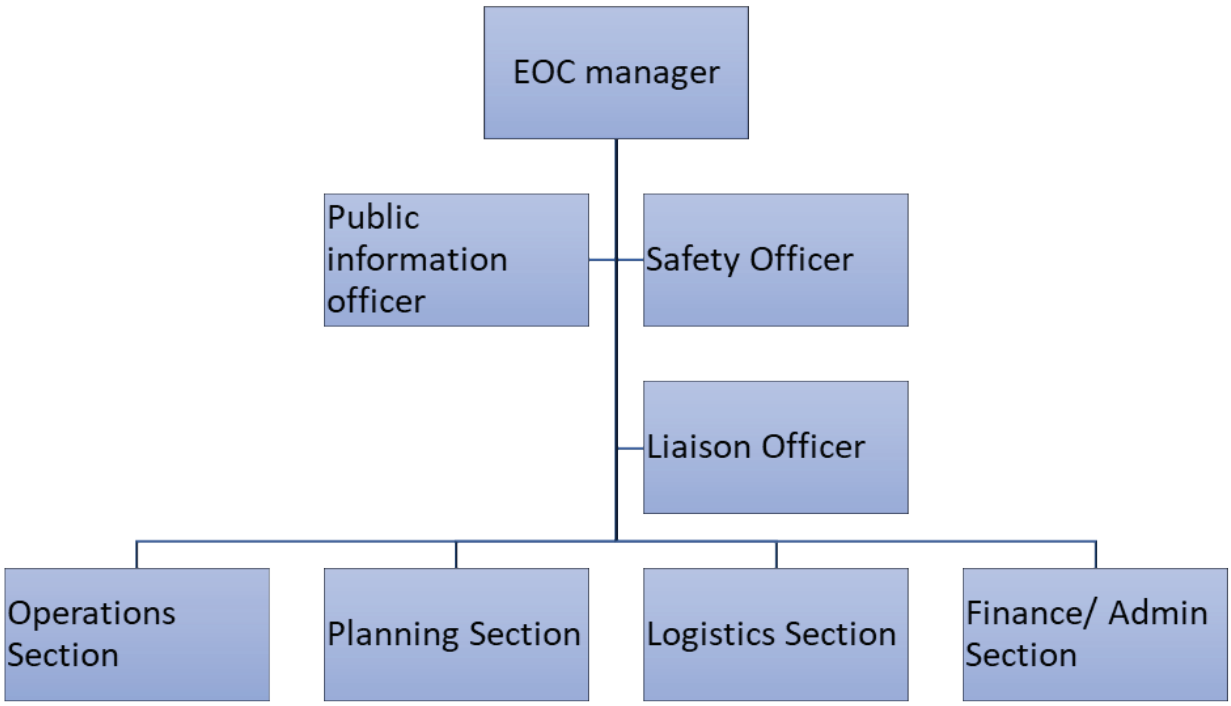


Figure 3: BASIC ORGANIZATIONAL STRUCTURE OF THE PHEOC

## 3.2 Core components of the PHEOC

The core components or pillars that makes a PHEOC functional are:

- Plans and procedures;
- Physical infrastructure;
- ICT infrastructure;
- Information systems and standards; and
- Human resources.

Meeting the requirements of each component enables the PHEOC to operate as planned. Figure 4 below illustrates the key components of PHEOC, which will be described in greater detail in the following section.

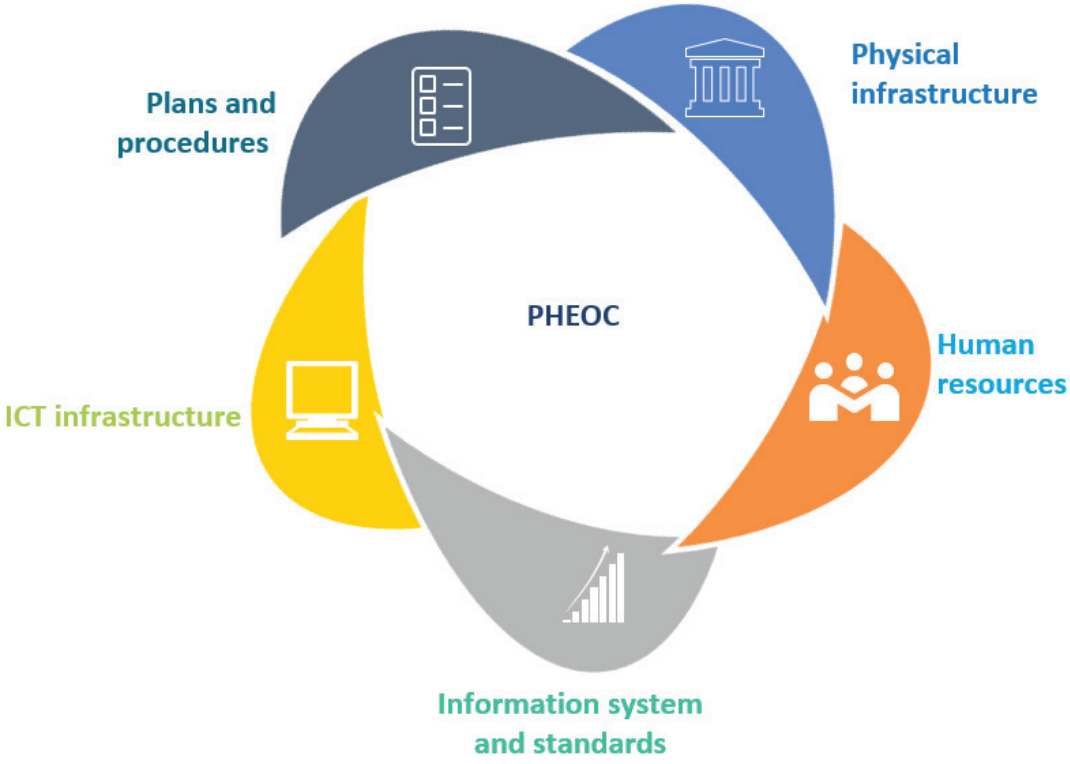


Figure 4: Core components of the PHEOC

## 3.2.1 Plans and procedures:

The PHEOC uses plans and procedures to guide its operations. The plans contain descriptions of processes, or series of related operations, that can further be broken down into specific procedures i.e. actions, tasks, steps and routines for accomplishing objectives. The processes and procedures aspect of planning answers questions about who does what, when, where and how. All emergency plans within a jurisdiction should follow the same format, making it easier to find a particular type of information. Table 1 below shows the main types of plans and procedures required in a PHEOC.

Table 1: TYPES AND EXAMPLES OF PLANS AND PROCEDURES IN A PHEOC

| Categorization of plans and procedures in the PHEOC |
|---|
| A. CONOPS |
| B. Operational plans |
| C. Hazard specific plans |
| i. Prevention and mitigation plans |
| ii. Contingency plans |
| iii. Emergency response plans |
| D. Functional plans |
| i. PHEOC internal communications plans |
| ii. Continuity of operations plans |
| ii. Incident action plans |
| E. SOPs |

### 3.2.1.1 Concept of Operations (CONOPS): A conceptual framework[1]

Public heath emergencies generally involve more than one jurisdiction or technical area operating under a single coordination entity, under which various multiple entities each with interdependent operational structures exist. The Concept of Operations (CONOPS) explains how the system should work within a multi-stakeholder context. Its three key principles areas:

1. Identification of the three key levels of response to a public health emergency: **strategic**, **operational** and **tactical**, how they fit within the response system, and their roles and responsibilities. The national-level CONOPS describes how the multiple entities inter-relate depending on the magnitude and nature of the outbreak; within this framework the national PHEOC is nested in the operational level. This is expected to accommodate the interests and mandates of a number of entities with potentially overlapping roles and responsibilities. The national CONOPS framework is shown in figure 4 below. A PHEOC level CONOPS will identify roles, responsibilities, goals and objectives for the PHEOC staff.
2. Description of the authority and decision-making framework and the types of decisions to be taken at each level
3. Instructions about the authority for activation of the PHEOC

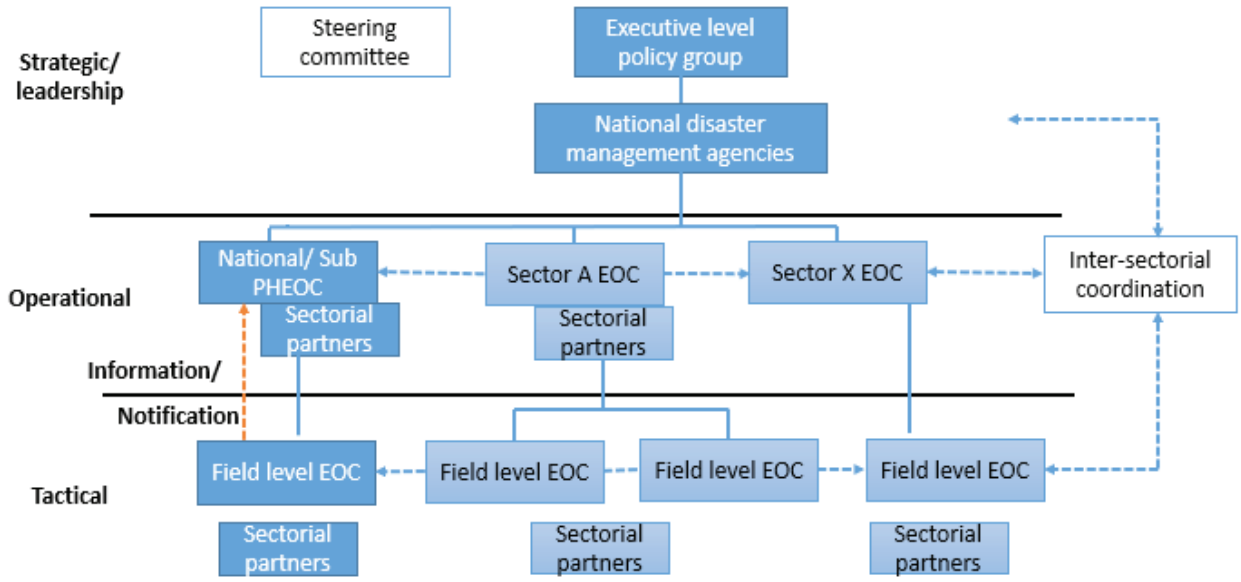


Figure 5: National CONOPS framework (adapted from the CONOPS illustration in WHO handbook for development of a PHEOC). The national disaster management agencies include the National Disaster Operations Center, National Disaster Management Unit, National Multi-Agency Command Center, among others. The field level EOCs are the County level EOCs

### 3.2.1.2 Operational plans

Operational plans provide guidance about what actions should be taken to address priority hazards/risks. Some hazards may have similar effects, thus operational plans focus on management of their common consequences to maximize efficiency of the response. These consequences may be classified broadly into:

1 Handbook or developing a Public Health Emergency Operations Center Part A: policies, plans and procedures; WHO

i. Biological effects such as communicable disease outbreaks,

ii. Toxicological effects such as contamination of food/ water

iii. Physical trauma such as from structural collapse, and

iv. Psychosocial trauma such as flight from a hostile environment.

#### 3.2.1.2.1 All-hazards response plan:

This plan recognizes the capabilities, roles and jurisdictions of the public health system and partner agencies during an emergency response. It may contain generic public health strategies including, but not limited to:

i. water, sanitation and hygiene,

ii. evacuation,

iii. infection control,

iv. isolation and quarantine, and

v. mass vaccination/ medication programs.

#### 3.2.1.2.2 Hazard-or threat-specific plans

Hazard-specific plans rely on the basic all-hazards Emergency Operations Plan (EOP) for routine activities of response and management, but they differ from each other because they identify resources, responses, management, linkages and communications that are unique to the specific hazard or event and its context.

There are 10 dimensions that differentiate hazard-specific plans information:

1. Threat or occurrence thresholds that trigger alerts and escalating levels of emergency response. These are linked to:
    - The level of threat (anticipated extent and impact) identified in the event
    - The PHEOC response grading (anticipated level of response, or extent of resources required to respond); annex 3 illustrates a template with guidance on response grading.
2. Technical and scientific capacities that must be engaged, such as reference laboratories, subject matter experts, rapid response teams, environmental health teams, and/or specialized equipment.
3. Data collection, processing and reporting requirements, such as those under the IHR (2005).
4. Specific public alerts, warnings, risk messaging and particular types of community engagement and interagency communication processes.
5. Extraordinary notification and decision-approval processes.
6. Legal and ethical issues, such as those related to unapproved or contentious treatment, containment or rationing processes.
7. Culture-sensitive issues such as distrust of treatments, social and religious conventions, and management of the deceased.
8. Material acquisition and deployment processes, such as accessing global stockpiles managed by international or private sector agencies.
9. The need to engage key partners who provide extra-jurisdictional resources, such as NGOs and international health agencies.
10. Special, as opposed to standard operating procedures.

Hazard planning considerations relevant to the nature of the event and national provisions and institutions will need to be taken into account. An examples of Kenya's hazard specific plans is the Kenya Health Sector Protocol for Mass Casualty Incident Management[2]; additional hazard-specific plans may include plans for specific infectious disease outbreaks, epidemics and pandemics; hazardous material exposure; consequences of natural hazards; mass gatherings; and mass care, among others.

#### 3.2.1.2.3 Prevention and mitigation plans

The purpose of these plans is to prevent risk events as far as is feasible or minimize the impact of the event when it happens. These plans should cover three phases:

1. Pre-event prevention: this phase of planning encompasses surveillance and taking measures to move vulnerable populations out of harm's way in the event of natural hazards which are unpreventable; or in the case of biological hazards, early deployment of containment and treatment measures. Plans for advocacy for policy interventions and economic investments to mitigate against man-made hazards also fall in this category.
2. During response to an event: this planning phase aims to prevent worsening of the situation. Approaches include ***protection of the responders*** and ***prioritizing protection of the most vulnerable populations***. This requires the PHEOC to have capacity to carry out mapping and risk profiling of the responders and affected populations.
3. Post-event recovery planning: this entails reducing the impact of future events by reducing the vulnerability of the affected populations through policy interventions, social mobilization and economic investments, e.g. public awareness campaigns and involvement of the community in hygiene promotion.

#### 3.2.1.2.4 Contingency Plan

A contingency plan guides preparedness and early response to a specific disaster. It may include the component of business continuity, disaster recovery and risk management. This will enable relevant sectors to plan, prepare for and conduct early response to disasters or public health emergencies. The components of the contingency plan include scenario building to identify case scenarios and triggers for activation of different phases of response. Before embarking on developing a contingency plan, it is important to conduct a joint risk analysis and assessment as the initial step.

Scenario building and modelling encompasses:

- Best-case scenario: This describes the event occurring in the best setting after risk analysis and assessment; with the least impact of all modelled scenarios.
- Most likely scenario: This considers all risk factors and determines the most probable course of events and outcomes; it informs the preparation of the contingency plan, example floods.
- Worst case scenario: This scenario models a PHE that causes disruption and casualties over a prolonged duration of time, for example several months or of a greater impact; it enables planning and mobilization of local, national and international resources including financial, human (experts) and material supplies. During worst-case scenario humanitarian planning, health services should be prioritized to target the most common causes of morbidity and mortality. Preparedness efforts should address not only an increase in the consequences of the hazard-specific illnesses but also non hazard-related illnesses leading to the highest morbidity and mortality such as malaria, pneumonia, diarrhea, HIV/AIDS, tuberculosis, malnutrition, chronic diseases and causes

2 Ministry of Health 2018: Kenya Health Sector Protocol for Mass Casualty Incident Management

of maternal and infant mortality. Services for these might be affected by the PHE. An example of worst-case scenario is COVID-19 pandemic.

Guidance on developing a contingency plan is provided in annex 4.

### 3.2.1.3 Functional Plans

Functional plans describe how to carry out the actions taken in response to an event. They include:

#### 3.2.1.3.1 PHEOC internal communication plan

This comprises of information exchange on progress in achieving objectives, changes in the situation, and the status of material and human resources. The mechanism for these communications is a mandatory process of systematic briefings - either vertical, horizontal or transition briefings thus: vertically from the incident manager to all teams, task forces or single resources, and horizontally across all activated Incident Management System (IMS) functions. This facilitates maintenance of a high level of situational awareness.

Vertical briefings commonly occur as staff meetings/briefings by supervisors. All supervisors, at each level and across all functions within the response organization, are responsible for maintaining a high level of situational awareness in their work unit. The vertical communication process is the primary management control mechanism.

Horizontal communication aims to facilitate coordination and concerted effort; this communication may occur through planning meetings that engage supervisors and staff from all functions and agencies that are contributing to the response. During these meetings, attendees are updated on the situation and engaged to identify and resolve emerging issues. Liaison officers representing the cooperating and supporting agencies may also play the role of achieving horizontal communication.

Transition briefings comprise the update provided by the person finishing a period of duty to the person relieving him/ her. It may be verbal or written and at a minimum should provide details of the event since the incoming person's last exposure to the event.

#### 3.2.1.3.2 Public communications plan

This entails plans for risk communication to the public. These should include the processes for identifying key audiences, spokespersons and subject-matter experts, and the processes for securing approvals for messages. Additionally, there is need for processes to identify information needs and the most effective communication methods, e.g. the most appropriate media channel, or identifying community leaders.

#### 3.2.1.3.3 Operational continuity plan

The continuity of operations plan, otherwise known as the continuity plan, tells personnel what to do when the functioning of the PHEOC is interrupted or damaged. This type of plan requires its own risk assessment that analyses potential threats to the Center, mitigates these to the greatest extent possible, and then develops a continuity plan based on dealing with the most damaging threat(s).

There will be two elements to the plan:

- What to do if the PHEOC is damaged sufficiently that it needs to be vacated.
- A delegation and succession document that details how loss of key personnel will be dealt with by delegation or replacement.

The plan deals only with the consequences of such disruptions, which are categorized as follows:

- Damage to the physical and operational infrastructure due to fire, flood or structural failure; external attack due to security breakdown; and failures of hydroelectricity, telecommunications, or information technology that render the site untenable, or its electronic tools non-functional. Such damage may require relocation of the center to an alternative site. Such an alternative site could be a "hot site" that is fully resourced and waiting for activation, a less well-resourced "warm" or "cool" site that requires a planned, tolerable degradation of functionality, or a "virtual PHEOC" which entails conducting operations remotely in an electronic environment.
- Disruption that includes loss of personnel, particularly key decision-makers, for any reason other than routine staff rotation. The standard approach to this is to plan to have sufficient personnel to ensure that there are ***three*** trained people available for each PHEOC position, so that spare personnel is always available, and there is a succession or substitution and delegation plan for decision-makers.
- Failure of critical elements of the supply chain that provide response resources. This will require prior identification of alternative resource suppliers and procedures for their engagement.

#### 3.2.1.4 Incident action plans

These plans establish the processes for translation of the operational objectives into results. They are specific to each incident. Based on assessment of the scale and impact of the public health emergency and the availability of resources and capacities, action plans help ensure a more effective response. A written incident action plan should describe the specific objectives that must be accomplished in succession in order to achieve larger incident/ event management goals. Incident action plans provide all PHEOC supervisory personnel with directions for current and future actions. They form the basis for defining operational periods for achievement of the specific objectives identified in the action plan and to organize for required resources. The length of operational periods varies according to the needs of particular events, from a few hours to 24 hours, or longer. See annex 5 for guidance in developing an incident action plan, and annex 6 for a sample.

#### 3.2.1.5 Standard Operating Procedures

Standard operating procedures (SOPs) describe how actions outlined in the plans should be taken and who is/ are responsible for taking them.

They comprise procedural instructions and steps for routines that sustain the incident/event management process. They depend on the jurisdiction and the context, are built upon or adapted from the operating processes and policies of the responsible jurisdiction and are modified as needed to address the requirements of partners and stakeholders. The Kenya PHEOC has developed several SOPs[3]; further, annex 7 contains a sample format for standard operating procedures.

When a particular operational objective may be met in different ways, depending on circumstances, the SOP may take the form of a standard operating guideline (SOG). An example of an SOP that describes an escalation process, depending on the PHEOC's level of activation is as follows:

**Watch level**

This SOP would address:

3 Ministry of Health, 2019. PHEOC SOPs

- The hazards to be monitored
- How the monitoring should occur
- Which organizational positions are responsible for it
- What they should do when certain threat thresholds are exceeded
- What they should do when new threats are detected and evaluated

### Alert level

The alert level is the early "stand up" or standby phase of activation when an emergency event has occurred or is imminent. The potential need for a response will have been identified, and each IMS function will have a list of preparatory procedures (although not all functions will necessarily be activated).

For example, in a jurisdiction where full IMS implementation is not practical (or feasible), the SOP would designate an event manager who, probably with the assistance of others, will work through the process of preparing to respond by identifying resources and establishing linkages, based on established procedures. This may involve certain thresholds or triggers for escalating the level of activation.

### Response level

The SOPs will provide specific direction or guidelines on how and when the response-related procedures are to be done, including:

- Whom to engage
- What steps are essential, and
- Why

These guidelines will relate to laws, policies and best practices. Where aspects of the emergency require responses that are not envisioned in the response plan, the SOPs should guide the PHEOC personnel on how to work together as a team to improvise the appropriate responses. Since different grades or scales of emergencies require different levels of response, it is common to define different response level SOPs in the response mode.

The highest level of response will deal with the events of greatest magnitude, scope and impact; these require the greatest resources and coordination, and often involve international partners. The lowest level of response addresses relatively minor events for which all response activities are largely within the capabilities and resources of the county or national PHEOC.

### Activation

The SOPs for activation address who is mandated to activate the PHEOC, the officer responsible for implementing the procedure, and the steps to be followed in the activation procedure.

### Deactivation

SOPs for deactivation are focused on achieving an orderly return to normal by progressively scaling down response activities. Procedural instructions will be of two kinds:

- How and when to disengage from response activities.
- De-mobilizing and accounting for response resources, including personnel, and initiating an evaluation process

### 3.2.2 Physical infrastructure

The PHEOC facility can be housed in a dedicated, purpose-built space, or set up in a multi-purpose space. It must be physically and environmentally secure. It should be able to survive the most probable hazards identified through a tailored risk assessment. In the case of potential technological and other failures, alternatives should be available, and a backup physical location should be ready in case the primary PHEOC becomes unusable. The PHEOC must be easily accessible with adequate parking for both staff and private vehicles.

The PHEOC should have the following facilities:

- Adequate space for staff – this includes both open common areas and closed workspaces suitable for meetings, conference calls and small group activities. The configuration of the space should cater for both meeting areas and relatively quiet working spaces.
- External venues necessary for media briefings, interviews, press conferences, and coordination of external partners.
- Sufficient size to accommodate all its functions with reasonable comfort.
- Adequate sanitary facilities, rest areas and food amenities for the personnel

The most common arrangement is the dual or multi-purpose PHEOC, where the space is routinely used for some other purpose when the PHEOC is not activated, such as conferencing, training and meetings, and is converted to a PHEOC when required. The PHEOC manager should define the users and put in place a system for requesting utilization of the facility. The request should be sent to the PHEOC by email or other means (e.g. online request form or phone call).

The following information should be provided when requesting use of the facility:

- Person/ party making the request
- Purpose of usage
- Date, time and duration
- Resource to be used (videoconference, teleconference, meeting room, etc.)
- Number of locations to be connected
- Number of persons expected to use the facility
- Person authorizing/ coordinating use of facilities

A template for scheduling meetings is provided in annex 8. The PHEOC manager should designate responsible persons to coordinate use of the facilities.

Security requirements that the PHEOC facility should meet are detailed below:

#### 3.2.2.1 Physical security

The PHEOC hosts equipment and processes information that are sensitive. The working environment is also frequently pressurized and can therefore not tolerate distractions. The following security measures are recommended:

- **Access:** The PHEOC should have controlled access at all times using door locks fitted with biometric sensors ensuring only authorized persons have access. A registration log and sign-in sheet should be placed by the entrance to track entry. A sample sign-in log

sheet template is provided in annex 9. If the PHEOC has an access code, a list of the people with access should be maintained.

- **Regular facility check:** To ensure that the PHEOC is always ready for activation, it is vital to carry out regular checks of the infrastructure and technology system to guarantee its continued functionality. The PHEOC manager may also call for drills to test facility functionality (see training and exercise section, chapter 6).
- **Security Monitoring:** The PHEOC should have a Closed-Circuit Television (CCTV) surveillance system installed to provide 24-hour monitoring. The CCTV system should be connected to the main server located in the server room. The system should be color, high-resolution display and can include zoom-in and tracking capabilities in its specifications. Its purpose is to ensure protection and security of the facility, resources and personnel.
- **Emergency Exit:** The PHEOC should have an emergency exit in addition to the common entrance, with signage providing directions to it. Further, information should be provided on other security measures in place within the PHEOC such as fire alarm, locations of fire extinguisher(s), how the staff exit from the PHEOC in the event of an emergency, and on designated assembly points.
- **Power Supply:** The PHEOC should have power back-up or an alternate source of power for use in the event of power interruption.

## 3.2.3 Information and communication technology infrastructure

Information and Communication Technology (ICT) infrastructure enable data management and both internal and external communications. It consists of hardware, software and communication equipment.

### 3.2.3.1 ICT Hardware

The hardware components consist of equipment that facilitate communication, data capture and analysis, and presentation and dissemination of information for decision-making. Suggested hardware for the PHEOC are:

- Smart television sets
- Telephones
- Computers
- Power supply back up/ uninterrupted power supply (UPS)
- Printers and scanners
- Video and teleconferencing facilities
- Internet switch and Wi-Fi access points
- Servers
- Audio-visual equipment to facilitate data capture and visualization, and presentation of information for decision makers. It includes strategically placed screens, digital cameras, speakers, and microphones, among others.

#### 3.2.3.1.1 ICT Software:

The PHEOC will adopt appropriate software components for the operationalization of the ICT. Such software may include:

- Operating system software e.g. Microsoft Office
- Antivirus software
- Data analysis software
- Data visualization software, including Geographic Information System (GIS) software

### 3.2.3.2 Communication Equipment:

This includes, but is not limited to, equipment for:

- Internet connectivity
- Intra-office connectivity (wired and wireless)
- Tele- and videoconferencing facilities
- Telephony

## 3.2.4 Information systems and standards

The goal of an effective PHEOC information system is to increase the availability, accessibility, quality, timeliness, and usefulness of emergency operations information for public health action. Such an information system should support all the functions of the PHEOC, and have the capacity to:

- Ensure data security, privacy, and confidentiality
- Ensure uninterrupted operation of systems
- Adopt data and information technology standards, to ensure interoperable PHEOC information systems that integrate seamlessly with other relevant national health information systems.

Development and improvement of a PHEOC information system should follow general approaches, principles and processes for strengthening health information systems in the country.

The PHEOC information system should include six components:

- Resources (leadership, policies, financial and human resources, infrastructure)
- Indicators (e.g. morbidity, mortality, environmental risks, health resources availability and readiness, vaccine coverage)
- Data sources (e.g. common operational datasets, health facilities data, reports from subnational health management teams and coordination meetings, health workforce, human and animal surveillance, laboratories, data on stockpiles of medicines and commodities, financial data, etc.)
- Data management (e.g. collection, storage, quality assurance, processing, compilation, analysis, and visualization of data, and geospatial information presentation)
- A collaborative platform for information sharing
- Information products (e.g. situation reports, 4Ws {who does what, where and when}, case summary statistics, media/communication reports, financial reports, health workforce distribution reports, etc.)

Three general types of data need to be routinely captured, processed and displayed in a PHEOC are:

1. **Event specific data:** what, how many, where, who, how quickly and current status (e.g. clinical and epidemiological data)
2. **Event management information** organized for the functional domains in the PHEOC (human and material resources on hand, status of interventions, partner activities, resource deployments, expenditure, and progress on achievement of objectives
3. **Context data:** geographic information mapping, population distribution, transportation links, locations of fixed and temporary facilities, availability of clean water, climate, weather and any other significant contextual information.

Information on the PHEOC should be recorded in PHEOC information system. This includes:

- Logging activities,
- Tracking of HR deployment,
- Tracking of partner's activities,
- Tasking,
- Scheduling, etc.

It is extremely important to accurately document actions taken during preparedness for and response to emergencies. This will assist in tracking and monitoring the effectiveness of the preparatory/ response activities. All documents related to an event should be properly archived. The PHEOC should have a central repository (preferably online to ease access) where all relevant information on incidents is archived. The planning function at the PHEOC is responsible for documentation and must ensure proper documentation of all relevant information on response operations.

### 3.2.4.1 Essential elements of information (EEI)

Essential Elements of Information (EEI) are standards for information that is required for decision-making in a PHEOC in a timely manner across all IMS functions. EEIs vary and need to be determined for each emergency. The level of urgency and the need for action distinguish Critical Information Requirements (CIRs) from the regular EEIs.

Characteristics of EEIs:

Include standard data and information items for routine situational awareness.

- Provides context and contribute to analysis.
- Are included in response situation reports.
- Facilitate identifying response activities and materials requirements.
- Examples of information: patient numbers and status, available beds, available PPEs

For each incident, there will be need to determine the following regarding EEIs:

- What they will be? E.g. outbreaks, injury to a PHEOC staff member, etc.
- Who generates them? E.g. PHEOC watcher, PHEOC manager
- How they are generated? E.g. via phone, email, SMS?
- Who receives them? E.g. PHEOC manager? DG/ CDH?
- The actions one takes upon receipt of the EEIs? E.g. activate the PHEOC?

- How their status is tracked/ stored? E.g. is a tracker maintained? Regular updates provided? And who is responsible for this?
- How they are closed? E.g. by whom, and on what conditions/ occurrence?

### 3.2.4.2 Critical information requirements (CIRs)

Critical information requirements (CIR) are the high priority subset of EEIs; this information is used to trigger immediate mandatory action such as issuing SITREPs (situation reports)/ SPOTREPs (spot reports). It includes the collection, analysis and dissemination of relevant information on public health risks, epidemic investigation and response needs assessment, overall health sector response, gaps, and performance. It is information that is vital to facilitating situational awareness and decision-making. There are two types of CIRs:

- Standing CIR: a focus for the watch staff monitoring emerging/ evolving events during all operational modes
- Response-specific CIR: detailed and targeted CIR for a specific response

The list of CIRs below requires prompt reporting by watch team and are monitored on regular basis. This list can be amended to meet the information requirements of a PHEOC.

- All Public Health Events (PHE) of international concern in accordance with IHR requirements
- An outbreak that exceeds the threshold defined in the IDSR and being monitored by PHEOC
- Any acute PHE that requires assistance from the World Health Organization (WHO)
- Media interest for any event
- Accidental death/injury of response personnel deployed in the field
- Any event affecting installation activities/operations
- Upward or downward change in grade of a current PHE
- An incident, which negatively affect the facilities, activities, or operations of the PHEOC or MOH
- An unusual or serious event reported from the sub-national level

During activation, incident-specific targeted CIRs are developed to guide information gathering and reporting for the specific event. The PHEOC Manager in consultation with the incident manager (IM) develops the CIRs.

### 3.2.4.3 Information flow

Coordination of information on PHEs is crucial. The PHEOC should serve as a hub for reporting PHEs, and coordination of information. All information on PHEs must systematically flow to the PHEOC. These include information flowing from community, event sites, health facilities (including treatment centers and points of entry); it flows from ward level to sub-county, county and national levels and is received by the national PHEOC. All communication to and from the PHEOC should be done using the official PHEOC email. It should also have provision for feedback from the national to the ward levels creating an information loop. County PHEOCs should also have official email addresses to facilitate communication.

### 3.2.4.4 Information products

To support informed decision-making, the PHEOC should produce various information products. The table below provides a list of information products, frequency of reporting, target audience and the persons/ departments responsible for producing the product.

**Table 2: Information products**

| Information product /outputs | Frequency of report | Report Distributed TO: | Responsible |
|---|---|---|---|
| SPOTREPS | To be determined by nature of event | To be determined | Planning |
| Situation report (SITREPS) | To be determined by nature of event | To be Determined | Planning |
| Summary of Event to leadership (max 2 pages) | 2 x a week | Policy / leadership group | Section heads |
| 4W matrix | 1 x a week | To be determined | Operations |
| Investigation Reports | Depending on occurrence of PHE | To be determined | Operations |
| After Action Reports | End of an outbreak | To be determined | Operations |
| Annual report | 1 x a year | To be determined | All sections heads |

### 3.2.4.5 Data security

The PHEOC processes large amounts of information that is often sensitive, frequently on open displays. Maintaining security of the PHEOC data and the systems that process and store it requires routine use of encryption; password protection; up-to-date antivirus software; and redundancy of data (and, to some extent, redundancy of hardware) to support rapid service recovery in the event of a security breach. All electronic linkages should be encrypted and password protected, and computer networks should be protected from external threats, including network attacks, power surges and outages. To avoid loss of data following failure of ICT systems, a backup system should be put in place.

### 3.2.4.6 Communications system backup

Despite their inherent utility, the technologies that support telecommunications, data analysis, event information management and visualization of operational information are evolving rapidly and can be prone to failures. Consequently, the information that the systems contain requires frequent, routine backup to mitigate the potential impact of a technological failure resulting in loss of data. In the event of communication breakdown, a backup communication system should be installed to enable continuity of operations. This will include internet connectivity, satellite phones, radio etc.

### 3.2.4.7 Emergency Contacts

The PHEOC should have a manned full-time (24/7) dedicated call line which will be used as an emergency contact point. It is also important for the PHEOC to have a toll-free line and a variety of social media channels that are constantly manned to be used by the public to report any event. The PHEOC should maintain a list of contacts of key stakeholders, including all levels of health services delivery, relevant government sectors, key staff, partner organization representatives, and disaster management operating center(s). In addition, the PHEOC should maintain contacts of all collaborating EOCs including telephone number, email addresses, location, and video and tele-conferencing detail. A template for an emergency contacts register is given in annex 10.

#### 3.2.4.8 Partner Mapping and tracking

To coordinate response efforts and avoid duplication, it is vital to know who is doing what, where and when. This information should be maintained at the PHEOC, regularly updated and shared throughout the course of the response (the PHEOC will determine frequency). A template for mapping and tracking partners' activities is given at the annex 11. The PHEOC will maintain data on partners' capacity by area of intervention. The partnership focal person is responsible for ensuring availability of the 4Ws (who, what, where, and when). A sample 4W matrix template is provided in annex 12.

### 3.2.5 Human resources

A PHEOC requires competent and trained persons to achieve its objectives and function successfully. Ideally, PHEOC staff should be familiar with the structure and systems for a public health response. Human resource needs for maintaining and operating a PHEOC include both routine/ permanent and surge staff.

The various roles and responsibilities of the personnel will be determined by key competencies, public health emergency or event being responded to and the structure of PHEOC. The Ministry of Health (or County Department of Health) will deploy dedicated staff to manage daily operations in the PHEOC. The PHEOC has two types of staff: (i) permanent and (ii) surge staff. During full activation, the PHEOC will co-opt surge staff from other departments, agencies, organizations, partners and volunteers among others based on their competencies and skills. All personnel working in the PHEOC, regardless of their parent ministry, agency or organization will be members of the "PHEOC Team" which will function as a single, cohesive entity under the direct command and control of the PHEOC manager or Incident Manager.

A variable number of PHEOC personnel, including those whose purpose is to provide support to the staff involved in the emergency response process, will be required. They must:

- Be trained in the functions and operations of a PHEOC
- Have relevant subject matter expertise
- Have the authority and responsibility to commit or access agency resources
- Be committed to teamwork and emergency management work.

#### 3.2.5.1 Permanent staff

The permanent staff are responsible for the day-to-day operation of the PHEOC. These include the PHEOC manager and the heads of the key functional sections (operations, planning, logistics, and finance and administration). The PHEOC manager reports to the leadership under which the PHEOC is placed within the Ministry's (or County's) organizational structure, while the PHEOC sectional heads report to the PHEOC manager. The basic PHEOC organogram is illustrated in figure 3 above.

##### 3.2.5.1.1 PHEOC Command staff

These include the PHEOC Manager, Public Information Officer, Safety Officer and Liaison Officer. They are responsible for:

- Overall leadership, coordination, command and control of the operation of the PHEOC, decision making, resource mobilization and allocation to ensure achievement of set objectives.
- Coordination of response activities and partners.

- Participate in policy formulation, development and review of strategic plans and guidelines.

**Note:** the PHEOC manager will carry out reporting on routine activities to key stakeholders. However, in the event of an emergency, the information will be relayed through the senior leadership.

#### 3.2.5.1.2 PHEOC section heads

These include the heads of the operations, planning, logistics and finance and administration functions. They are responsible for coordinating these functions as described in greater detail in section 3.3 below.

The detailed job descriptions of the command staff and section heads is included in annex 13. These terms of reference will be used to determine the required qualifications of the officers to fill the positions.

### 3.2.5.2 Surge staff

The PHEOC manager should maintain a database of multi-disciplinary and multi-sectoral experts who can be mobilized and deployed to the PHEOC during occurrence of an incident/ emergency. A sample template for a rota of surge staff is provided in annex 14. Depending on the scale of the incident, positions will be identified in the Incident Management System (detailed description in chapter 5). The number of staff to be mobilized will be determined on an incident-by-incident basis. Based on the positions identified, a human resource response plan should be in place, inclusive of the terms of reference for each position; the Subject Matter Experts (SME) will be identified from the database to fill the identified positions. The PHEOC manager should organize regular training of SME and conduct simulation exercises to test the PHEOC plans, procedures, and systems; details on training are captured in chapter 6. A request for assistance to fill required positions should be made to key partners should there be a gap.

## 3.3 Essential functions of the PHEOC

The PHEOC operational structure provides an organizational model for the processes involved in public health emergency response. The PHEOC management has five essential functional sections with flexibility to adapt to different events, agencies, and jurisdictions. These functional sections are described as follows:

### 3.3.1 Operations section

The operations section is responsible for:

- Coordinating resources to respond directly to an event
- Supporting incidents' overall tactical operations
- Coordinating response activities including rapid response, scaling up community outreach for health promotion and case management
- Operations monitoring

**Note:** Response activities vary depending on the type, scale and impact of an event.

### 3.3.3 Planning section

The planning section is responsible for:

- Developing objectives, strategies and action plans

- Gathering, analyzing, processing data and disseminating information to relevant stakeholders
- Predicting probable evolution of events through data analysis and modeling
- Time scheduling
- Resource mobilization and tracking
- Documentation and preparation of situation reports
- De-mobilization

### 3.3.4 Logistics section

The logistics section is responsible for mapping of required resources; it oversees acquisition, tracking, storage, staging, maintenance and disposal of the resources required to respond to an event. These may include:

- Supplies – the emergency supply chain (ESC) framework tool and other documents may be used to quantify supplies (pharmaceuticals and non-pharmaceutical)
- Facilities (temporary warehouses, camping gears, temporary treatment centers, etc.)
- Services (telecommunications equipment, furniture, food services, security, responder support, etc.)
- Food and water supplies.
- Disposal of all waste.
- Support personnel (information technology, clerical staff, ground transportation, etc.).
- Equipment (computers, radios, vehicles, personal protective equipment, etc.).
- Surge personnel - there will be criteria for engaging and deploying these personnel (database of appropriate personnel with contacts should be maintained).
- Transportation and disposal services (patients transport, waste management, and management of deceased persons).

**Note:** These services will be coordinated in collaboration with the operations section.

### 3.3.5 Finance and administration section

The finance and administration section is responsible for all financial activities and administrative tasks, which include:

- Cash flow management
- Tracking of material and human resource costs
- Budget consolidation and monitoring
- Production and maintenance of administrative records
- Giving incentives
- Maintenance of the contingency kitty

The finance and administration section chief should be routinely present and available in the PHEOC to facilitate operations. Space within the PHEOC should be provided for administrative record keeping. Additional finance and administration personnel may be located outside the PHEOC.

# 4

# MANAGEMENT OF PUBLIC HEALTH EMERGENCIES

Management of PHEs involves a varying scope of activities and collaboration with relevant stakeholders. It may be affected by a variety of factors that include:

- Magnitude, location, timing and impact of the event
- Availability of human and material resources to address it
- Legal and policy environments and mandates
- Strengths and limitations of emergency response and management agencies
- Degrees of resilience in individuals, social systems and health service agencies

## 4.1 Important considerations

There are some important issues to consider when managing a public health emergency. These include[4]:

- **Clarity of authority** - There needs be a clear chain of command and reporting structure. This reporting structure is clearly outlined in the incident management system described in section 4.2.2 below.
- **Clarity of specific roles and responsibilities** for each person/ organization.
- **Communication** - Prompt communication to hasten decision making and shared situational awareness.
- **Coordination** - Coordination of line ministries/ departments, partners, and other agencies to ensure optimal use of resources and avoid role duplication.
- **Contingency plan** - To include specialized resources, surge capacity, supplies, emergency funds, etc. Surge capacity is the increased human resource capacity required during, for example mass casualty events and disasters.
- **Media engagement and public communication** - There need to be clear guidelines and communication strategy in place.
- **Accountability** systems for the resources supplied and utilized during the response.

## 4.2 Elements of an emergency management program

The PHEOC is the focal point for **coordination** of the following elements in emergency management[5].

- **Risk assessment-** includes hazard identification, vulnerability / threat assessment, risk estimation and surveillance, and monitoring of potential, existing or evolving threats.
- **Prevention and mitigation-** involves addressing identified risks to prevent them and reduce their impact. Activities include disease detection, outbreak prevention and control, vaccination of populations, food and water safety, environmental protection programs, risk communication, community engagement, and social mobilization.
- **Preparedness-** involves assessment of capacities and capabilities, development of plans, development and maintenance of infrastructure, maintenance of stockpiles, design and implementation of procedures, and training of personnel.

4 Framework for a Public Health Emergency Operations Centre, November 2015

5 Framework for a Public Health Emergency Operations Centre, November 2015

- **Response-** Response involves undertaking activities to react to an event and managing it proactively. This may include situation assessment, treatment and prevention resources, enhanced surveillance, contact tracing, and environmental health monitoring and intervention.
- **Recovery/ resilience building -**Refers to the restoration of damaged infrastructure and resources; restoration of routine surveillance and monitoring activities; restoration of community infrastructure and resilience (including support for economic recovery); evaluation of response outcomes, after action review, and implementation of an action plan to mitigate risks and improve future responses.

## 4.2.1 Emergency operations plan

An Emergency Operations Plan (EOP) is a critical component of an emergency management program because it describes who does what and when. The EOP takes into consideration that PHE response may require support from partners outside of the health sector and provides guidance on how and when to engage them. Additionally, it identifies the sources of the relevant response resources such as human (core and surge) and financial resources. In Kenya the National Emergency Response Plan[6] serves as the EOP.

An emergency response plan (ERP) is one of the components of an EOP.

### 4.2.1.1 Emergency Response Plan

Emergency response planning is part of a comprehensive disaster risk management program that addresses questions about who or which agency does what during an emergency, and when. This creates a framework for responsible agencies to develop and test plans for engagement. The emergency response plan at the PHEOC has three phases, i.e.: (i) preparedness, (ii) response and (iii) recovery. These phases are described in detail in chapter 5 below.

## 4.2.2 Incident Management System (IMS)

The Incident Management System (IMS) facilitates the PHEOC's operations within the response system; it guides the PHEOC personnel in their management activities and provides a framework for these activities. The IMS describes (i) the system's coordination and functional structure, (ii) internal vertical and horizontal communications and responsibility matrix (such as, the function of any non-activated element will be the responsibility of the next highest element in the organization), and (iii) the external relationships with the emergency management infrastructure. It is only activated during response to an incident/ emergency.

The functional positions within the IMS are aligned to the core functions of the PHEOC as follows:

- Management: encompasses the management and strategic roles. Includes strategy development, direction and control, coordination, risk management, liaison and public communications
- Operations: encompasses the roles that support field operations; includes the heads of sections, units, teams, branches and relevant task forces involved in operations
- Planning: encompasses the roles focused on information collection and analysis, and document creation and management

6 National Emergency Response Plan Kenya, 2014

- Logistics: encompasses roles focused on management of resources to be utilized in the emergency response
- Administration and finance: encompass roles focused on documents management, and oversight of the cash flow and tracking of expenditure

These functional positions are illustrated in figure 7 (section 5.2.8: response structure, roles and responsibilities). Additionally, subject matter experts may be directly engaged by the PHEOC as part of the IMS.

# 5

# EXECUTING AN EMERGENCY RESPONSE

This chapter describes the modes of operation of the PHEOC and the process of coordinating the response to a public health emergency.

## 5.1 Modes of operation of the PHEOC

The PHEOC operates at different levels, referred to as modes, depending on the magnitude and risk of a prevailing public health threat[7] (Figure 5). These are **watch, alert** and **response** modes. Different activities are undertaken during the various modes of operations. However, transition from one mode to another depends on the thresholds of the incident-specific triggers. Thresholds of various disease outbreaks are detailed in Kenya's Standard Case Definition of Priority Diseases[8].

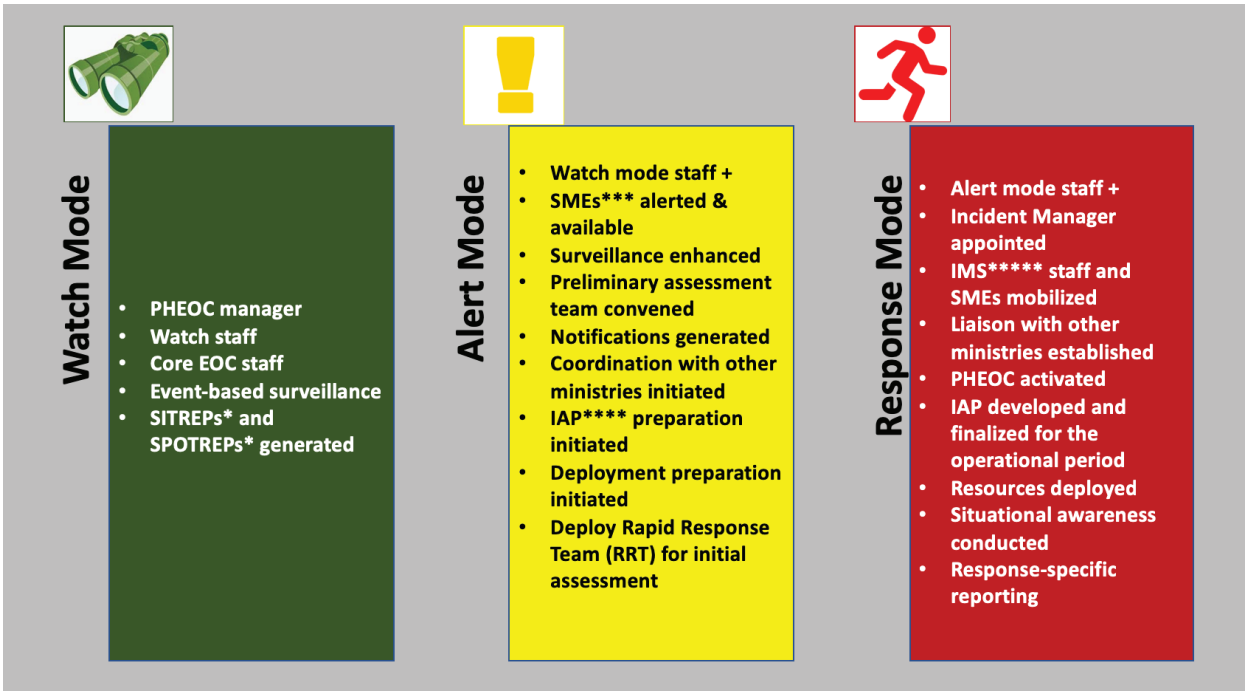


Figure 6: Operating modes of a PHEOC showing the activities in each mode and the responsible officers. SITREP - situation report; SPOTREP - spot report; SME - subject matter experts; IAP – incident action plan; IMS – incident management structure.

### 5.1.1 Watch mode

In the watch mode, routine day-to-day operations are undertaken by watch staff. The operation of the watch mode is guided by Critical Information Requirements (CIR) - a high priority subset of essential elements of information used to trigger immediate mandatory action. This information is obtained through the Integrated Disease Surveillance and Response (IDSR) technical guidelines.

The watchers monitor disease trends through the periodic incident-based surveillance (IBS) reports. They also track events that may represent threats to public health through hotlines, media scanning, and community and health facility event reporting. The watch mode puts the PHEOC in a constant state of preparedness and readiness to support any escalation

7 World Health Organisation. Handbook for Developing a Public Health Emergency Operations Centre [Internet]. Geneva; 2018. Available from: https://apps.who.int/iris/rest/bitstreams/1167232/retrieve

8 Ministry of Health/ World Health Organization. Standard Case Definition for Priority Diseases in Kenya: Integrated Disease Surveillance and Response (IDSR) available at http://guidelines.health.go.ke:8000/media/Standard_Case_Definitions_for_Priority_Diseases_in_Kenya-_Integ.pdf

of operation levels. All diseases being monitored under IDSR have defined thresholds constituting triggers which when met, notifications are made to trigger the next mode of operation. Similarly, information on events are also triaged, verified and investigated to ascertain the level of risk posed to public health.

The roles and responsibilities of watch staff include:

- Monitoring and triaging incoming information
- Drafting or preparing reports e.g. SITREPs, SPOTREPs
- Distributing reports, documents, and notifications to relevant sections or responsible persons
- Coordinating or leading briefings as required
- Supporting management of small-scale events that do not meet criteria for activation

### 5.1.2 Alert mode

The alert mode is the standby phase of activation when an emergency event is imminent or has occurred. The PHEOC conducts intensive monitoring of an incident or event in preparation for a potential PHEOC activation. In this mode, watch staff continue with their responsibilities while the operations personnel are assigned additional responsibilities i.e. preliminary risk assessment, alert notifications, activation of plans and deployment of the rapid response teams (RRT).

Alert mode activities include but are not limited to intensified surveillance, deployment of RRTs to undertake an investigation, commencement of coordination with other sectors, initiation of preparation for deployment of financial and logistic resources, and identification of experts to staff the PHEOC. To accomplish these activities, the PHEOC will require increased staff and extended working hours. The PHEOC will identify and request for additional (surge) staff as necessary.

**Risk assessment**

The PHEOC will conduct risk assessment to determine if the incident requires PHEOC activation and determine the level of activation. This assessment can be done by PHEOC staff and subject matter experts. The levels of activation are determined based on the results of an initial rapid risk assessment after an event has occurred. The PHEOC is activated immediately after the risk assessment is completed, and relevant consultations have been conducted followed by a directive from the Director General of Health (or the County Director of Health for a sub-national PHEOC).

The PHEOC should be capable of activation within 120 minutes as required by IHR 2005. A risk assessment template is provided in annex 2.

### 5.1.3 Response mode

During the response mode, the PHEOC is partially or fully activated guided by pre-defined criteria for levels of activation corresponding to levels of response. The lowest level of response addresses relatively lower scale events for which all response activities are largely within the capabilities and resources of the PHEOC and low-level augmentation is required. The activation levels are color coded in green, orange, and red while the grading level is determined by the scale of urgency, severity, complexity and resource requirement. Each corresponding level is defined and outlined accordingly as shown in the table 3. The activation

and grading mechanism should be in line with national policies, plans and procedures; and should specifically match levels defined in the Kenya Health Sector All Hazards Response Plan. A grading template is given in annex 15. An example of a grading criteria and levels of activation for the Kenya PHEOC is given in annex 16 while an example of grading of responses for the Kenya PHEOC are detailed in annex 3. Counties may develop activation criteria in line with public health SOPs.

The table below summarized the three operation modes.

**Table 3: Levels of Kenya's national PHEOC activation with matching triggers**

| LEVEL | DESCRIPTION | TRIGGERS |
|---|---|---|
| **Level 1 (Watching)** | • Normal staffing<br>• Monitoring situation 24/7 | • Routine work |
| **Level 2 (Alert, Partial Activation)** | • Suspected or confirmed epidemic cases<br>• Public health events which sub-national level can handle with available resources in terms of:<br>  ○ Technology requirement, laboratory, PPE<br>  ○ Staff competence<br>• Limited requests for assistance expected<br>• Enhanced planning occurring in anticipation of Level 3 activation | • Event based surveillance<br>• Syndromic surveillance reports<br>• Affected sub-national preparedness level<br>• Area and population vulnerability |
| **Level 3 (Response, Activation)** | • Public health event spreading rapidly with evidence of failure to truncate transmission<br>• Unknown disease or a disease of international concern<br>• Transboundary diseases<br>• Events affecting ≥ 2 counties<br>• The sub county and county getting overwhelmed based on acceptable disease control timelines<br>• All general and command staff in place (activated)<br>• Surge teams mobilized to affected area<br>• Resources mobilized to support response<br>• All necessary emergency support functions activated | • High attack rates<br>• High Case fatality rates<br>• Area and population vulnerability |

## 5.2 PHEOC activation

### 5.2.1 Activation criteria

At least one of the following criteria must be met to trigger an activation:

- Incident occurrence overwhelms the available resources including where the capacity of regular PHEOC staff is overwhelmed and additional support required
- Any condition that has met the criteria to be declared a Public Health of Event of International Concern (PHEIC) in line with IHR 2005 guidelines
- An emergency with high public health burden potential
- A condition with the potential of cross border effects

- Issuance of a leadership / policy group directive
- Incidences of public concern
- An epidemic of national concern (affecting multiple regions)

The PHEOC may be activated either partially or fully.

### 5.2.2 Partial activation

For partial activation, surge staff will be called to undertake various activities based on their assigned roles and responsibilities. The PHEOC mobilizes additional resources and support from other departments within the MOH (or County Department of Health). The PHEOC will be prepared for further escalation and to operate extended business hours including round the clock (24/7).

Partial activation may be classified as either the lowest or medium scales of activation.

- In the lowest-level (grade) activation, the PHEOC uses the lowest level of resources including regular PHEOC staff, with relatively minimal augmentation in resources for the response and minimal increase in reporting requirements.
- In medium-level activation, the PHEOC uses increased resources including additional staffing (in addition to the regular PHEOC staff), moderate cost for the response, and increased but manageable reporting requirements.

During the partial activation phase contingency plans are put in place for a specific event. These include:

1. Appointment of the following four (4) positions.
    - Incident commander
    - Safety officer
    - Logistics chief
    - Operations chief
2. Notifying key personnel of the partial activation

### 5.2.3 Full-scale activation

This phase corresponds to the highest activation grade and level when the PHEOC is required to deal with a PHE of great magnitude, complexity, scope and impact. This requires significant resources and coordination. This level requires round the clock (24/7) operation with the full complement of staff[9]. The national PHEOC will mobilize all its existing resources, but if these resources and capacities are exceeded and overwhelmed, additional resources will be mobilized from different sectors and stakeholders. Further, international support may be requested if these internal capacities are deemed inadequate to meet the response requirements.

During this level of activation, the coordination of the response will be managed by the health sector with support from stakeholders. The health sector will lead the response in-line with the national policies and procedures.

### 5.2.4 Authority for activation

9 World Health Organisation. Handbook for Developing a Public Health Emergency Operations Centre [Internet]. Geneva; 2018. Available from: https://apps.who.int/iris/rest/bitstreams/1167232/retrieve

The Director General (DG) of Health (at county level the County Director of Health, CDH or the County Director responsible for Public Health) gives directives for activation of the PHEOC following a proposal by the PHEOC manager. Activation will be based on the results of risk assessment. The Cabinet Secretary (CS) or other responsible authority may also directly provide directives for activation if needed.

## 5.2.5 Proposed activation procedures:

The list below shows proposed procedures to be followed before activation.

- Risk assessment conducted by the PHEOC
- If criteria for activation is met, activation level determined
- Proposal to the DG (or CDH) for activation
- Authorities' approval issued to activate the PHEOC
- Designation of the incident manager and activation of incident management system
- Approval of resources required (corresponding to the levels of activation) to kickoff response

Note: Exceptional activation by direct order of the relevant authority may also be carried out without the need for steps i-iii above.

## 5.2.6 Activation notification

The notice of activation provides information on the activation of PHEOC and level of activation; assigns lead responsibility to a specific organizational unit; and identifies the initial incident management system (IMS) structure to be implemented including designation of the incident manager.

The notification should be communicated with relevant stakeholders. The PHEOC should define recipients of the notification.

## 5.2.7 Activation checklist

During activation, the activities to be carried out are summarized in the checklist below:

**Table 4: Activation checklist**

| Activation checklist | |
|---|---|
| ¤ | Notification sent to relevant stakeholders |
| ¤ | Incident manager is designated |
| ¤ | IMS activated (partially or fully) |
| ¤ | Section leads (Finance, Operations, Logistics & Planning) called upon |
| ¤ | Personnel assigned to positions on the PHEOC, report to the PHEOC and check in with section leads |
| ¤ | Determine staffing needs and acquire additional support as required |
| ¤ | Incident action plan is developed |
| ¤ | Orientation provided to surge staff on the PHEOC |
| ¤ | Conduct incident situation briefing |

| Activation checklist | |
|---|---|
| ¤ | Task assigned to Incident Management System (IMS) team monitored using tasks tracking tool |
| ¤ | Issue job action sheets |
| ¤ | Ensure situation report is regularly disseminated |
| ¤ | Activity logs conducted |
| ¤ | Shift change plan and briefing done |
| ¤ | Emergency contacts list developed and shared |
| ¤ | Ensure proper documentation of relevant information in a central location |
| ¤ | Ensure communications equipment is working and ready for operation |
| ¤ | Necessary logistical supplies and materials are available |
| ¤ | Ensure partners activities are tracked and used for planning and coordination |

## 5.2.8 Response structure, roles, and responsibilities

The PHEOC will use the Incident Management System (IMS) for coordination of response to public health emergencies. The IMS is described in chapter 4.

The IMS and response structure is provided below.

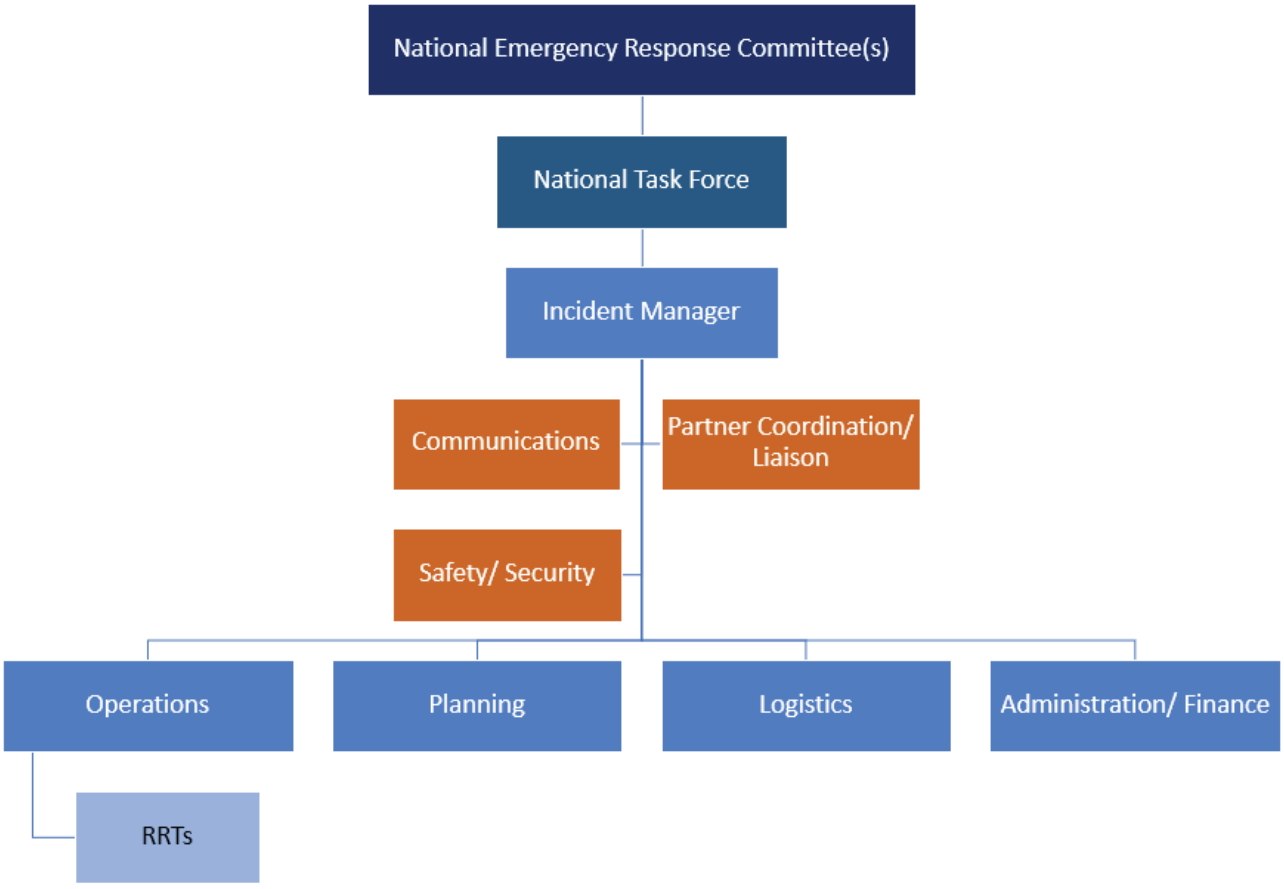


Figure 7: Structure of the Incident Management System showing the various functions

**The incident manager** (IM) is responsible for implementing the IMS structure and defining staffing requirements. Continuous assessment will be conducted, and the structure reviewed based on the

scale and complexity of the emergency event. Roles and responsibilities of response personnel are detailed in annex 13 and should be adapted to the event's circumstances.

Once the PHEOC is activated, the IM and section leads will issue job action sheets which outline tasks to be implemented by surge staff. These job action sheets can be amended to fit the situation by adding or deleting tasks.

The tasks are categorized as:

- **Immediate:** tasks that must be completed first upon assuming the role or coming on duty.
- **Intermediate:** tasks to be completed after the immediate tasks are addressed.
- **Extended:** tasks to be completed later or on an on-going basis during the work shift.

Specific IMS response functional roles can be defined on a job action sheet in order to guide performance. A sample job action sheet (JAS) is provided in annex 17.

### 5.2.9 Shifts during activation

During activation where coordination of responses from the PHEOC requires to be operational round the clock (24/7), staff will work in rotation. A complete shift of staffing will be established for the duration of the operations. The Incident Manager (IM) with the support of the PHEOC Manager is responsible for developing a rotation plan. A briefing (at least 15 minutes) must be given to the replacement. It is recommended that a person works for a maximum of 12 hours in a shift. The shift plan will be recorded and displayed in the PHEOC. A shift plan template is provided in annex 18 and a template to document transfer of responsibility during activation in annex 19.

### 5.2.10 Request for assistance

The IM identifies gaps in the PHEOC's capacity and proposes to the leadership the types of resources (e.g. human, material, financial) required from external sectors and response partners. The leadership prepares a letter of request for assistance signed by the Director General of Health or County Director of Health. The DG/CDH may then address the letter to the relevant organization(s). This process needs to be aligned to the existing internal ministry/ county procedures.

## 5.3 Linkages across county and national PHEOCs, and international agencies and with other sectors

When a public health event arises in any county, that county's PHEOC (where it exists) is responsible for responding and coordinating county resources to respond.

**Notification and reporting:** The CDH (or County Director responsible for Public Health) is responsible for ensuring the national PHEOC is notified of the public health event. The PHEOC manager then informs the IHR focal point (in the case of COVID-19, this is the DG), who then alerts the WHO. Officially only the national level is authorized to declare an outbreak or an end to an outbreak.

**Response**: The county PHEOC coordinates an emergency response using its resources; with the national PHEOC mostly monitoring the response and evolution of the event including the number of cases. The national PHEOC provides technical assistance as needed. Where county resources are overwhelmed, the county requests for support from the national PHEOC. The national PHEOC may then provide either surge capacity/ resources (e.g. rapid response teams), or subject matter

experts, or both. The surge staff support the county in its response. Subject matter experts can support the county in a variety of ways including capacity building, sample collection, review of protocols, technical assistance to response teams, and guidance on media reporting, among others. Where local (in-country) resources are overwhelmed, the national PHEOC manager in coordination with the DG determine what resources/ support are required from international agencies. The CS then requests this support from the WHO and others as needed. These international resources come alongside the national PHEOC to support response as needed.

**Linkage with other sectors** is coordinated through the National Disaster Operations Center (NDOC) at national level and through the Office of the County Commissioner at county levels. The NDOC and the County Commissioner are then responsible for engaging other government agencies and departments to provide the required support. At national level, engagement with the NDOC is though the office of the DG.

**Cross-border collaboration:** when a response requires engagement with neighboring countries, the CS Health in close collaboration with the CS in charge of East African Community (EAC) affairs will engage regional bodies (EAC, IGAD, AU, etc.) to support response measures. Engagement of regional bodies allows for mutual cooperation among member countries as required as per agreed statutes.

## 5.3 Logistics support for PHEOC operations during emergency response

During the emergency response, the logistics section is responsible for the acquisition, tracking, storage, staging, maintenance, and disposition of the tactical and operational resources required to respond to the event or incident. Resources can be mobilized from partners; line ministries; and private, non-governmental and faith-based organizations; among others. The logistics team should participate in planning meetings to better understand requirements and plan appropriately.

The logistics unit comprises of the support and service branches. The support branch is responsible for overseeing supply, facility and ground unit operations. The service branch oversees communication, medical and food units. Both should participate in briefings and planning meetings. The figure below shows the organization and roles of the logistics unit.

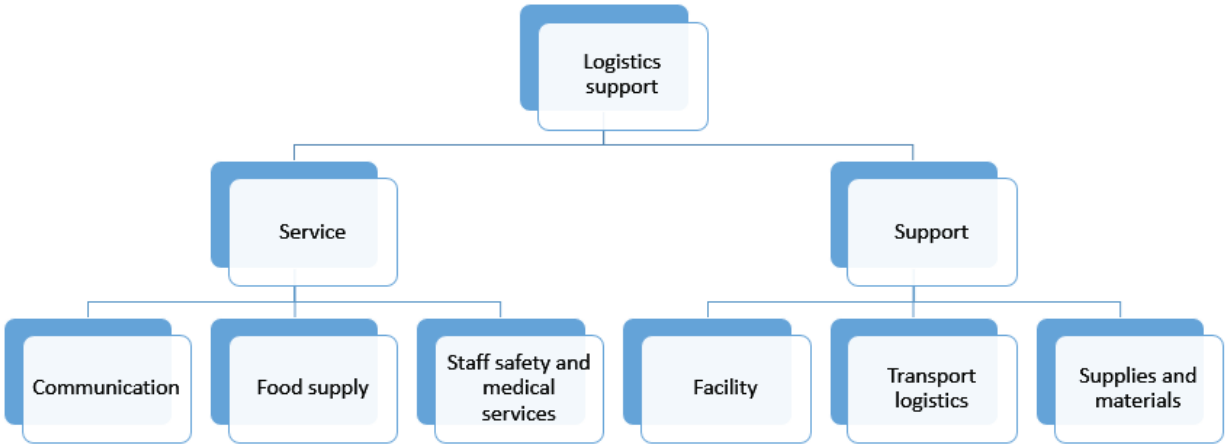


Figure 8: Organization and roles of the logistics unit

### a. Communication

The communications overseen by the logistics team is internal to the PHEOC and not external (to the public). Communicating with Rapid Response Teams (RRTs) is critical during response operations. To enable the RRTs to communicate with the PHEOC, they need to be equipped with communication equipment including laptops, phones, satellite phones, internet access, and GPS, among others. Communication equipment should be distributed according to the incident action plan. The logistics team is responsible for availing the communication equipment and training for staff on use. Records of all communication equipment should be maintained, and unused equipment recovered. The communications support team should also ensure technical personnel are available for equipment maintenance and repair.

**b. Food supply**

Food and water requirements for the IMS staff and responders should be carefully determined. The team should determine the best methods for feeding the staff; order food and beverages; and ensure that health and safety measures are maintained within the office environment as staff and responders are fed. It is advisable for the PHEOC to have a kitchen equipped with refrigerator and utensils for storing and serving the foods.

**c. Staff safety and medical services**

The logistics section should prepare a medical plan for the IMS staff and responders. The plan should indicate the medical facilities to attend to the personnel in case of injuries or exposure to hazards during the response. The team should also plan for emergencies, first aid, requests for medical aid, evacuation, medical insurance cover, psychosocial support, and rehabilitation of personnel as needed.

**d. Facility support**

The logistics unit should secure facilities and provide layouts for the IMS. In addition, they should also secure the following as needed: sleeping facilities, eating facilities, and additional facilities for meetings, briefings, or working. The unit should ensure maintenance of these facilities including cleaning services and proper waste management.

In addition, the unit should maintain a log and other relevant records for all the facilities in use. Buildings and other workspaces should be returned to their original state when no longer needed.

**e. PHEOC supplies and materials**

The logistics unit is responsible for:

- Forecasting and supply planning of the types and amounts of resources to order
- Ordering, receiving, distributing, and storing of all supplies and equipment needed to support the incident
- Maintaining an inventory and all other relevant records of supplies and materials
- Tracking all requests and recording their status
- Servicing reusable equipment.
- Coordination of all donated goods and services

**f. Transport logistics support**

The logistics unit develops and implements the transportation plan in coordination with safety officers and local authorities. The relevant officer arranges and supports fueling, repair, and maintenance of vehicles and other equipment. A record and inventory for all support and

maintenance should be kept; an equipment check checklist is provided in annex 20 to aid this.

## 5.4 Information management during an emergency response

All supervisors at each level and across all functions within the response, are responsible for maintaining situational reports on their work section. Internal communication is discussed in section 5.6 below.

During an emergency response, there are two main information products in any PHEOC:

1. Situation reports (SITREPS). A SITREP is a priority message that provides a summary of a situation (confirmed or verified information and explicit details) to designated decision makers. It gives status updates and is prepared for each operational period. It provides a record of the event, analysis, progress towards major goals and objectives, the status of resources, and public risk management messages. SITREPs are prepared by planning function staff, approved by the incident/event manager and submitted in electronic form. They should be disseminated widely to IMS members, all levels of the health system delivery (counties, sub-counties, etc.), relevant government and private sector agencies and partners, and displayed in the PHEOC. A SITREP template is provided in annex 21.
2. Dashboards (status boards). Dashboards provide real-time visual updates on much of the same material as SITREPs and are posted prominently in the PHEOC for all to observe, creating a common operating picture and uniform awareness of the situation.

## 5.5 Coordination and communication

An effective, accurate and timely communication system is crucial for the control of the response. The PHEOC is the platform that facilitates effective communication. It establishes internal communication within the IMS and external communication with partners, rest of government, the private sector and the public. The Liaison Officer (LNO) in the PHEOC coordinates the sharing of information with other agency representatives including subject matter experts who may be brought on board to work in the PHEOC. The role of liaison during emergency is critical and is meant to improve coordination, use of resources and the perception of stakeholders on appropriateness of response activities. Strategic communications and regular IMS team coordination meetings are important for effective communication within the different sections of the IMS and the field.

### 5.5.1 Internal Communications

#### 5.5.5.1 Regular IMS team coordination meetings

When the PHEOC is activated, regular IMS team meetings are scheduled periodically as determined by the severity and evolution of the incident. All IMS staff and partner organizations participates in the meeting, chaired by the incident manager. These meetings facilitate communication between the different sections and serve as a mechanism for sharing of updates in order to achieve a common operational picture, arrive at decisions for action and coordination of the emergency response; the planning meetings should occur at least once during each operational period. In large-scale events with a complex response structure, usually only the supervisors attend planning meetings. In less complex situations, all available staff will often attend. Planning meetings should start with a situation update

and then proceed to any new information. To achieve horizontal coordination, liaison officers representing different agencies should be incorporated to provide formal links between the IMS and facilitating/ supporting partners.

Action points from these meetings should be recorded in the task tracker and their implementation monitored against the assigned timeline. The Incident Manager and function leads are responsible for assigning responsibilities and monitoring implementation. Minutes of the meetings should be compiled and shared with the team for comments within 24 hours and finalized. The planning team is responsible for preparing minutes and archiving them in a central repository.

The incident manager will report to the leadership issues and challenges that require leadership decision and present them during the leadership meeting.

A transition briefing is a mandatory briefing held in case of staff change-over. The new/ incoming person should be briefed verbally or in writing on the event and their role.

#### 5.5.5.2 Strategic communication:

**Reporting to leadership**: The Incident Manager prepares leadership update reports regularly and shares them with the leadership and policy makers for public health action. This includes a brief summary of the event, actions taken, next steps, and issues and challenges that require high level decision making. The brief should be a maximum of two pages. Reporting templates are provided in annex 22.

**Leadership meeting (national or county task force)**: this meeting is chaired by the Director General/ County Director of Health or designee. It is attended by all respective health directors, IMS personnel, heads of responding partners and other relevant stakeholders. This is a forum for strategic communication among relevant stakeholders where critical decisions are made. The incident manager and section chiefs will provide situational updates. Minutes of the meeting are shared regularly to monitor actions and should be archived in the PHEOC repository.

The PHEOC email serves as the central mail repository. Any communication to and from the PHEOC should be done through the PHEOC email. PHEOC staff must have access to and should communicate via the PHEOC email.

#### 5.5.5.3 Communication with the field:

It is critical that the field response teams maintain regular communication with the PHEOC with seamless flow of information. The PHEOC must have a full picture on what is happening in the field. The PHEOC should put in place mechanisms or procedures to ensure steady communication with sub-national levels.

At sub-national levels, teams need to be equipped with basic communication facilities such as telephone, airtime, internet etc. to facilitate communication and information sharing.

### 5.5.2 External communications

The PHEOC communicates with relevant partners, government and private sector players through a liaison officer within the command staff/ or communications unit, which has been set up in advance with designated roles and responsibilities. Crucial preparatory work must be conducted in advance before a public health emergency, Standard Operating Procedures (SOP) with key timelines need to be developed and then followed during a health emergency

and then finally the communications outputs need to be monitored and evaluated. External communication should be in line with the government communication policies.

Communications may be via a website or newsletter with a regular situation update, regular press briefings, press releases of actions taken and areas which need support.

### 5.5.2.1 Communicating and coordinating with stakeholders and partners

Some considerations regarding communication with stakeholders and partners:

- This is prioritized by relationship to the incident
- Consideration should be given to relationships the PHEOC shares with specific stakeholders/ partners
- Assessment tools may be used to determine needs, values, issues and preferred communication methods
- Messages should be tailored to specific stakeholder/partners
- Focus should be on stakeholders/partners concerns, and factors that inspire trust and minimize negative reactions

Coordination with stakeholders and partner agencies is the responsibility of the liaison officer (LNO). Subject matter experts including those from partner agencies provide their input through the LNO. When PHEOC is activated during an emergency, the LNO obtains situation awareness for the incident. This entails in-briefing with the IM, and includes:

- Work location and hours
- Duration of assignment
- Detailed information about the incident
    - Incident name
    - Type of incident
    - How the incident evolved
    - Current situation
    - Current resource commitments
- Location and contact information for the IM

The LNO in turn provides initial operating instructions to liaison staff and is responsible for archiving briefing minutes.

### 5.5.2.2 Community engagement

This is the process of working collaboratively with and through groups of people affiliated by geographic proximity, special interest, or similar situations to address issues affecting their wellbeing. Community leaders, Community Own Resource Persons (CORPs) and institutions can be valuable partners to support public health strategies, distribute/ circulate information, and counter rumors. Fostering relationships and collaborating with community leaders is a way to build trust within the broader community as they are a link to individual community members.

### 5.5.2.3 Media in public health emergencies

Emergency managers should acknowledge the role of media in a crisis and plan to meet reasonable media requests. Media coverage is more factual when reporters have more information and may become more interpretative when they have less information. It is good

to note that the media is not subordinate to the response organization; it has a responsibility to inform the public. Media training is a useful strategy to ensure appropriate reporting for the specific incident.

#### 5.5.2.3.1 Messaging using social media

There is need to have an integrated communication structure in place with an established lead social media voice before a crisis. The PHEOC should:

- Be transparent
- Create simple messages and visuals
- Tell good stories
- Communicate quickly and repeat key messages across multiple channels
- Be accurate and timely
- Show empathy
- Establish trust with users and listen to them
- Collaborate and coordinate with credible sources and partner with the public

#### 5.5.2.3.2 During the public health emergency

These are activities to be carried out during the emergency:

- Posting of daily situation updates on the MOH and county websites and sending these out to key media and stakeholder contacts
- Holding regular press briefings on the situation through the national (or county) task force
- Sharing key messages regularly with partners to ensure everyone is speaking with one voice
- Daily monitoring of news channels, including social media to spot any misinformation or rumors circulating
- Using social media platforms to disseminate key information and to dispel rumors, as well as to identify issues of concern
- Media training of key journalists and outlets to sensitize them on key prevention and other measures
- Working with risk communications, health promotion, and community engagement colleagues to disseminate key prevention and other messages through radio, social media and other communications channels
- Communicating with the public to inform them about the situation, control measures and risks

#### 5.5.2.3.3 After the public health emergency has ended

Once the public health emergency has ended, the PHEOC should:

- Review media output in terms of numbers of press releases, briefings, interviews and social media posts
- Analyze coverage in terms of alignment of messaging
- Archive useful documents for easy access in future

- Assess lesson learnt on procedures and processes to see what went well and what can be improved on regarding media engagement. This can be part of an after-action review
- Continue building relationships with various media in preparation for the next emergency

## 5.6 De-escalation

When the scope, complexity, and severity of health emergency decreases, scale-down and de-escalation of the level of activation needs to be considered. Considerations for de-escalation include a **decrease** in one or more of the following:

- Criteria for a Public Health of event of International Concern (PHEIC) in line with IHR 2005 guidelines
- Surge human resource support required
- Resources (non-staff) required
- Media interest
- Geographic extent
- Executive / leadership directives
- Executive /

The PHEOC will conduct risk assessment and review of activation level in order to make a decision on de-escalation.

## 5.7 Deactivation of the PHEOC and demobilization

When the response is declared over, the PHEOC will be deactivated and return to routine monitoring. This follows the de-escalation of PHEOC activities. De-activation plans entail:

- Orderly and progressive cessation of activities and functions
- Return of resources to their original point
- IMS functions beginning deactivation processes

### 5.7.1 Criteria for deactivation

The criteria for declaring an incident over varies from one incident to another. The DG or the CDH is responsible for deactivating the PHEOC. These may include:

- The scope/ scale of the incident has reduced, and requirements can be managed without PHEOC capabilities and resources. This may mean that the incident is within the capacity of the lower levels to handle
- The incident action plan objectives have been achieved
- The epidemic (epi) curve suggests that the issue being addressed is on the decline for an extended time frame
- No evidence of sustained or efficient human-to-human transmission for a predetermined time frame
- Media shows a continuous downward trend in the news and social media for a 2-week timeframe

- Cases are having minimal or no impact on national, social, business, economic or social affairs
- The incident or state of emergency has been declared over by the MOH or designated authority

### 5.7.1 Deactivation tasks

The following activities should be carried out to effect deactivation.

- Notify appropriate agencies regarding the individual sites where the public health emergency is being deactivated
- Develop and disseminate the deactivation plan
- Monitoring the deactivation process
- Ensure that all forms, reports, and documents from each section/unit are completed and submitted to the documentation unit or officer responsible
- Make recommendations regarding the timing and sequence of demobilization of all resources used in the response to the PHEOC manager
- The IMS manager authorizes the deactivation of IMS resources
- Transfer of authorities/responsibilities/missions to the relevant authorities
- The IM to hand over to the PHEOC manager
- Fold and repack re-usable maps, charts, materials
- Collect items that have been deployed in the field for future response use
- Make a list of all supplies that need replacement and forward to the logistician
- Return identification credentials to the PHEOC Manager
- Develop the deactivation report
- Ensure open action items that are to be addressed by the agency are completed or will be addressed after deactivation
- Prepare for the after-action review meeting
- Initiate evaluation activities for the response.

During deactivation, the operations section manages all activities associated with returning to normal program operations i.e. exiting the response mode and moving back to watch mode. The operation section conducts final incident closeout of public health operations including turnover of documents, incident debriefing, distributing deactivation notifications and scheduling and tracking deactivation activities. The planning section is responsible for conducting an after-action review.

# 6

# TRAINING AND EXERCISES

A program of training and exercises should be established to ensure that there is a coordinated and integrated approach to building, sustaining, and delivering the core capabilities of the PHEOC's permanent and surge staff. During the non-response phase, the PHEOC should train its staff and conduct simulation exercises to strengthen key competencies required by them to cope with the duties and increased workload in the PHEOC during emergency response. These include the essential PHEOC training curricula as outlined below:

- PHEOC operations
- Incident management system
- Risk communications
- Early warning systems
- Design and delivery of table-top exercises and field simulations
- Information and communication technology
- Logistics
- Finance and administration
- Personal security
- Rapid needs assessment (RNA)
- Training on public health emergencies
- Contingency planning

## 6.1 The preparedness cycle

Preparedness training and exercises for the PHEOC are part of this broader strategy that supports what can be characterized as a "preparedness cycle" which consists of planning, organizing and equipping, training and exercising, evaluating, and correcting and approving.


**Figure 11: Preparedness cycle**[10]

10 Handbook for developing public health emergency operations center. Part C: training and exercises. Geneva: World Health Organization; 2018.

## 6.2 Training

As illustrated in the figure above, training is a component of the PHEOC's preparedness cycle; its main goal is to ensure the requisite competencies are available in advance of a response to a PHE or non-health hazard with public health impact.

### 6.2.1 Training cycle

A multi-year training plan should be in place and should integrate strategic, high-level priorities informed by existing assessments, strategies, and plans. The training plan should include the training goal and expected outcomes, learning strategies, training prerequisites, logistics and equipment requirements, trainee and trainer identification, time and place of training, and details of the assessment process. A rolling training program will need to take staff turnover into account and must ensure that all staff regularly refresh their knowledge and skills in emergency response. Additionally, this plan should incorporate a schedule for the trainings.

Full records of all training activity should be kept by training providers, organized in such a manner as to be identifiable, retained, and accessible, and the data should comprise part of the monitoring and evaluation framework. A central electronic database of all trained emergency management personnel, course instructors and available preparedness courses should be maintained. Internal reporting systems to promote accountability for education and training activities, and transparency and fairness in training budgets should be developed and used.

Trainings are usually followed by exercises. Simulation exercises should be conducted regularly to test skills acquired, and functionality of plans, procedures and systems.

### 6.2.2 Training needs assessment

A training needs assessment – both at national and subnational levels and for individuals – proceeds from:

- assessment of the knowledge, skills and abilities that people require in order to work effectively
- in a PHEOC, and
- the training needs and existing opportunities for collaboration with partners and other sectors.

These needs are then compared with known or identified shortfalls to formulate training objectives. The needs assessment may be conducted through:

- self-reporting
- instructor observations
- staff presentations
- exercises
- regular reviews conducted by PHEOC management
- evaluation of a response (after-action review).

### 6.2.1 Types of Training

Training can be conducted targeting individual staff members or targeting the entire organization or sections thereof.

#### 6.2.1.1 Individual training

Many recognized types of training are designed to build the knowledge, skills and abilities that staff require to function effectively in a PHEOC. These include:

- classroom-based courses
- e-Learning courses
- participation in planning and development of PHEOC operating procedures
- internships, fellowships, and orientation sessions
- site and field assignments that provide training through experience, including lessons identified during real emergencies participation in exercises, peer-to-peer learning, coaching, mentoring and team building
- combinations of the above.

#### 6.2.1.2 Organizational training

Organizational training should reflect the all-hazards approach to public health emergency preparedness. This requires that personnel be competent in a broad spectrum of potential emergencies and are trained to address the worst hazards, consistent with the principles of risk-based planning. Such training can be single- or multi-agency and can be conducted at international, national, or subnational levels. Interagency cooperation, interoperable communications, and the use of available resources at all levels are essential elements for an effective response to an emergency.

#### 6.2.1.3 Exercises

Exercises are used to practice, test, evaluate and improve the PHEOC's preparedness plans, procedures and systems, and are considered an integral part of the overall planning cycle. Exercises simulate real situations to test and evaluate PHEOC plans, procedures and systems (though not the responders). These help to identify gaps and weaknesses in response plans and help to increase the team's confidence in its ability to respond effectively to emergencies. Generally, exercises are used to:

- develop competence in roles and responsibilities of PHEOC core staff
- validate policies, plans, and procedures, as well as the training curriculum
- test and strengthen the capabilities of functional areas and of the PHEOC as a whole.

Each exercise follows a standard approach for building and implementing an exercise: the exercise project cycle. This approach consists of three phases, in which various key steps are identified and addressed. These are:

- Pre-exercise planning, material development and set-up
- Exercise conduct
- Post-exercise reporting and handover.

A sample exercise evaluation report template is provided in annex 23.

### 6.2.2 Exercise needs assessment

An exercise needs assessment is essential to ensure an effective exercise, constructed around specific objectives. It includes four steps focused on different areas, namely understanding of:

- The priority risks
- The reasons for conducting the exercise
- The function to be exercised
- The system, plans, or training level in place.

A vulnerability risk assessment and mapping should routinely be conducted prior to an exercise as it helps identify the risks a country is most likely to face. This helps define the reasons for conducting the exercise and identifies the functions to be exercised and expected outcomes.

Assessing what needs to be exercised also entails a review of relevant emergency plans, systems, community and resources already in place. This review can also extend to previous exercise reports, "lessons learnt" and after-action documents, and input from the management.

### 6.2.3 Exercise Planning Tool (EPT)

To support the planning of comprehensive exercise programs, an Exercise Planning Tool (EPT) should be developed. The standard tool is divided into seven sections:

- Activity
- Status
- Subject area
- Geographical location
- Target audience
- Responsible planning
- Timelines

The EPT includes a requirement checklist, a cost estimation tool, and an exercise calendar. The exercise calendar can be used to apply the `building-block approach,' so exercises are planned according to their suitability within the broader exercise program. It should be noted that this calendar may not be based on a January-to-December time, but rather be aligned to the preparedness cycle timeframe. The exercise calendar will determine the frequency of exercises in a year. This communication needs to be shared with the target audience; these need to be multi-disciplinary and ideally incorporate the response partners and the County-based PHEOCs. A sample exercise program cycle is provided in annex 24.

### 6.2.4 Types of Exercises

This handbook presents four fundamental types of exercise which can be split into two categories:

- **Discussion-based exercises**: these familiarize participants with, develop or refine current plans, policies, agreements, and procedures.
    - **Tabletop exercises/ simulations (TTX)**: A tabletop exercise is a facilitated discus-

sion of an emergency, generally in an informal, low-stress environment. It is designed to elicit constructive discussion between participants; to identify and resolve problems; and to refine existing operational plans. This is the only type of simulation exercise that does not require an existing response plan in place.

- **Operations-based exercises:** these validate plans, policies, agreements, procedures, and system functionality; clarify roles and responsibilities; and identify resource gaps in operational environments.
    - **Drills (DR):** A drill is a coordinated, supervised exercise activity, normally used to test or train a single specific operation or function in a repeated fashion. A drill aims to practice and perfect one small part of a response plan, and should be as realistic as possible, employing any equipment or apparatus necessary for that part.
    - **Functional exercises (FX):** A functional exercise is a fully simulated interactive exercise that tests the capability of an organization to respond to a simulated event. The exercise tests multiple functions of the organization's operational plan. It is a coordinated response to a situation in a time pressured, realistic situation[11]. A functional exercise focuses on the coordination, integration, and interaction of an organization's policies, procedures, roles, and responsibilities before, during, or after the simulated event.
    - **Full-scale exercises (FSX):** A full-scale exercise simulates a real event as closely as possible and is designed to evaluate the operational capability of emergency management systems in a highly stressful environment, simulating actual response conditions. This includes the mobilization and movement of emergency personnel, equipment, and resources. Ideally, the full-scale exercise should test and evaluate most functions of the emergency management plan or operational plan. Differing from the FX, a full-scale exercise typically involves multiple agencies and participants physically deployed in a field location.
    - **Field exercises/ simulations:** A field exercise is one form of full-scale exercise, focusing on more specific capacities or series of capacities, such as procedures for rapid response teams (RRT), laboratory analysis or sample collection and transport. These exercises are quite resource intensive and often require multisectoral and multi-agency coordination and may take more than a year to plan.

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# 7

# MONITORING AND EVALUATION

Monitoring and evaluation is critical for assessing the PHEOC's preparedness to respond to PHEs as well as the effectiveness of its responses. These help the PHEOC identify gaps and implement corrective actions to ensure improved readiness and robustness of its response activities.

In the PHEOC, monitoring will be used to assess preparedness, while evaluation will assess the responses.

## 7.1 Monitoring

Monitoring is a continuous review of program implementation to confirm whether planned activities are on track to deliver the expected outputs. This measures progress towards targets for outputs and objectives using performance indicators from the PHEOCs results framework. Indicators track adequacy of preparedness and response.

## 7.2 Evaluation

An evaluation is a systematic assessment of an activity, project, program, strategy, topic, theme, sector, operational area or institutional performance. It analyzes the level of achievement of expected (and unexpected) results. There are two broad methods for evaluating the functioning of a PHEOC: (i) standards-based evaluation and (ii) capabilities-based evaluation. A standards-based approach requires prior articulation of standards and asks questions of each PHEOC management element:

- What met or exceeded standards?
- What partially met standards?
- What failed to meet a standard?
- Were the failures due to the standard being unachievable, or were they indicative of a need for more capacity building and/or resources?

A capabilities-based approach requires a detailed understanding of the specific abilities that the PHEOC is expected to demonstrate at the level of observable activity and which, if not observed, indicate a probable deficiency in plans, procedures, resources or technologies. In the PHEOC, evaluations will be carried out for responses to incidents and to drills.

The IMS incorporates a process of capturing information about how well or how badly an event was managed, based on the plans for that event and from the perspectives of those involved. This process takes the form of two debriefing sessions that are central to evaluating the overall management of the situation: (i) in-process (in-action) review and (ii) the after-action review (post event response) evaluation. These sessions customarily result in a report containing recommendations for improvement. During protracted events there is also the option of an ???.

### 7.2.1 In-process (In-action)s review

The in- process (in- action) review is a review of PHEOC functioning during an emergency response and is aimed at ascertaining the effectiveness of the operation. The two primary ways to conduct an in-process review are as follows:

- The first method is similar to an after-action review (described below) and provides an opportunity for PHEOC personnel and members of the policy group to examine and

critique processes and outcomes up to the moment.

- The second method is to have the review conducted by an independent observer who is not part of the response effort. This approach may be mandated by the event manager, policy group or steering committee.

Further guidance on conducting in-action reviews is provided in annex 25.

### 7.2.2 After-action (post-event) and exercise evaluations and recommendations

The after-action review process involves all persons assigned to the PHEOC and focuses on how the PHEOC functioned during the emergency. The focus should always be on the availability and validity of the plans and utility of the PHEOC infrastructure that supported the response, or which was being tested with an exercise. It is often referred to as a "hot wash".

The after-action review process will adopt a stepwise process:

**Step 1:** Internal After-Action Review Process

The review will be done one week after deactivation and will be led by the Incident Manager or an appointed representative. This will involve the internal core team that was involved in the emergency response. The purpose will be to:

i. Review the implementation plan focusing on the following aspects: (i) timeliness, (ii) efficiency, and (iii) effectiveness
ii. Identify gaps for capacity building.[12]

**Step 2:** External After-Action Review Process

The review will be done one month after deactivation and will be led by the Incident Manager or the appointed representative. The engagement will adopt a meeting event structure, which will involve all partners and other key stakeholders. The post-event review process will be facilitated by an independent evaluator who is an M&E expert preferably with significant experience implementing public health emergencies. The purpose will be to:

1. Review the implementation plan focusing on the following aspects: (i) timeliness, (ii) efficiency, and (iii) effectiveness
2. Review proposals from the internal after review report

A post-event or post-exercise evaluation report is to be completed and should contain a section for recommendations and an "improvement plan" that prioritizes the recommendations and describes the process, timetable and persons responsible for implementing it.[13]

Further guidance on conducting after-action review is detailed in annex 26.

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13 Handbook for Developing a Public Health Emergency Operations Centre Part A: Policies, Plans and Procedures

Table 5 below highlights the difference between after-action and in-action reviews:

**Table 5: Comparison between in-action and after-action reviews[14]**

| | In-action reviews (IARs) | After-action reviews (AARs) |
|---|---|---|
| Objective | Seeks to quickly address:<br>• What is happening?<br>• What emerging issues are on the horizon?<br>• What can be learned (from good practices, gaps, and challenges)?<br>• What should change?<br>NB: An IAR does not replace the need for an AAR. | Seeks to address in detail:<br>• What happened?<br>• Why did it happen?<br>• What can be learned (from good practices, gaps, and challenges)?<br>• What should change?<br>• Have changes taken place? |
| Scope | Best suited to focus on 1-2 specific response areas | Can address all aspects of an emergency response, or can focus on specific areas |
| Timeframe for implementation | A continuous process within the response; to be conducted and implemented with very minimal time commitment. | Target - one week to one month after completion of an emergency response. |

After conducting PHEOC evaluations, a report should be written and corrective action instituted; a sample report is provided in annex 27 and a sample corrective action plan in annex 28.

Proposed M&E activities to be carried out at various phases of the emergency management cycle are summarized in figure 8 below.

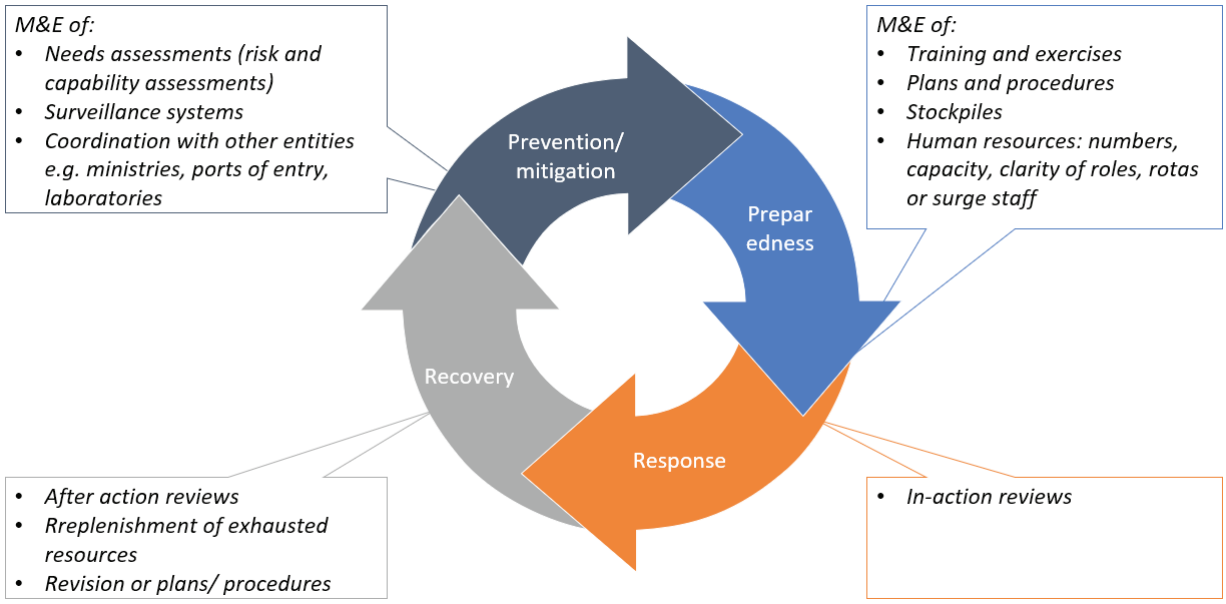



**Figure 9: The emergency management phases showing M&E components to be carried out in each**

14 Adapted from: Conducting in-action and after-action reviews of the public health response to COVID-19. Stockholm: ECDC; 2020.

## 7.3 PHEOC M&E indicators

Below table shows the key indicators that will be tracked by the PHEOC, the frequency of their tracking and data sources.

**Table 6: PHEOC indicator list**

| Element | Indicator | Disaggregation | Frequency of monitoring | Data source |
|---|---|---|---|---|
| Tabletop simulation | Number of simulations conducted | Nationally<br>At county level | Biannually | Simulation reports |
| Field simulation | Number of field simulations carried out | Nationally<br>At county level | Annually | Simulation reports |
| Drills | Number of drills conducted | Nationally<br>At county level | Quarterly | Drills report |
| Plans | Number of developed plans available for review | Nationally<br>At county level | Periodic reviews (mid-term) | Repository of plans and procedures |
| | Proportion of plans reviewed | Nationally<br>At county level | Periodic reviews/ as needed | Repository of plans and procedures |
| Standard Operating Procedure (SOP) | Number of SOPs developed/ updated | Nationally<br>At county level | Periodic reviews/ as needed | SOP repository |
| Human Resources | Number of staffing working in PHEOC | Nationally<br>At county level | Annually | HR database |
| | Existence of updated staffing list | Nationally<br>At county level | Annually | HR database |
| | Existence of clear job descriptions | Nationally<br>At county level | Annually | HR database |
| | Existence of skillset database | Nationally<br>At county level | Annually | HR database |
| | Updated rota of surge staff | Nationally<br>At county level | Annual reviews | HR database |
| PHEOC Activation | Number PHEOC activations | County/National | Annually | PHEOC system |
| | Number PHEOC activations within 2 hours of confirmation of an incident | County/National | Annually | PHEOC system |
| Response | Number of alerts received | National/Sub County | Annually | PHEOC system |
| | Number of alerts responded to by the RRT | National/Sub County | Annually | PHEOC system |
| | Number of confirmed public health events | National/Sub county | Annually | PHEOC system |
| | Number of incidents with descriptive analyses conducted | National/County/ Sub County | Annually | PHEOC system |
| | Proportion of weekly SITREPs disseminated | National/County/ Sub County | Annually | PHEOC system |

## 7.4 Continuous Improvement Program

A post-emergency or post-exercise PHEOC improvement plan closes the loop in the cycle between preparedness planning, response and recovery in comprehensive emergency and risk management.

It generates a new cycle of preparedness planning and testing (evaluation) that is the foundation of a continuous improvement program which is focused on building systemic capabilities, capacities, and making plans and procedures more robust. The framework for conducting quality improvement provided in the Kenya Quality Model for Health will be used a guide.

## 7.5 Data management

Data management is an essential component of a functional PHEOC, and includes information collection, storage, analysis, visualization and dissemination. This section will address the data-flow tracking system for the data generated during incident management. Periodic data quality audit and support supervision will be conducted to strengthen data management processes at all levels.

### 7.5.1 Data collection tools

The PHEOC will link existing routine data sources from surveillance systems e.g. IDSR and KHIS, with mass and social media reports, hotlines, official notifications from Ministry of Agriculture, Livestock and Fisheries, and health related departments. The tools to be utilized for management of the data from these multiple sources are provided in annex 29. In response to an emergency routine data collection tools will be used and where need be the PHEOC will collaborate with the Division of Health Informatics and other stakeholders to design and customize new tools per MoH procedures.

Tools key to management of data flow during response include the following:

- An alert tool used by call centers
- An RRT logbook – used by RRT coordinators
- A contact tracing tool in case of infectious diseases – used by the RRT Coordinator. A sample is provided in annex 30.
- A case investigation form carries the biodata, clinical features and lab results of the incident (annex 31)
- Line listing tools updated on a daily basis by surveillance focal persons (annex 32)

In a non-outbreak hazard, some of these tools may not be required or may require modification.

### 7.5.2 Reporting

All entities are required to compile and submit their reports to the IMS on immediate, daily and weekly basis as stipulated in the Integrated Disease Surveillance and Response (IDSR) guidelines. The persons mandated to report must be conversant with the reporting tools and requirements and should have access to electronic reporting systems. Quality checks should

be done to ensure data submitted is of good quality and usable for public health action. Figure 9 below lays out the flow of data.

### 7.5.3 Analysis

Descriptive analysis is conducted of the data, and highlights the following, as they may be useful in tracking the event:

- Socio-demographic factors
- Clinical features
- Risk factors
- Trend analyses
- Geospatial analysis
- Risk assessment

The output is used to communicate with various audiences including the public as needed.

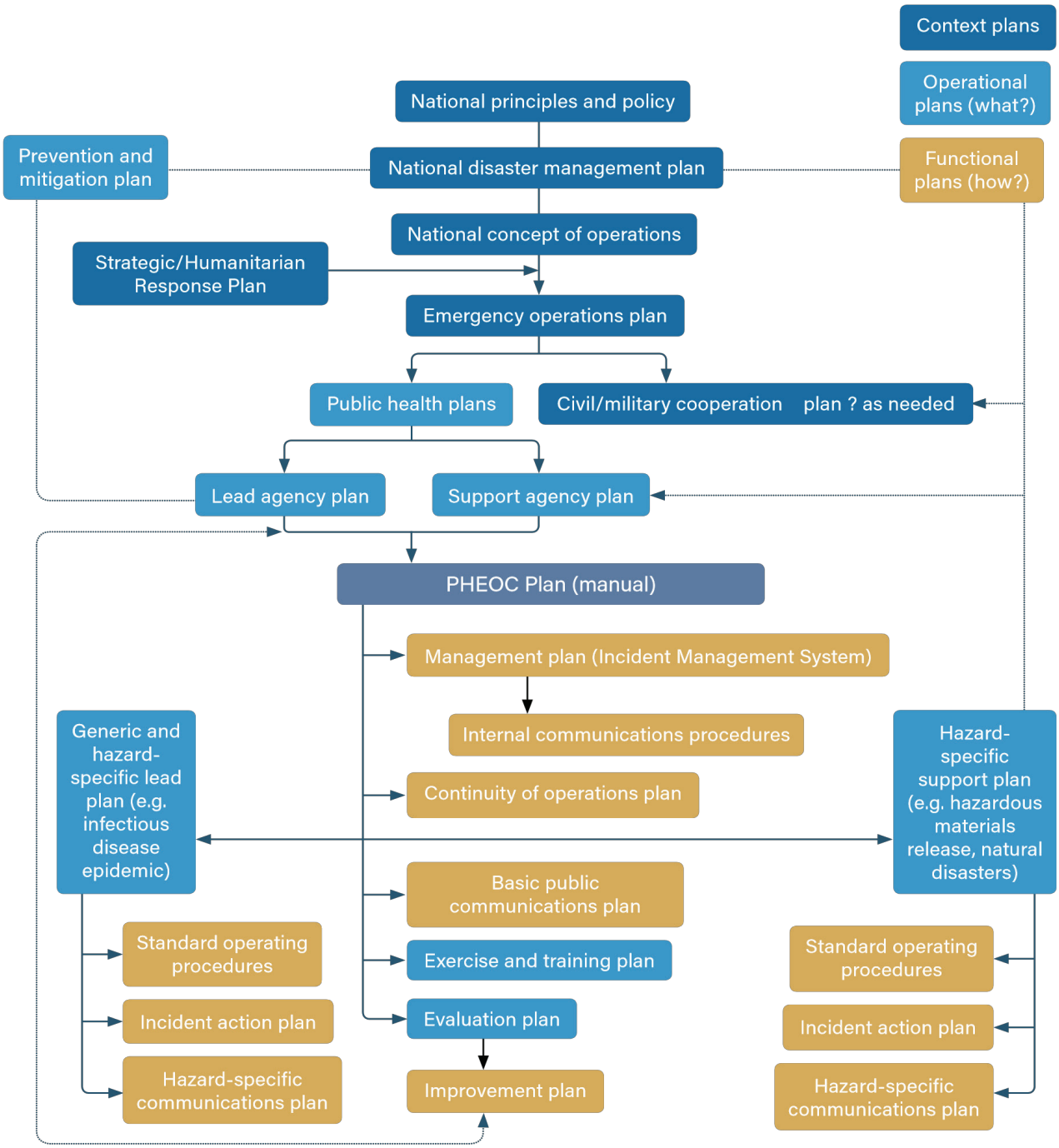
### 7.5.4 Dissemination

This is regularly done through SITREPs on a daily basis as the emergency evolves. The report is circulated to all the involved stakeholders via email and also daily debriefs during an emergency. The reports can also be published on Ministry of County websites to reach greater audiences.

# 8

# ANNEXES

## 8.1 Annex 1: Proposed hierarchy of plans for a public health emergency management program



## 8.2 Annex 2: Risk assessment of acute event template

### [EVENT NAME], [EVENT LOCATION]

Date and version of current assessment: Choose date, select version

Date(s) and version(s) of previous assessment(s):

Overall risk and confidence (based on information available at time of assessment)

| **Overall risk** (Use key* below) | | |
|---|---|---|
| National | Regional | Global |
| Choose an item. | Choose an item. | Choose an item. |

*Key Low (Lo), Moderate (Mod), High (H), Very high (VH)

| Confidence in available information | | |
|---|---|---|
| National | Regional | Global |
| select | select | select |

**Key Low (Lo), Moderate (Mod), High (H)

Risk statement

| |
|---|
| |

Risk questions *(assess scenario where no further interventions are implemented) (Use the key*** below the table)*

| Risk question | | Assessment | | Risk | Rationale |
|---|---|---|---|---|---|
| | | Likelihood | Consequences | | |
| Potential risk for human health? | National | select | select | select | |
| | Regional | select | select | select | |
| | Global | select | select | select | |
| Risk of event spreading? | National | select | select | select | |
| | Regional | select | select | select | |
| | Global | select | select | select | |
| Risk of insufficient control capacities with available resources? | National | select | select | select | |
| | Regional | select | select | select | |
| | Global | select | select | select | |
| Add additional risk question if needed; otherwise delete | National | select | select | select | |
| | Regional | select | select | select | |
| | Global | select | select | select | |

***Key

Likelihood – Very unlikely (VU), Unlikely (U), Likely (L), Highly likely (HL), Almost certain (AC)

Consequences – Minimal (Min), Minor (Mi), Moderate (Mod), Major (Maj), Severe (S)

Risk - Low (Lo), Moderate (Mod), High (H), Very high (VH)

Major actions recommended by the risk assessment team (Select what is applicable)

| | Action | Timeframe |
|---|---|---|
| ☐ | Refer the event for review by IHR Emergency Committee for consideration as a PHEIC by DG (Art 12, IHR) | Choose an item. |
| ☐ | Immediate activation of ERF response mechanism (IMS) as urgent public health response is required | Choose an item. |
| ☐ | Recommend setting up of grading call | Choose an item. |
| ☐ | Immediate support to response, but within limit of CFE (no grading recommended at this point in time) | Choose an item. |
| ☐ | Rapidly seek further information and repeat RRA (including field risk assessment) | Choose an item. |
| ☐ | Support Member State to undertake preparedness measures | Not applicable |
| ☐ | Continue to closely monitor | Choose an item. |
| ☐ | No further risk assessment required for this event, return to routine activities | Choose an item. |

[+]If chosen, list actions and identify **persons responsible and due dates** for each action in section 2 (Supporting information)

***Communications***

| Target audience/ channel | Planned | Done |
|---|---|---|
| Inform DG | | ☐ |
| Inform relevant County Director of health | | ☐ |
| Inform Sub-County MOH | | ☐ |
| Enter event into EARS | | ☐ |
| Inform County HMT | | ☐ |
| Disease Outbreak Sitrep | ☐ | ☐ |
| Other – specify: | ☐ | ☐ |

## Supporting information

**Hazard assessment**

Expound

**Exposure assessment**

Expound

**Context assessment**

Brief context summary

| Capacities | Vulnerabilities |
|---|---|
| **Expound** | Expound |

Immediate actions (not a detailed response plan, state if no action required)

*List here*

Risk assessment team members

*List names and roles*

Reference documents used for risk assessment

*List here*

## 8.3 Annex 3: Response levels – Kenya example

| | Level Assessed Foreseeable Risk and Actions |
|---|---|
| 1 | • Public health impact including public interest is limited to one county, however it exceeds what is determined to be routine work. The response can be managed at county level.<br>• The command and control of the incident will be locally focused, and the coordination will be from the County PHEOC.<br>• It requires onsite PHEOC support by a Rapid Response Team but incident leadership is from the County.<br>• External partners will be invited to provide support at the County level.<br>• National PHEOC will monitor this through the incident Coordination Center and will receive Situation reports (Sitreps) provided by the County team. |
| 2 | • This is either an escalation of a level 1 event or event could also be designated as a level 2 event from the start.<br>• Public health impact including public interest or concern could expand beyond the affected County.<br>• The public health implications of the incident or public anxiety go beyond the affected County.<br>• A National Incident Management Team is set up with specific terms of reference guided by National leadership.<br>• An Incident Manager is appointed at PHEOC to provide coordination and overview from the national level providing support to counties.<br>• The response may involve inter-agency and a larger external partner support.<br>• The incidence Manager will issue briefing notes to be cascaded via the EOC's daily/weekly activity report and/or briefing to ensure that all parts of the response organization are aware of the incident and its management. |
| 3 | • The impact of the incident has significant national and/or international implications.<br>• Public health impact including public interest or concern for the national population is severe.<br>• Full central EOC coordination, enhanced extended surveillance is required through County PHEOC<br>• A level 3 response requires/county level direction or leadership resource mobilization and ensures national coordination while providing a more proportionate response to the threat to the public.<br>• Requires a significant interaction with MDAs at the national level.<br>• The response will involve inter-agency liaison and will require significant National PHOEC and partners/international resources. |

## 8.4 Annex 4: Sample Format for Contingency Plan/Emergency Response Plan

As far, as is practical, all emergency plans within a jurisdiction should follow the same format, making it easier to find information of a particular type. Consequently, the format of an annex should at least approximate to the structure of the emergency operations plan. It should include, but not limited to, the following:

1. Purpose: What is this plan/annex/procedure intended to address? Is there legislation, policy or a directive that necessitates it? What is the authority for implementing this plan?
2. Situational assessment: A description of priority threats and response capabilities.
3. Scope: What is included in and/or excluded from this plan, annex or procedure? To whom or what is it directed?
4. Assumptions: What are the assumed facts supporting the planning, the absence of which would alter the plan, annex or procedure?
5. Concept of operations: In the same way that the CONOPS for the EOP describes the intentions of the responsible agency and its intended activities in a larger, external context, the CONOPS for a plan describes the general sequence of the planned response, how things are intended to work, and the relevant internal management processes.
6. Organization and responsibilities: management, direction control and coordination, including provision for multi-agency/jurisdiction, engagement and leadership; plan development, documentation and maintenance; logistics and administration.
7. Annexes and/or appendices: These contain supplementary, explanatory material.

## 8.5 Annex 5: Guidance in developing an incident action plan

An Incident Action Plan can have many possible formats, which may be both event/incident-specific and agency-specific.

However, these formats have several plan elements in common. These are outlined below:

1. Situation assessment
    - Current
    - Predicted
2. Objectives
    - Strategic
    - Tactical, current and alternative
3. Execution
    - Tasking
    - Coordination
    - Safety
4. Logistics
    - Supply
    - Support communications
    - Responder medical care
    - Facilities
    - Catering
5. Administration

- Finance
- Responder accommodation

6. Control, coordination and communication
   - Which IMS functions are activated?
   - Which other agencies are involved through unified management or liaison?
   - What are the communications plans and which audiences do they address?

## 8.6 Annex 6: Sample incident action plan template

| INCIDENT ACTION PLAN (IAP) | | | |
|---|---|---|---|
| Incident Name and Incident Action Plan Version | | | |
| Incident Name: | Operational Period (Date/Time): | IAP Type:<br>Initial ☐<br>Update ☐<br>Final ☐ | |
| Risk level: | PHEOC Activation level: | | |
| Functional IMS Position | Name | Email | Phone |
| **IMS Management Leadership and Staff** | | | |
| Incident Manager | | | |
| Deputy Incident Manager | | | |
| Core IMS Functions | | | |
| Operations Section | | | |
| Plans Section | | | |
| Logistics Section | | | |
| Finance & Administration Section | | | |
| Expanded IMS Functions | | | |
| Liaison Officer | | | |
| Safety Officer | | | |
| Public Information Officer | | | |
| Response Branch Operations | | | |
| Current Operations Branch | | | |
| Laboratory Branch | | | |
| Case Management Branch | | | |
| Epidemiology Branch | | | |
| Situation/Actions for Current Operational Period | | | |
| Background: | | | |

| Situation/Actions for Current Operational Period (continued) |
|---|
| Current Activities:<br>Ministry/Department Response Mission:<br>Response Mode Critical Information Requirements (CIRs) |
| Planning Assumptions<br>(Evidence based facts and assumptions in the context of developing the plan.) |
| |
| Response Objectives<br>(SMART: Specific, Measure, Achievable, Realistic, Timeframe) |
| |

| Response strategies | | | | |
|---|---|---|---|---|
| | | | | |
| Sections / Functional Area Operational Objectives / Expected results | | | | |
| | | | | |
| Response activities | | | | |
| S No. | Activity / Task | Responsible | Cost | Completion date |
| | | | | |
| | | | | |
| | | | | |

| Triggers That May Increase the Response Tempo and/or Raise the Response Level |
|---|
| |
| Triggers That May Return Centralized Response Operations to a Program Management Level |
| |
| Pending Briefings for Operational Period |
| |
| Scheduled Meetings for the Operational Period |
| |
| Safety and Security Concerns |
| |
| Place a Visual depiction of the incident location or locations here. |
| |
| Current Organization |
| |

## 8.7 Annex 7: Sample Format and Guidance for Standard Operating Procedures

There are many possible formats for SOPs. The most basic form for a type A PHEOC would address:

1. Introduction, background and purpose: a short description of what the procedure is about, its purpose, and what part of the emergency response it relates to.
2. Procedure: which organizational position is responsible; what the purpose is; the outcome or product of the procedure; and the step-by-step processes required to accomplish it.
3. Safety: any necessary instructions.
4. Addenda: any additional explanatory or supporting material, such as contact lists, locations of resources, special instructions for operation of communications equipment, etc.
5. Identification of the agency policy that supports the SOP; approval levels for adjustment to the SOP, or description of the range of discretion of adjustment that is within the responsibility of the designated staff member(s).
6. Identification of who owns the document and who is responsible for necessary revisions.
7. Graphic or visual representations of complex or multistep procedures; instructions for record keeping.

Tips for preparing SOPs

a) Use clear, unambiguous language.
b) Procedures entail actions. Use action words, such as: “prepare”, “draft”, “contact”, “place”, “assign” etc.
c) Flowcharts may communicate better than text.
d) SOPs should be complete and logical, with any extra explanatory material in an annex or appendix

## 8.8 Annex 8: Meetings and activities schedule

| Date | Time | Activity | Focal point | Location |
|---|---|---|---|---|
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

## 8.9 Annex 9: A sample sign-in log sheet template

| PHEOC Login Biometric template | | | | | |
|---|---|---|---|---|---|
| **S/No** | Name | Email address | Phone Number | Department | Signature |
| **1** | | | | | |
| **2** | | | | | |
| **3** | | | | | |
| **4** | | | | | |
| **5** | | | | | |
| **6** | | | | | |

## 8.10 Annex 10: Emergency contact list template

| No | Name | Function | Organization | Location | Tel. No. | Email |
|---|---|---|---|---|---|---|
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

## 8.11 Annex 11: Stakeholder mapping matrix

| Stakeholder Mapping Matrix | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Name of Agency/ Organization** | Type of Organization | County | Sub county | Sector of response | Sub County of response | Type of resource | Source of additional resources | Agency's mode of operations | Name of partners (if applicable) |
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## 8.12 Annex 12: 4Ws matrix

| No. | Activity | | Organization | Location (prov, district) | | Resources needed | Start date | End date | Status |
|---|---|---|---|---|---|---|---|---|---|
| | Area | Specific activity | | Province | District | | | | |
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## 8.13 Annex 13: Roles and responsibilities

| Designation | Roles and responsibilities |
|---|---|
| **PHEOC Manager** | • The day to day operation of the PHEOC<br>• All PHEOC operations and ensures that the facility and resources required for PHEOC support are provided<br>• Ensuring development of plans and procedures, and monitoring implementation<br>• Development of training programs and conducting simulation exercise to test systems<br>• Ensuring proper management of information and documentation<br>• Ensuring timely dissemination of information<br>• Undertaking corrective actions following evaluation of the PHEOC and after-action reviews<br>• Ensure the surge staff are deployed to the PHEOC in collaboration with the Incident Manager.<br>• Advise the incident manager on utilization of emergency management tools and procedures.<br>• Ensure all systems in the PHEOC are up and running to provide operational support.<br>• Avail PHEOC resources and ensure access to the information systems is provided to the IMS team.<br>• Ensure proper documentation of the response to enable recreate the incident for after action review |
| **Incident Manager** | • Responsible for all aspects of the outbreak response; including developing event objectives, managing all operations, application of resources as well as responsibility for all persons involved<br>• sets priorities and defines the organization of the response teams<br>• Responsible for the overall incident action plan<br>• Oversees all operations of the outbreak response<br>• Establish the appropriate staffing level for the IMS and continuously monitors operational effectiveness of the response<br>• Ensure availability of end of PHE after action report<br>• Responsible for recommending deactivation of the PHEOC when the outbreak is declared over |
| **Public Information Officer** | • Provide accurate and timely status reports to the Incident Manager and PHEOC members<br>• Provide accurate information to the media on a timely basis<br>• Perform a key public information - monitoring role, such as implementing measures for rumor control<br>• Develop and distribute community information releases through local and national medial such as TV, radio, or newspaper, and the use of Social Media networks<br>• Interface with the public, media, other agencies, and stakeholders to provide response related information, and updates based on changes in the status of the incident or planned event<br>• Responsible for development of a public information and communication products<br>• Control and coordinate the release of information to the media<br>• Prepare press releases and conferences<br>• Develop and release information about the response to the news media, to the response personnel, and to other appropriate agencies and organizations<br>• Obtain media information that may be useful to incident |

| Designation | Roles and responsibilities |
|---|---|
| **Liaison Officer** | • Coordinate with other agencies in the PHEOC that are normally not part of the PHEOC staff, such as partners, private and governmental sector or volunteer organizations to make sure they are incorporated into PHEOC operations as appropriate<br>• Assist the on-scene incident managers in management of on-scene emergency response activities.<br>• Facilitate communication between the on-scene incident managers and the PHEOC.<br>• Provide information to the PHEOC concerning the on-scene situation.<br>• Communicate anticipated on-scene command requirements to the PHEOC to facilitate expeditious processing of resource requests.<br>• Provide information to the on-scene incident managers concerning national level activities and resource availability.<br>• Coordinate information flow between PHEOC and other agency representatives<br>• Is the key point of contact for external partner organization representatives |
| **Safety/ Security officer** | • Monitor the health, welfare and safety of all responders<br>• Provide safety and security briefings to response teams<br>• Gives guidance on the psychological and emotional challenges that staff may face during response activities.<br>• Advises the incident manager on issues regarding safety. |
| **Planning Section lead** | • Receive, compile, evaluate, and analyze all outbreak information and providing updated status reports to PHEOC management and field operations<br>• Develop and communicate operational information<br>• Predict the probable evolution of events<br>• Develop objectives, strategies and action plans<br>• Keep records and ensure proper documentation of the response<br>• Identify inaccuracies and conflicting reports<br>• Coordinate with technical areas (sub-committees) and Logistics to capture and centralize resource status information<br>• Prepare and maintain resource status boards, and display current status and location of tactical resources<br>• Identifying the technical expertise that is needed during the response |
| **Logistics Section lead** | • Provide logistics support to the PHEOC<br>• Estimate the needs of response equipment, supplies, transport and communication equipment<br>• Manage the procurement of supplies and essential response equipment, communications systems<br>• Support FMOH on stock management, inventory, replenishment and stock rotation<br>• Develop distribution plan in collaboration with partners for all supplies and equipment from central level to the points of use<br>• Support PHEOC with prerequisite administrative support and finance resource management to ensure implementation of field activity |
| **Administrative officer** | • Ensure office administration and support<br>• Handle all routine correspondence related to the operation<br>• Monitor and maintain office supplies<br>• Ensure that printers, copiers and faxes are functional and stocked with paper<br>• Ensure that all memos, letters and other documents related to the outbreaks are handled effectively, rapidly and disseminated accordingly |

| Designation | Roles and responsibilities |
|---|---|
| | • Prepare and maintain a rotation plan for administrative staff beyond normal hours in line with the SOPs<br>• Update arrival and departure dates of deployment personnel |
| **Finance officer** | • Mobilize and manage financial resources in collaboration with HQ<br>• Organize rapid transfer of funds if required<br>• Support funding proposals<br>• Organize petty cash for staff deployed to the field (for emergency procurement in the field and /or cash advance on per diem) if needed<br>• Monitor expenditure for the response, including cash flows, and work with partners on cost-sharing arrangements<br>• Clear all financial documents |
| **Surveillance Unit** | • Submit the plan and request funds<br>• Plan for the activities, assign responsibilities and implement<br>• Prepare protocols for surveillance at community and health centers<br>• Ensure that active case finding and contact tracing is done well at both National and regional levels<br>• Prepare a standard protocol for contact tracing<br>• Follow up all contacts and ensure that a database for all the contacts is in place<br>• Ensure core capacity for surveillance and response is well established at all community, health facilities and ports of entry<br>• Oversee capacity building for health workers on surveillance and response<br>• Work with GIS to map key epidemiological parameters<br>• Collate, analyze, interpret and report summary data (e.g. daily counts of cases/deaths)<br>• Generate descriptive epidemiology and data visualization<br>• Manage the implementation within the approved budget<br>• Manage outbreak data: analyses data regularly for trends and establishes transmission chains<br>• Supervise, monitor and evaluate implementation at national and regional levels<br>• Prepare and submit cumulative and progress implementation report to the task force<br>• Closely link with infection control and social mobilization groups |
| **Data management / GIS Unit** | • Collect, collate epidemiological data from regions<br>• Manage database including content, structure, file location, backup system<br>• Work with surveillance and epidemiology to map and visualize data<br>• incorporate all relevant data to produce map products, statistical data for reports and/or analysis |
| **Laboratory expert** | • Prepare guidelines, policies and manual<br>• Ensure all laboratories provides services consistently and accurately<br>• Provide supportive supervision to laboratories<br>• Provide advice to case management on treatment guidelines<br>• Ensure laboratories have supplies |
| **Laboratory** | • Provide technical assistance on testing referral samples<br>• Provide technical trainings (in service trainings) to lab personnel in the country<br>• Conduct supportive supervision to laboratories<br>• Mentor laboratories in Microbiology practices and Quality Management system<br>• Provide technical advice on sample management (sample transportation) |

| Designation | Roles and responsibilities |
|---|---|
| | • Confirm the outbreak<br>• Link the confirmed cases with epidemiology<br>• Test water samples brought for surveillance.<br>• Professionally and effectively perform referral laboratory testing services to produce accurate, reliable, timely and precise results |
| **Case management** | • Conduct assessment, care coordination, evaluation, and advocacy for services to meet the impacted populations health needs during a disease outbreak.<br>• Acquire and provide to the other subcommittees and the Task Force detailed information regarding the impacted population to establish an intervention and response plan<br>• Work with the community health officers in impacted areas to assist in the development, and implementation of response actions; assure that services provided are specified in the treatment plan(s) and monitor progress toward treatment goals<br>• Regularly attend the coordination and the Task Force meetings to provide updates and exchange pertinent information<br>• Review and advice on the requests from regions before processing them for support |
| **Social mobilization** | • Monitor implementation of social mobilization and health education activities<br>• Develop or Revise IEC materials to be used at field level<br>• Ensure provision of training to community health workers<br>• Conduct house to house awareness on the disease to reduce denial and provide information to help prevent the spread of disease within the community<br>• Search for victims and refer to appropriate health care facilities for treatment<br>• Spearhead the distribution of response supplies, ORS, etc. at the community level<br>• Develop and implement a communications plan to support response activities<br>• Develop and periodically update appropriate "action points" concerning the response for dissemination to all appropriate policy makers |
| **IT officer** | • Ensure PHEOC hardware and software systems are operational and maintained<br>• Ensure security of the PHEOC IT system<br>• Provide access, response personnel, to relevant PHEOC information |
| **Human resource officer** | • Regularly assess and identify the human resource needs for the response in liaison with function leaders<br>• Prepare human resource plan and regularly update and monitor<br>• Send requests to relevant partners for support<br>• Facilitate recruitment of local experts and organize administrative arrangements<br>• Regularly update the deployment tracking database |

## 8.14 Annex 14: Sample template rota for surge staff

| Name | Specialty | Email | Phone no. | Country of origin | Team to be assigned to (e.g. Lab) |
|---|---|---|---|---|---|
| | | | | | |
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## 8.15 Annex 15: Grading template

| **GRADING TEMPLATE** | | | |
|---|---|---|---|
| **Incident name:** | | | |
| **Done by technical team** | | | |
| **Date:**<br><br>**Time:** | Chair:<br><br>Secretary:<br><br>PHEOC Participants: | | |
| **National/County name** | Emergency Type: | | |
| **Grading level decision** | E.g. Level 1, 2.... | | |
| **Agenda** | Grading meeting for | | |
| **Situation analysis - summary** | | | |
| **Risk assessment - summary** | | | |
| **Assessment of grading criteria** | Scale (provide assessment for each):<br>1) Increased number of cases:<br>2) Geographical spread: Urgency:<br>3) Complexity:<br>4) Capacity: | | |
| **Names and contacts of key staff** | • | | |
| **Immediate actions** | • | | |
| **AGREED IMMEDIATE NEXT STEPS** | | | |
| **Action** | Details | Person responsible | Date |
| | 1. | | |
| | 2. | | |
| | 3. | | |
| **Decision and approval by leadership**<br><br>**Comment:**<br><br>**Approval: .....** **Signature:.....** | | | |

## 8.16 Annex 16: Grading criteria and levels of activation – Kenya example

| PHEOC EOC Activation - Kenya PHEOC | | | | |
|---|---|---|---|---|
| **Level** | **Conditions** | **EOC Duties** | **Activation** | **Staffing** |
| 1 (green) | 1. Outbreak suspected<br>2. Small incidents involving one health facility<br>3. Serious increase in international tension<br>4. Severe weather /flood watch is issued<br>5. Situational conditions warrant<br>6. Earthquake, land slide advisory | 1. Continuous monitoring of event<br>2. Check & update all resource lists<br>3. Distribute status and analysis to EOC personnel<br>4. Receive briefing from field personnel as necessary | 1. Only basic support staff or as determined by EOC Manager | 1. EOC Section Chiefs review Plan and Guidelines and check readiness of staff and resources. |
| 2 (Orange) | 1. Small scale civil unrest<br>2. Severe weather warning issued<br>3. Moderate earthquake/landslide<br>4. Wildfire affecting specific areas<br>5. Incidents involving 2 or more facilities<br>6. Hazardous materials evacuation<br>7. Major building collapse with more than 5 people<br>8. Major scheduled event | Continuous monitoring of event<br>Initiate EOC start-up checklist<br>Facilitate field personnel<br>Provide status updates to EOC personnel | 1. Staffed as situation warrants and liaison to other agencies<br>2. Primary EOC personnel will be available and check-in regularly | 1. Briefings to DMS & CS<br>2. EOC begins full operation |
| 3 (Red) | 1. International crisis deteriorated to the point that widespread disorder is probable<br>2. Acts of terrorism (biological, technical, other) are imminent<br>3. Civil disorder with relatively large scale localized violence<br>4. Hazardous conditions that affect a significant portion of the County<br>5. Severe weather is occurring<br>6. Verified and present threat to critical facilities<br>7. Major emergency in the County | 1. Brief arriving staff on current situation<br>2. Facilitate EOC staff | 1. As determined by the EOC Director essential and necessary staff<br>2. Key department heads<br>3. Required support staff | A Briefings to DMS & CS<br>EOC begins full operations<br>As situation warrants |

## 8.17 Annex 17: Job action sheet template

Incident Management System Job Action Sheets

A Job Action Sheet, or JAS, is a tool for defining and performing a specific IMS response functional role. The tasks on the Job Action Sheet can and should be amended to fit the situation by adding or deleting tasks. **The Section lead who is issuing the Job Action Sheet should review for applicability and add in writing any incident-specific instructions or changes.** The key elements are:

**Position Title**
The name of the emergency response functional role.
Note that these generally are not the same as every day, non-emergency job titles.

**Reports to:** The supervisor that has direct authority over the staff.

**Mission:** The purpose of the role, and a brief guiding principle for the responder to keep in mind.

Immediate:

☐ Tasks that must be completed first upon assuming the role or coming on duty.

Intermediate:

☐ Tasks to be completed after the immediate tasks are addressed.

Extended:

☐ Tasks to be completed later or on an ongoing basis during the work shift.

## 8.18 Annex 18: Shift plan during activation

Date: Day, DD/MM/YYYY

Time in 24 Hrs.

| Function | Name | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
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## 8.19 Annex 19: Template for transfer of responsibility during activation

| Date | Name | Function | Sign in time | Sign out time | Major responsibilities to be shifted |
|---|---|---|---|---|---|
| | | | | | |
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## 8.20 Annex 20: Regular equipment check checklist

| No. | Equipment | Frequency | Date | Status | Remedy |
|---|---|---|---|---|---|
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## 8.21 Annex 21: SITREP template

MOH HEADER

| Situational Report (SITREP) | | | |
|---|---|---|---|
| Outbreak Name | | Country affected | |
| Date & Time of report | | Investigation start date | |
| Prepared by | | | |
| Status (activation level) | | Activation date | dd/mm/yyyy |
| Frequency of report | | | |

### 1. HIGHLIGHTS

- No. cases reported this week/day. Compare to previous week/day.
- Cumulative case numbers to date e.g. From 'dd month year' until 'dd month year', a total of XXX (SUSPECTED/PROBABLE/CONFIRMED) cases including XX deaths of DISEASE/ SYMDROME have been reported from LOCATION.
- Summary of key challenges

### 2. BACKGROUND

Brief description of

- How and when the outbreak was recognized
- Description of disease burden in the country
- Overview of initial rapid situation assessment
- Date of outbreak declaration

## 3. EPIDEMIOLOGY & SURVEILLANCE

Case definition *(please include as an annex)*

Include definition of suspected, probable and confirmed cases as an annex so it is clear what the data is referring to.

Descriptive epidemiology

Please use graphs, tables and maps for visualization of the data by time, place and person. Please make sure all figures have clear titles including the population being displayed e.g. n=. Please make sure all axis and legends are clearly labelled. Please ensure sufficient interpretation is provided to aid the reader.

- Number of cases to date: (as a table)
  - new and cumulative (suspected, probable, confirmed)
  - deaths: count and CFR%
  - incidence/attack rate (e.g. number of cases per 100,000 population)
- Case/person characteristics (e.g. age, sex, occupation, risk factors): comment on the most affected groups if present
- Time trends: Epi curve
- Geographical distribution (maps preferable, describe new areas affected)
- Clinical description (e.g. symptoms, duration, no. cases, hospitalisations)
- Analysis by exposure
- Source investigations
- State any delays in notification

Contact tracing summary (for events where contact tracing is necessary)

- No. contacts, no. seen, no. traced, no. missing, no. completed follow up, no. become symptomatic
  - by lowest geographical location possible

## 4. LABORATORY INVESTIGATIONS

- Brief summary of tests performed and results
- Subtyping (this section may be combined with epidemiology description above)

## 5. ENVIRONMENTAL ASSESSMENT

- If completed, summarize the findings of any environmental investigations to date (e.g. water testing, vendor inspections, community assessments, etc.)

## 6. PUBLIC HEALTH ACTION / RESPONSE INTERVENTIONS

Describe the response measures implemented by thematic area and any impact seen. Please add additional pillars if required e.g. vector control, operational research

1. COORDINATION
2. SURVEILLANCE
3. LABORATORY

4. CASE MANAGEMENT
5. HAZARD CONTAINMENT
6. WASH & IPC
7. RISK COMMUNICATION, COMMUNITY ENGAGEMENT & SOCIAL MOBILISATION
8. LOGISTICS

7. CHALLENGES/GAPS

8. RECOMMENDATIONS & PRIORITY FOLLOW UP ACTIONS

- COORDINATION AND LEADERSHIP
- SURVEILLANCE
- LABORATORY
- CASE MANAGEMENT
- HAZARD CONTAINMENT
- WASH & IPC
- RISK COMMUNICATION, COMMUNITY ENGAGEMENT & SOCIAL MOBILISATION
- LOGISTICS

9. CONCLUSIONS

- Provide concluding remarks on the overall perspective of the event including future outlook

Re-echo key messages for urgent attention.

Point of contact of PHEOC and/ or the report (the persons to whom questions regarding the report are directed

## 8.22 Annex 22: Summary of incident to leadership

Incident update to leadership

As of dd/mm/yyyy, update # xxx

1. SITUATION UPDATE

*Very brief summary*

2. ACTIONS UNDERTAKEN

*Very brief summary in bullet points*

3. ISSUES AND CHALLENGES

*Highlight major issues and challenges that require leadership attention*

4. NEXT STEPS FOR DECISION

*Bullet points that require high level decision*

EOC contact: physical address, email, tel

## 8.23 Annex 23: Suggested contents of an exercise evaluation report

| Section | Headings |
|---|---|
| **Background** | General<br>Exercise management<br>Exercise aim<br>Exercise scope<br>Expected exercise outcomes<br>Participating organizations |
| **Evaluation report** | Structure of the report<br>Commentary (for each outcome)<br>• Objective<br>• Rationale for objective<br>• Observations<br>• Recommendations |
| **Conclusion** | Key findings<br>Evaluator's recommendations and comments |
| **Attachments** | Consolidated list of recommended actions<br>Glossary of terminology and acronyms<br>Exercise diagrams |

## 8.24 Annex 24: Indicative PHEOC exercice programme cycle

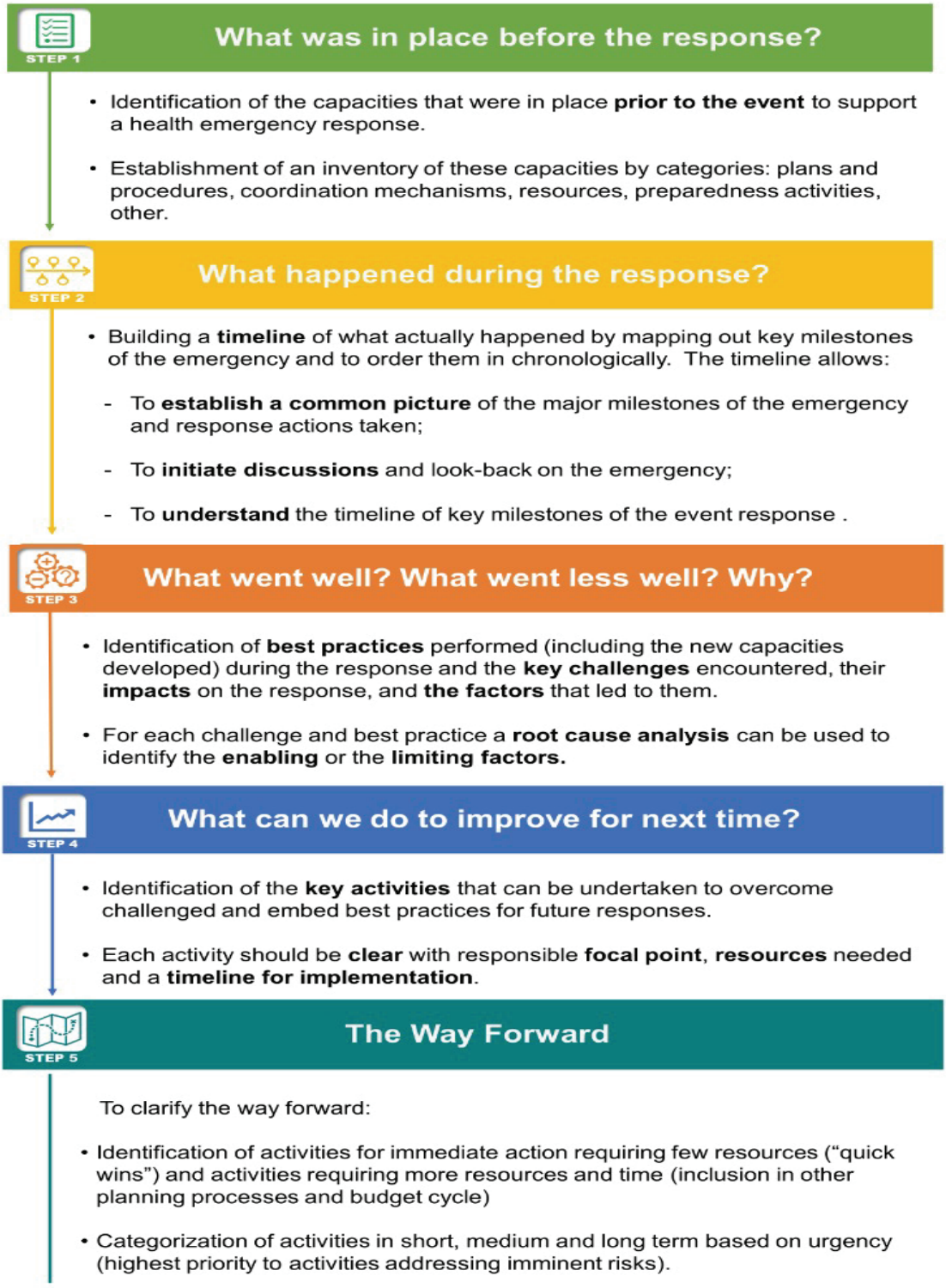
| Exercise | Factors to be considered | Format | Preparation & planning | Conduct & review | Frequency |
|---|---|---|---|---|---|
| **Orientation exercise** | A prerequisite for the conduct of other types of exercise. The orientation exercise should be conducted as required and may take the form of a workshop or seminar. Useful for familiarizing management and staff with aspects of existing plans or plans under development. | Informal facilitated discussion/seminar with participants encouraged to ask questions.<br>Duration: 1–3 hours | 1–2 weeks | 1 day | As required (min 6 monthly)<br>Basic |

| Exercise | Factors to be considered | Format | Preparation & planning | Conduct & review | Frequency |
|---|---|---|---|---|---|
| **Table-top exercise** | Group discussions with emphasis on problem-solving rather than spontaneous decision-making. Larger table-top exercises may need to include facilitators and evaluators in order to be successful. | Structured, facilitated discussion based on a hypothetical scenario and conducted in a relaxed environment. Duration: from 3 hours to 1 day | 2–3 weeks | 1–2 days | 6-monthly Basic |
| **Drill** | A drill can be led by a manager, supervisor, department head or exercise designer and can be conducted within a facility, in the field, or at the PHEOC or other operating center. | Simplest of the operations-based exercises. Can be spontaneous. Duration: 1–6 hours | 2–3 weeks | 1 day | Regularly (minimum 3-monthly) Basic |
| **Functional exercise** | Involves creating a situation and facilitating a "real" response and is simulated to a significant level of detail, usually covering multiple functions. Requires extensive planning and preparation. Staff members need considerable experience with the functions being tested. A functional exercise is always a prerequisite to a full-scale exercise. | Conducted as an interactive, scenario-based exercise. Participants are required to respond to injects as they would in a real emergency, communicating and collaborating with each other in a realistic setting. Duration: 1–2 days | 2–6 months | 2–3 days | Annually Standard/ advanced |
| **Full-scale exercise** | Costly and time-consuming. All levels of personnel should take part. The PHEOC is activated, and command posts may be established. Simulation information is conveyed on paper, by telephone, through pseudo media and victims or others (simulated by role-players). Requires extensive planning and preparation. | A "dress rehearsal" for an emergency response. May Include other partners/ agencies and deployment of assets and personnel. Duration: 2–3 days | 3–9 months | 2–5 days | Once every 2 years Advanced |

## 8.25 Annex 25: Phases of conducting an AAR and IAR

| Design | Prepare | Implement | Disseminate |
|---|---|---|---|
| **Define the scope of the AAR/IAR, including which response area to assess.** | Collect information on the event in question relevant to the scope of the AAR/IAR. | Conduct AAR/IAR workshop(s) according to preferred methodology (e.g. event-storming, interviews, facilitated look-back). | Collate findings in a final report documenting methodologies, results, conclusions; ensure summaries of good practices and lessons learned, supported by evidence where available. |
| **Conduct stakeholder analysis to ensure appropriate stakeholders and sectors are involved.** | Prepare trigger questions and interview questionnaires (if required). | Debrief all participants with preliminary findings | Distribute final report as widely as is feasible and appropriate. |
| **Select an appropriate AAR/IAR methodology based on best practices in AARs.** | Brief and train (if required) team members, including facilitators. | Evaluate the AAR/IAR itself among participants | Develop an action plan for implementing key recommendations. |
| **Define the AAR/IAR team** | Gather necessary material for workshop(s) and interviews. | | |
| **Develop a detailed agenda** | | | |
| **Select date and venue for workshops and/or interviews.** | | | |
| **Estimate and allocate budget.** | | | |

## 8.26 Annex 26: Guidance on conducting an after-action review[33]




[3333] https://extranet.who.int/sph/after-action-review

## 8.27 Annex 27: PHEOC evaluation form

PHEOC Corrective Action Programme

After Action Comment Submission Form

**Name:** _____ **Exercise/Incident:** _____

**Role in Exercise/incident:** _____ **Location:** _____

**Issue:** Simply state the observation or problem:

_____
_____
_____
_____

**Discussion:** Describe the observation or problem in detail. If an expected action did **NOT** occur, please provide why you think it did not occur. If an action occurred that was unexpected, please provide why you think it occurred and the positive or negative effect it had on the situation. Please provide specific information that may be used for follow-up (dates/times, locations, names, etc.):

_____
_____
_____
_____

**Recommendation:** Provide your assessment of what action(s) should be taken to correct/resolve the problem and who should be involved in implementing your recommendation:

_____
_____
_____
_____

Are you willing to be contacted to provide additional information if necessary? Yes ____ No ____

Contact telephone # _____ Contact e-mail _____

## 8.28 Annex 28: Corrective action plan (CAP)

| Corrective Action Plan | | | |
|---|---|---|---|
| Characterize | Issue#: | Issue: | |
| | System name: | | Date: |
| | Description: | | |
| Cause & Implication | Root cause | | |
| | Results and implications: | | |
| Corrective action | Immediate corrective action: | | Date: |
| | Long-term corrective action: | | Date: |
| | Preventive action: | | Date |
| Closure | Conclusion: | | |

## 8.29 Annex 29: COVID-19 alerts tracking tool

| | | | COVID-19 Outbreak Rapid Response Tracking Tool | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| No. | Date alert received | Time alert received | Nature of Alert/ Name of person | Place/Company/ Residence | Phone / Contact | Actions Taken | Who is tasked | Time team dispatched | Remarks | No. of samples taken |
| 1 | | | | | | | | | | |
| 2 | | | | | | | | | | |

## 8.30 Annex 30: Contact-tracing and follow up template

COVID-19 CONTACT TRACING AND FOLLOW-UP FORM

**CONTACTS OF THE INDEX CASE**

**Mark "0" if the contact has NOT developed develops symptoms of acute respiratory infection**

**Mark "X" if the contact has died or developed develops symptoms of acute respiratory infection including fever, cough, sore throat and difficult breathing**

**L/B; Language barrier, W/N; Wrong number, N/R; Not responding**

| | | | | | | | DAY 1 | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AGE | TELEPHONE | IS CONTACT A H/W | DATE OF LAST CONTACT | Date of first interveiw | STATUS OF CALL | ANY SYMPTOMS | FEVER | RUNNING NOSE | COUGH | SORE THROAT | SHORTNESS OF BREATH | OTHERS(SPECIFY | STATUS OF CALL | ANY SYMPTOMS |
| | | | | | | | | | | | | | | |
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## 8.31 Annex 31: COVID-19 case investigation form

**MINISTRY OF HEALTH**

**Division of Disease Surveillance and Surveillance**

Case investigation form for 2019 Novel Coronavirus (COVID-19)

Date of reporting to national level: D[__][__]/M[__][__]/Y[__][__][__][__]

Why was the person tested for COVID-19 or investigation being conducted?

☐ Contact with confirmed case ☐ Presented at health facility ☐ Surveillance ☐ Point of entry detection

☐ Repatriation ☐ Other _____

Date of investigation: D[__][__]/M[__][__]/Y[__][__][__][__]

### Section 1: Patient information

Unique Case Identifier (used in country): _____

Full name: _____

Nationality: ☐ African ☐ Asian ☐ European/American ☐ Other _____

Citizenship:_____

1.5 Age: [_][_][__] in years

1.6 Sex at birth: □ Male □ Female

1.7 Place where the case was diagnosed: ☐ Health Facility ☐ Household

County: _____ Sub county: _____ Ward: _____

1.7.1 If health facility, name of health facility: _____

1.7.2 Patient usual place of residence (village/estate): _____

### Section 2: Clinical information

Patient clinical course

2.1 Date of onset of symptoms: D[__][__]/M[__][__]/Y[__][__][__][__] □ Asymptomatic □ Unknown

2.2 Admission to hospital: □ No□ Yes □ Unknown

2.2.1 If yes, first date of admission to hospital: D[__][__]/M[__][__]/Y[__][__][__][__]

2.2.2 Name of hospital: _____

2.2.3 Date of isolation: D [__] [__]/M [__][__]/Y[__][__][__][__] 2.2.4 Was the patient ventilated:
☐ No ☐ Yes ☐ Unknown

2.3 Health status (circle) at time of reporting: Stable /Severely ill / dead / unknown

2.3.1 Date of death, if applicable: D [__] [__]/M [__][__]/Y[__][__][__][__]

**2.4 Patient symptoms** (check all reported symptoms):

History of fever / chills ☐ Shortness of breath ☐ Pain (check all that apply)

General weakness ☐ Diarrhoea ( ) *Muscular* ( ) *Chest*

Cough ☐ Nausea/vomiting ( ) *Abdominal* ( ) *Joint*

Sore throat ☐ Headache

Runny nose ☐ Irritability/Confusion

Other, specify: _____

Patient signs:

2.5 Temperature: [__][__][__] ☐ °C / ☐ F

2.6 Check all observed signs:

Pharyngeal exudate ☐ Coma ☐ Abnormal lung X-Ray findings

Conjunctival injection ☐ Dyspnea / tachypnea

☐ Seizure ☐ Abnormal lung auscultation

Other, specify: _____

2.7 Underlying conditions and comorbidity (check all that apply):

Pregnancy (trimester: _____ ) ☐ Post-partum (< 6 weeks)

Cardiovascular disease, including hypertension ☐ Immunodeficiency, including HIV

Diabetes ☐ Renal disease

Liver disease ☐ Chronic lung disease

Chronic neurological or neuromuscular disease

☐ Malignancy ☐ Smoking ☐ Other, specify: _____

## Section 3: Exposure and travel information in the 14 days prior to symptom onset (prior to reporting if asymptomatic)

**Occupation:** (tick any that apply)

☐ Student ☐ Health care worker ☐ Other, specify: _____

☐ Working with animals ☐ Health laboratory worker

3.2 Has the patient **travelled** in the 14 days prior to symptom onset? □ No □ Yes □ Unknown

If yes, please specify the places the patient travelled:

| | Country | City | Date |
|---|---|---|---|
| 1 | _____ | _____ | _____ |
| 2 | _____ | _____ | _____ |
| 3 | _____ | _____ | _____ |

3.3 Has the patient **visited any health care facility (ies)** in the 14 days prior to symptom onset? ☐ No ☐ Yes ☐ Unknown

3.4 Has the patient had **close contact**[1] with a person with acute respiratory infection in the 14 days prior to symptom onset?

☐ No ☐ Yes ☐ Unknown

If yes, contact setting (check all that apply):

□ Health care setting □ Family setting □ Work place □ Unknown □Other, specify: _____

3.5 Has the patient **had contact with a probable or confirmed case** in the 14 days prior to symptom onset? **:**

□ No □ Yes □ Unknown

If yes, please list unique case identifiers of all probable or confirmed cases:

Case 1 identifier._____Case 2 identifier._____Case 3 identifier. _____

If yes, contact setting (check all that apply):

☐ Health care setting ☐ Family setting ☐ Work place ☐ Unknown ☐ Other, specify:

_____

If yes, location/city/country for exposure: _____

3.6 Have you visited any **live animal markets** in the 14 days prior to symptom onset?

☐ No ☐ Yes ☐ Unknown

If yes, location/city/country for exposure: _____

## Section 4: Laboratory Information

**Specimen collection (**To be completed by the health facility)

Was specimen collected? ☐ 1=Yes ☐ 2=No
If no, why? _____

Date(s) of specimen collection: D[__][__]/M[__][__]/Y[__][__][__][__]

Specimen type: ☐ NP Swab ☐ OP Swab ☐ Serum ☐ Sputum ☐ Tracheal Aspirate

Other (specify): _____

Date specimen send to the lab: D[__][__]/M[__][__]/Y[__][__][__][__]

(To be completed by the confirming lab)

Date specimen received in the lab: D[__][__]/M[__][__]/Y[__][__][__][__] Time[__][__]:[__][__]

Name of confirming lab:

_____

Please specify which assay was used:

_____

Preliminary lab results:

_____

Sequencing done?: ☐ Yes ☐ No ☐ Unknown

Date of laboratory confirmation: D[__][__]/M[__][__]/Y[__][__][__][__]

[1]Close contact' is defined as: 1. Health care associated exposure, including providing direct care for nCoV patients, working with health care workers infected with novel coronavirus, visiting patients or staying in the same close environment of a nCoV patient. 2. Working together in close proximity or sharing the same classroom environment with a with nCoV patient. 3. Traveling together with nCoV patient in any kind of conveyance. 4. Living in the same household as a nCoV patient

## 8.32 Annex 32: COVID-19 confirmed cases line-list

| S/No | Name | Age | Sex | Symptoms | Date of symptoms onset | Residence | Status | CaseID | SourceID | Transmission | Hospitalization date | Date sample collection | Outcome | Date of outcome | Nationality |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | |

# GLOSSARY

**All hazards approach:** an integrated **approach** to emergency preparedness planning that focuses on capacities and capabilities that are critical to preparedness for a full spectrum of emergencies or disasters

**Bioterrorism**: the intentional release of viruses, bacteria, or other germs that can sicken or kill people, livestock, or crops

**CONOPS (Concept of Operations):** a conceptual framework that explains how the emergency response system should work within a multi-stakeholder context.

**Critical Information Requirements (CIR)** - a high priority subset of essential elements of information used to trigger immediate mandatory action

**Field exercises**: an approximate imitation of the (emergency) operation of a process or system; that represents its operation over time

**One Health approach**: the collaborative efforts of multiple disciplines working locally, nationally, and globally, to attain optimal health for people, animals and our environment

**Tabletop exercises:** discussion-based sessions where team members meet in an informal, classroom setting to discuss their roles during an emergency and their responses to a particular emergency situation

**SITREP (Situation Report):** a form of status reporting that provides decision-makers and readers a quick understanding of the current situation. It provides a clear, concise understanding of the situation

**SPOTREP (Spot Repot):** an immediate initial investigative or **incident report** addressed to decision makers pertaining to the occurrence of an unusual incident

**Surge capacity:** the ability to expand care capabilities in response to sudden or more prolonged demand

**Surge staff:** additional personnel including experts engaged to support a sudden or more prolonged demand

**Public Health Emergency of International Concern (PHEIC):** an extraordinary event which is determined, as provided in IHR: i) to constitute a public health risk to other States through the international spread of disease; and ii) to potentially require a coordinated international response". This definition implies a situation that: is serious, unusual or unexpected; carries implications for public health beyond the affected State's national border; and may require immediate international action.

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