National health emergency alert and response framework

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Contents

Foreword

The COVID-19 pandemic exposed the vulnerabilities in the global public health system and the need for improved multisectoral coordination mechanisms, transcending the community, national, regional and international levels. It made it increasingly clear that a harmonized, whole-of-society and whole-of-government approach to risk management and emergency coordination is key to effectively address health emergencies and prepare health systems for different hazards.

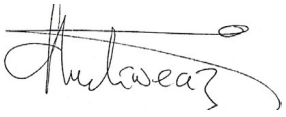
This Health Emergency Alert and Response Framework provides Member States with guidance for coordinating emergency response, aligned with WHO's strategic framework to strengthen the global architecture for health emergency prevention, preparedness, response and resilience. It brings together existing initiatives and guidance within the broader, changing landscape of health emergency preparedness and response, in order to strengthen emergency coordination capacity for multiple hazards at country level.

Building strong national public health infrastructure is fundamental to global health security. The experiences of the past few years have highlighted that effective emergency preparedness and response—and by extension, the successful implementation of this Health Emergency Alert and Response Framework—relies on the strength of National Public Health Agencies (NPHAs). These institutions, rooted in local contexts, are uniquely positioned to understand and address the specific challenges their countries face.

Health emergency response also requires dedicated structures, a trained workforce, and readily accessible tools and procedures to manage rapidly changing information, evolving dynamics of the threat, and the involvement of many actors across sectors. By empowering NPHAs to lead within a framework that is interoperable from the sub-national to the global level, we can ensure that future health threats are met with rapid, evidence-based, and locally tailored strategies—ultimately strengthening the entire global health system through more effective, streamlined actions.

I invite national and sub-national authorities involved in emergency coordination to integrate the concepts found within this framework into their health emergency responses, bringing together the core systems for HEPR. Working together, within and beyond the health sector, we can ensure that future threats are met with a more unified approach that is both consistent yet flexible, and tailored to the needs and capacities of each country, leveraging our respective strengths to collectively respond better.

Dr Chikwe Ihekweazu
Executive Director, WHO Health Emergencies Programme



Glossary

Access to countermeasures. Testing, treating and protecting communities during health emergencies depends on timely, sufficient and equitable access to medical countermeasures, such as diagnostics, therapeutics, vaccines, medical devices and medical equipment. Global health stakeholders should focus on fast-tracking research and development; scalable manufacturing; and end-to-end health emergency supply chains. One of the "5C's" of HEPR.

Collaborative surveillance. The systematic strengthening of capacity and collaboration among diverse stakeholders, both within and beyond the health sector, with the ultimate goal of enhancing public health intelligence and improving evidence for decision-making. One of the "5C's" of HEPR.

Community protection. Community-centred actions that protect the health and wellbeing of those affected. This includes community engagement, risk communication and infodemic management to guide priority actions and strengthen community resilience; population and environmental public health interventions (e.g. vaccination); and multisectoral action to respond to community concerns and ensure community welfare. One of the "5C's"of HEPR.

Emergency coordination. One of the five core systems ("5C's") laid out in the Health Emergency Preparedness, prevention, response and resilience global architecture. Together with Collaborative surveillance, Community protection, Safe and scalable care, and Access to countermeasures, these multi-stakeholder and whole-of-government systems describe the core capacities needed at country level to prevent and respond to health emergencies effectively.

Health emergency. A type of event or imminent threat that produces a range of negative human health consequences, and which requires coordinated action, usually urgent and often non-routine. This includes events resulting from any kind of hazard (e.g. outbreaks of infectious disease, chemical or radiological incidents, disasters, climate related events, or conflict). In this framework, acute health emergencies refer to rapidly evolving or major events which require immediate assessment and action in response.

Humanitarian crisis. Any circumstance where humanitarian needs are sufficiently large and complex to require significant external assistance and resources, and where a multi-sectoral response is needed, with the engagement of a wide range of international humanitarian actors.

Global Health Emergency Corps. The body of experts in ministries and agencies in every country who work on health emergencies and the global ecosystem through which they coordinate.

Graded emergency. An acute health emergency or deterioration of an existing health emergency that requires additional resources for a sufficient operational response.

Incident management system. A standardized yet flexible structure and approach to manage operational responses to emergencies. It is structured around critical functions forming an incident management team, led by an Incident Manager.

One health. An integrated, unifying approach that aims to sustainably balance and optimize the health of humans, animals, plants, and ecosystems. It recognizes that the health of humans, domestic and wild animals, plants, and the wider environment (including ecosystems) are closely linked and interdependent. The approach mobilizes multiple sectors, disciplines, and communities at different levels of society to work together to foster well-being and tackle threats to health and ecosystems while addressing the collective need for clean water, energy, and air and safe and nutritious food, taking action on climate change, and contributing to sustainable development.

Pandemic emergency. In the context of the revised International Health Regulations, a public health emergency of international concern that is caused by a communicable disease and:

1. has, or is at high risk of having, wide geographical spread to and within multiple States; and
2. is exceeding, or is at high risk of exceeding, the capacity of health systems to respond in those States; and
3. is causing, or is at high risk of causing, substantial social and/or economic disruption, including disruption to international traffic and trade; and
4. requires rapid, equitable and enhanced coordinated international action, with whole-of-government and whole-of-society approaches.

Public health event. Any event that may potentially have negative consequences for human health. The term includes events that have not yet led to health impacts in humans but have the potential to cause negative consequences.

Public Health Emergency of International Concern. An extraordinary event which is determined to constitute a public health risk to other States through the international spread of disease and to potentially require a coordinated international response.

Public Health Emergency Operations Centre. A physical location or virtual space in which designated emergency management functions are performed, supported by appropriate legislation and regulations, and designed and resourced with sustainability in mind. When activated, the PHEOC brings together the alert and response systems and the required skilled workforce to respond to an emergency event.

Safe and scalable care. Resilient health systems are based on strong primary health care, and have the resources and capacity to re-organize and deploy existing resources in response to health emergencies. This includes scalable clinical care during emergencies; protection of health workers and patients; and maintenance of essential health services. One of the “5C’s” of HEPR.

Acronyms

AAR	After Action Review
DNR	Detect, Notify, and Respond
EAR	Early Action Review
EDRM	Emergency and Disaster Risk Management
EIS	Event Information Site
EMT	Emergency Medical Team
EWAR	Early Warning, Alert and Response
FAO	Food and Agriculture Organisation
GHEC	Global Health Emergency Corps
GOARN	Global Outbreak Alert and Response Network
GPW	(WHO's) Global Programme of Work
HCT	Humanitarian Country Team
HEPR	Health Emergency Preparedness, Resilience and Response
HERO CAPE	Health Emergency Response Operational Capability Action Planning for Emergencies
IAR	Intra-Action Review
IASC	Inter-agency Standing Committee
IHR	International Health Regulations
IMS	Incident Management System
IMT/IMST	Incident Management Team/Incident Management Support Team
IPC	Infection Prevention and Control
JEE	Joint external evaluation
JRA OT	Joint risk assessment operational tool (One Health)
MCM	Medical Countermeasures
MOH	Ministry of Health
MS RRA	Member State Risk Assessment
NAPHS	National Action Plan for Health Security
NDMA	National Disaster Management Agency
NHEROP	National Health Emergency Response Operational Plan
NPHA	National public health agency
OSL	Operations support and logistics
PDNA	Post-disaster needs assessment
PIP	Pandemic Influenza Preparedness
PHEIC	Public Health Emergency of International Concern
PHEOC	Public Health Emergency Operations Centre
PHSA	Public Health Situation Analysis
PIP	Pandemic Influenza Preparedness
QIRA	Quick initial risk assessment
RA	Risk assessment
RCCE	Rick communication and community engagement
SARS	Severe Acute Respiratory Syndrome
STAR	Strategic Tool for Assessing Risks
WASH	Water Sanitation and Hygiene
WHO	World Health Organisation
WOAH	World Organisation for Animal Health

Aim of this document

This multi-hazard Health Emergency Alert and Response Framework provides guidance for coordinating emergency response in countries, under the global Health Emergency Preparedness, Resilience and Response (HEPR) framework[1]. It outlines the public health functions[2], coordination systems and actions needed for effective local, sub-national and national response to a broad range of health emergencies, including disasters. This guidance brings together existing initiatives within the broader context of evolving health emergency preparedness and response.

The audience for this framework is the primary national and sub-national authorities with the designated responsibility for health emergency coordination, and other relevant public health professionals and agencies involved in responding to health emergencies, including beyond the health sector. While this document presents options for the possible sub-national and national authorities that can develop and implement these capacities, it is a country-specific decision on who is ultimately responsible and accountable for different aspects of health emergency response. This varies depending on contextual factors and existing capacities and legal and governance frameworks, so the specific audience may differ between countries.

Across all settings, effective response requires dedicated structures, a specifically trained workforce, and clear procedures and protocols to manage a situation with rapidly changing information, evolving dynamics of the health threat and a range of different actors involved. Health emergencies like epidemics or a pandemic do not know borders and call for countries to be well-coordinated in their response actions to manage the threat. To this end, an additional aim of this framework is to operationalize a consistent global approach to health emergency response that is interoperable from the sub-national level up to the global level.

1 Strengthening the global architecture for health emergency prevention, preparedness, response and resilience: https://www.who.int/publications/m/item/strengthening-the-global-architecture-for-health-emergency-prevention--preparedness--response-and-resilience

2 Consistent with the 12 Essential Public Health Functions defined here: https://iris.who.int/bitstream/handle/10665/376579/9789240091436-eng.pdf?sequence=1

Context

Health emergencies and public health risks are increasing in frequency and complexity with the convergence of several global threats including climate change, socioeconomic pressures, urbanization, geopolitical changes, environmental erosion, closer human interactions with nature, and increased cross border travel and trade, among others. These inter-connected and frequently concurrent hazards increase the risk of larger scale emergency events, including climate-sensitive crises, and higher population impact.

The COVID-19 pandemic, which directly caused over seven million deaths, and many more indirectly following de-prioritization and disruptions to health services, exposed the vulnerability of the global health system and the need for improved multisectoral, One Health coordination mechanisms at all levels. The pandemic response made it clear that a harmonized, whole-of-society and whole-of-government approach to risk management and emergency coordination is key to address health emergencies and prepare health systems for different hazards.

Building on the lessons learned and recommendations stemming from the pandemic, WHO presented the Health Emergency Prevention, Preparedness, Response and Resilience (HEPR) architecture at the World Health Assembly in May 2022. Further investments have been made to develop frameworks for collaborative surveillance[3], ongoing work on medical countermeasure (MCM) coordination in pandemic events[4], and global financing for health emergencies – key components of the HEPR architecture and the systems countries need to capacitate (Figure 1). This is in addition to existing preparedness initiatives (Box 1) that countries have invested in since the adoption of the International Health Regulations (IHR) (2005).

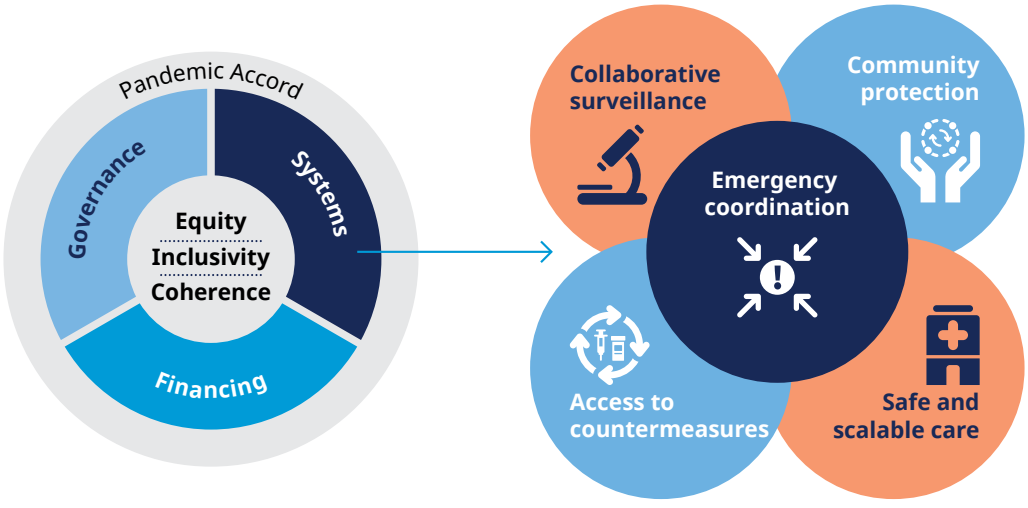


Figure 1. The HEPR architecture integrates over 300 recommendations for health emergency preparedness and response following the COVID-19 pandemic, across governance, financing and five core systems.

3 Defining collaborative surveillance: https://www.who.int/publications/i/item/9789240074064
4 Defining access to countermeasures: https://www.who.int/publications/i/item/9789240097124

Further efforts are dedicated to strengthening countries' health emergency workforce, including capacitating national public health agencies. A framework for a Global Health Emergency Corps (GHEC)[5] has been developed, offering a more uniform approach to health emergency workforce strengthening and coordination. The GHEC recognizes that a consistently organized health emergency workforce in every country, with interoperable surge capacities and an interconnected group of leaders at regional and global levels, provides the basis for a more coordinated and therefore effective response to health emergencies and pandemics[6]. This in turn allows for country workforce capacity building through experience sharing and peer support.

These are all important components of a global effort to achieve the same goal: a world more ready to respond to health emergencies. Based on existing models as a foundation and examples of good practice, and lessons from recent emergencies, including COVID-19, this document proposes an overarching framework to support Member States implement robust health emergency responses; in line with HEPR, compatible with previous country investments in emergency preparedness and response, and adapted to the newly amended IHR.

Box 1. Multiple frameworks and initiatives have been developed to support countries with health emergency preparedness and response, which countries have adopted. Some examples are below.

A strategic emergency preparedness framework for Member States was published in 2017, and the Sendai Framework for Disaster Risk Reduction 2015-2030 outlined priorities for action to prevent and reduce disaster risks which were adopted in the WHO Health Emergency and Disaster Risk Management Framework (Health- EDRM) for implementation in countries.

More recently, the National Action Plan for Health Security (NAPHS) and the guidance to develop a National Health Emergency Response Operations Plan (NHEROP) offer countries tools to develop and implement their capacities for responding to health emergencies and disasters. Many countries have also developed national emergency response frameworks that are tailored to their risks, priorities, strategies and capabilities.

There are many pathogen-specific examples for emergency preparedness and response (e.g. influenza, yellow fever, Lassa Fever, cholera and others); and the Preparedness and Resilience for Emerging Threats (PRET) initiative was launched in 2023 to prepare countries for pandemics based on modes of transmission. Most recently the National outbreak response handbook by the Global Outbreak Alert and Response Network (GOARN) was published to further support countries.

5 The GHEC framework: https://iris.who.int/handle/10665/381484

6 More information on GHEC: https://www.who.int/emergencies/partners/global-health-emergency-corps

Methodology

This guidance was developed through extensive consultation with technical experts in health emergency response and preparedness, including incident management, disaster management, community protection and engagement, One Health, humanitarian health action, clinical management, epidemiology, monitoring and evaluation, and representatives from national institutions and international partners responsible for health emergency response. Definitions included in the glossary are derived from the guidance documents referenced in the text.

Within WHO, a technical working group was formed in 2023 including teams with the above expertise in order to develop the concept for a scalable framework for health emergency alert and response coordination, building on the WHO's Emergency Response Framework.

Following consultation with all the regional offices of WHO, and key partners (notably with Unicef and Resolve to Save Lives), this concept was presented to Member States and further developed based on their feedback, including through the Standing Committee on Health Emergency Prevention, Preparedness and Response[7]. Iterations of the framework have been adapted thanks to additional inputs from multiple national partners across all regions, contacted through the Global Outbreak Alert and Response Network (GOARN). Feedback was requested from 12 agencies, and received from the West African Health Organisation, the Ministry of Health of Brazil, the Caribbean Public Health Agency, the Institute of Epidemiology, Disease Control and Research (IEDCR) in Bangladesh, and the National Center for Global Health and Medicine in Japan.

7 For more information on the Standing Committee on Health Emergency Prevention, Preparedness and Response: https://apps.who.int/gb/scheppr/

Approach

Improved health emergency management approaches are critical[8] to advance multi-hazard health emergency preparedness and response, health security, and for the better implementation of the IHR (2005). Applying a consistent yet flexible approach at the subnational and national level across sectors, and adopting shared terminology and concepts globally will enhance interoperability, predictability and timeliness of response mechanisms at all levels when a response requires scale up:

- **PREVENT: Strengthened IHR core capacities for improved emergency preparedness**. Building, strengthening and maintaining countries' core IHR capacities will enable the improved and safe functioning of the health system and the maintenance of essential health services, during and beyond health emergencies. This includes the strengthening of the health emergency workforce, at all levels and across sectors.
- **ALERT: Strengthened surveillance capacity at all levels and across different sectors to detect threats early, assess risks accurately, and monitor response performance**. Early alert is a precondition to timely action, and surveillance throughout an emergency is crucial to track and monitor progress and course-correct an emergency response. This requires strengthened surveillance capacities at local, sub-national, national, regional and global levels that lead to appropriate decision making. This is in line with efforts to enhance collaborative surveillance approaches, including community surveillance, and health system surveillance able to pick up signals of disruption of services.
- **RESPOND: Multisectoral collaboration, coordination and trust, and scalable emergency coordination mechanisms**. From the community level to the global level, multisectoral partners need ongoing relationships and appropriate accountabilities to enable effective and coherent early response. Many relevant ministries, government officials and personnel for implementing the IHR at the national level[9] have a role to play in health emergencies, not only ministries of health and public health agencies. A predictable and scalable response coordination mechanism is needed with clear and designated accountability at the sub-national and national level that, when needed, is aligned with the coordination of an international public health response, including cross-border coordination and assistance mechanisms.

This framework outlines the specific actions to be taken from hazard detection to emergency response at the subnational and national level, for different hazard types and magnitudes of events (Figure 2, Box 2). It focuses on the initial response phase, which is often rapidly evolving with limited information and many stakeholders, and therefore requires robust coordination. The actions are considered within the context of the five HEPR systems: Collaborative surveillance, Community protection, Safe and scalable care, Access to countermeasures, and Emergency coordination.

8 See the work of the Review Committee on the Functioning of the International Health Regulations (2005) during the COVID-19 Response:https://www.who.int/teams/ihr/ihr-review-committees/covid-19

9 WHO guidance on preparing for national response to health emergencies and disasters: https://www.who.int/publications/i/item/9789240037182

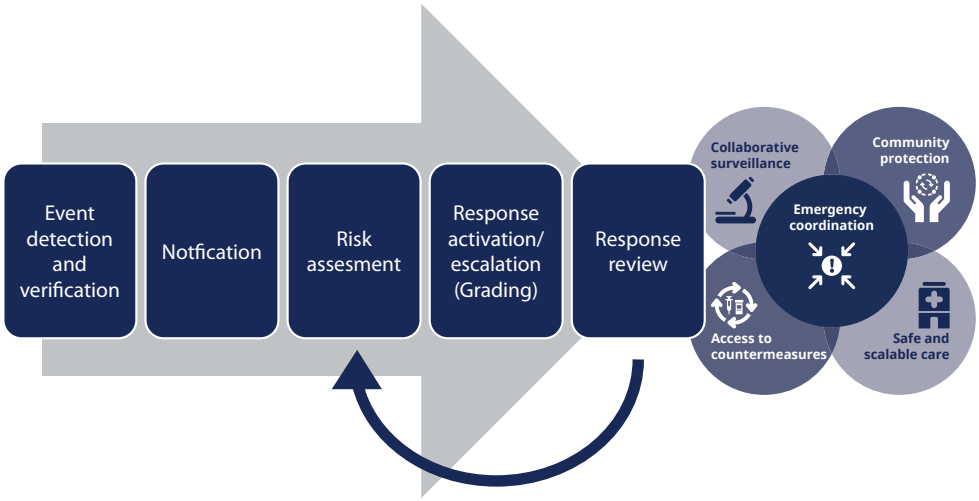


Figure 2. Key steps to early and effective emergency response across all HEPR systems.

Box 2. Examples of potential health emergencies that fall within the scope of the framework

- Outbreaks of infectious diseases: diseases of unknown origin, new emerging or re-emerging diseases, epidemic-prone diseases including zoonoses.
- Events resulting from exposure to toxic or hazardous materials: falsified and counterfeit drugs or vaccines, unusual reaction to medications or vaccines, food or water contamination, environmental contamination or exposure, accidental release or deliberate use of biological and chemical agents or radio nuclear material.
- Acute natural hazards: earthquakes, tsunamis, floods, landslides or avalanches, volcanic eruptions, cyclones or hurricanes, and wildfires.
- Climate crises: progressive drought, El Nino, La Nina and extreme weather conditions, like heat and cold waves; climate-sensitive events like unusual or changing outbreak dynamics, more frequent or extreme hurricanes, wildfires, floods, etc.
- Human-induced hazards: armed conflict, civil unrest, terrorism, transportation crashes, structural fires, industrial explosions, and sudden deterioration in a prolonged/complex multi-hazard emergency
- Other unusual or unexpected events representing a risk to public health.

Regardless of the hazard type, a health emergency response should focus on the following:

Collaborative surveillance:

- Quality **mechanisms for early detection and confirmation** of events and **prompt notification** to relevant authorities, including alerts through community-based surveillance and the health system, and linkages between different surveillance systems (a One Health approach).
- Implementation of a robust **methodology for assessing risk** of all hazards, including linkages between different risks, and considering contextual factors influencing these risks.

Community protection:

- **Engagement of communities** and local partners in all aspects of the response including leadership, with clear communication of risks.
- Public health **interventions are tailored to the context** and to the needs of the affected communities, with mechanisms in place for protection of vulnerable populations.

Safe and scalable care:

- **Relevant technical expertise** to manage the hazard and maintain essential health services and continue to meet the primary healthcare needs of a population.

Access to countermeasures:

- **Rapid activation of operational response platforms** for supply chain management, logistics and procurement.
- Activation of **research and development** agendas where required and measures to promote **equitable access** to countermeasures and care.

Emergency Coordination:

- **Clear functions and responsibilities** in emergency response facilitate open and rapid information sharing between different components of a broader system, and at all levels.
- A **coordinated process with clear criteria to determine the level (grade) of response required**, (e.g. limited, moderate, major/maximal) and to communicate that a response has been triggered.
- A **common approach to incident management** based on clear leadership and lines of accountability, **interoperable standards and common terminology**, with a strengthened interface between sub-national and national response mechanisms, and international systems. This includes mechanisms for **partner engagement and coordination** with the leadership of other sectors and communities.
- **Mechanisms and capacities for rapid surge support** of necessary human and financial resources to the affected areas, with measures in place to ensure the security and well-being of responders. Support should focus on strengthening the local and national response where needed, not replicating existing models of coordination and response.
- Real-time targeted **evidence generation and its use to inform operational decision-making and response measures**, support monitoring and evaluation and inform future operations.

National and international emergency coordination

Sub-national and national coordination

Coordination capacities must be in place at country level with clearly designated leadership and accountability for decision making, including at the sub-national level. Whole-of-government and whole-of-society[10] responses to emergencies should be integrated in existing structures and mechanisms, linked between national and subnational levels. This may be outlined in detail in NAPHS[11] and NHEROPs[12], or other hazard-specific plans where they exist, and include:

- Full integration of health emergency response in national disaster risk management systems and other intersectoral mechanisms, with joined-up planning and action across sectors at all levels of society.
- Clear protocols for coordination and authority between agencies with responsibilities in health emergency response (for example between government ministries, national public health agencies (NPHA), national disaster management agencies (NDMA), and Public Health Emergency Operations Centres (PHEOC)). Additionally, the National IHR Authority to be established following the amendments to the IHR (2005) will coordinate the implementation of the Regulations at country level.
- Empowered NPHAs with technical and operational capacities will contribute to and in some cases, lead, the emergency response. In other instances, the Ministry of Health or other governmental body may be leading, depending on the context and different phases of responses. These circumstances should be outlined by the country in their preparedness and response plans.
- Roles, responsibilities and capacities of ministries and agencies involved in health emergency preparedness and response should be identified as part of the national Health Emergency Corps in order to coordinate in-country responses. Collaboration arrangements with regional and global agencies and emergency networks should be identified and linked to the national coordination structure in alignment with the GHEC framework.
- Strengthening the interface between local, sub-national and national health emergency response systems ensures that local needs and situations are understood and addressed effectively. Localized health emergency management teams should be empowered with delegated authority to act swiftly.

10 See additional operational guidance for whole-of-society action to manage health risks and reduce socioeconomic impacts of emergencies and disasters: https://iris.who.int/bitstream/handle/10665/339421/9789240015081-eng.pdf

11 See additional information and guidance for developing a National Action Plan for Health Security (NAPHS): https://www.who.int/emergencies/operations/international-health-regulations-monitoring-evaluation-framework/national-action-plan-for-health-security

12 See WHO guidance for developing national health emergency response operations plan (NHEROP) for all hazards: https://www.who.int/publications/i/item/9789240037182

    - Coordination mechanisms must include robust systems for real-time data sharing and evidence-based decision-making that is systematically communicated between local and national levels, and across different sectors.
    - Fully functional PHEOCs at sub-national and national levels help ensure coordinated and informed responses for the lead response agency. These can also be tested regularly through simulation exercises involving key stakeholders.
    - Different partner coordination models exist and can be implemented or adapted as required, depending on the hazard and operational context. A partner coordination model should be in place even before the outset of any response, with clear roles and responsibilities.
- Mechanisms for involving and empowering communities and local partners in the detection and response phases.
    - Adequate participatory mechanisms are needed to engage and involve communities in early detection and response actions; in decision-making for co-development and co-delivery of population and environmental interventions in ways that account for social, economic and health vulnerabilities; and to not inadvertently do harm.
    - Within the health sector, emergency response must be well-linked and integrated into the primary health care system to minimize disruptions to essential services, and optimize the system's and communities' capacity to act in surveillance, triage, continuity of care, and risk communication.
- Standard Operating Procedures for activating, deploying and coordinating national and or sub-national surge capacities (such as Emergency Medical Teams, Public Health (Rapid Response) Teams, Mobile Laboratories and community-based/volunteer and health teams like infection prevention and control (IPC)/water sanitation and hygiene (WASH) teams). SOPs that are standardized, flexible, quality focused and interoperable will facilitate more efficient responses.
- Mechanisms to access predictable resources to ensure rapid and effective responses and to strengthen health system resilience in the face of recurring or large-scale health emergencies.
    - An important part of the multi-sectoral approach must be sustainable planning and financing mechanisms at national and subnational levels; for example creation of contingency funds for emergencies, or allocating specific budgets lines for emergencies in different relevant sectors, introduction of emergency operational and fiscal planning for health emergencies.

International coordination

In health emergencies affecting multiple countries and in emergencies where additional surge capacities are required beyond those deployed at national level, international coordination, whether at the sub-regional, regional or global level, is required to avoid duplication and maximize response outcomes.

- All countries are encouraged to have a consistent model of their health emergency workforce set up, as laid out in the GHEC framework, recognizing the need for coordinated leadership, deployable and interoperable surge capacities, and a well-practiced emergency workforce to quickly act[13], responding to health emergencies from the local level to the global level.

13 See the GHEC framework for details: https://www.who.int/publications/b/78043

- WHO will continue to play an important role in coordinating international public health responses, especially for events declared as a public health emergency of international concern (PHEIC), and in line with the newly adopted Pandemic Agreement[14]:
    - Providing access to the most up to date and accurate information for all countries, sharing best practices rapidly and transparently, and facilitating equitable access to medical countermeasures.
    - The amended IHR introduce provisions for a PHEIC that also constitutes a pandemic emergency, the highest level of global alert requiring international cooperation. This includes the establishment of:
        - a Coordinating Financial Mechanism to support identification of, and access to, financing required to "equitably address the needs and priorities of developing countries, including for developing, strengthening and maintaining core capacities," and other pandemic emergency prevention, preparedness and response-related capacities;
        - the States Parties Committee to facilitate the effective implementation of the amended Regulations.

14 Statement on adoption of the Pandemic Agreement at the 78th World Health Assembly, May 2025 https://www.who.int/news/item/20-05-2025-world-health-assembly-adopts-historic-pandemic-agreement-to-make-the-world-more-equitable-and-safer-from-future-pandemics

Considerations for humanitarian settings

A health emergency response during a humanitarian crisis is driven by requirements under the IHR (2005), and guided by the humanitarian principles: humanity, impartiality, neutrality, and independence[15]. The overarching principles and the role of the Member State(s) in these settings are described here, but detailed ways of working and mechanisms for inter-agency collaboration for health emergency response in humanitarian settings are being developed further in a separate guidance document.

As in other settings, Member States are the primary responsible and accountable body for responding to a public health emergency in humanitarian settings, by providing assistance to the affected population including through mobilization of domestic and international resources and the use of national and subnational response systems and capacities.

The Inter-Agency Standing Committee (IASC), as the humanitarian coordination forum of the United Nations (UN) system, formulates policy, sets strategic priorities and mobilizes resources in response to humanitarian crises. The existing humanitarian response model in-country can be the basis to coordinate international and national partners' support to the health emergency response. This can include the humanitarian cluster system[16] where activated, based on a request from the national government. This system is designed to enhance coordination between the UN and other humanitarian organizations to respond to crises. It organizes humanitarian actors into core sectors, including health, WASH, and food security (among others). The aim is to improve the efficiency and effectiveness of the response, avoid duplication, and ensure that affected people's needs are met in a timely and appropriate manner.

Similarly to emergency response outside humanitarian crises, it is crucial to involve the affected communities and local leaders and organizations in the response, including representatives of displaced or refugee populations, women and any at-risk or marginalized groups.

In situations with drastically increasing humanitarian needs, the IASC Humanitarian System-Wide Scale-Up protocols[17] can be activated based on a set of criteria around scale, complexity, and urgency of a crisis. This triggers a UN system-wide effort to mobilize resources in response to a sudden onset and/or rapidly deteriorating humanitarian situation in order to deliver humanitarian assistance, and a model of empowered leadership.

When a public health emergency results from an infectious hazard and occurs during or results in a humanitarian crisis, additional considerations are taken for assessing the risk and organizing the response. This includes WHO's risk assessment of scale, urgency, complexity, capacity, and risk of failure to deliver. In cases which meet the criteria, the IASC Humanitarian System-wide Scale-Up activation for infectious disease events can be activated[18]. The protocol describes the roles of Member States, IASC partners, and the importance of non-IASC organizations in responding to infectious disease outbreaks.

15 A/RES/58/114 Resolution adopted by the General Assembly on 17 December 2003 https://documents.un.org/doc/undoc/gen/n03/501/42/pdf/n0350142.pdf

16 See the IASC Guidance Note on Using the Cluster Approach to Strengthen Humanitarian Response: https://interagencystandingcommittee.org/working-group/iasc-guidance-note-using-cluster-approach-strengthen-humanitarian-response-2006

17 See the definitions and procedures for IASC Humanitarian System-Wide Scale-Up Activation for details: https://interagencystandingcommittee.org/iasc-transformative-agenda/content/iasc-protocol-1-humanitarian-system-wide-scale-activation

18 See the IASC Scale-up Protocol for the Control of Infectious Disease Events here: https://interagencystandingcommittee.org/iasc-transformative-agenda/iasc-protocol-control-infectious-disease-events-humanitarian-system-wide-scale-activation-2019

Actions for early detection, alert and response in health emergencies

All countries should build and sustain the capacity to do the following:

- **Detect and verify:** Ensure surveillance and early warning systems can detect and verify events of potential public health impact in a timely manner;
- **Assess, alert, and notify:** Reliably assess the risk, including multiple potential impacts of a public health event, and promptly notify relevant authorities of alerts;
- **Respond**: Initiate actions to rapidly and effectively respond to public health risks and emergencies.

These actions should be taken for all events of potential public health impact, but each response should be tailored to the scale and nature of the emergency and to the operational context.

Event detection and verification

Early detection, verification and alert of infectious and other threats is a precondition to prompt emergency response. The systematic collection, collation, and analysis of data for public health purposes, and the timely dissemination of information for assessment and response through public health surveillance activities is a key capacity for countries.

Surveillance should leverage and triangulate data from traditional and non-traditional sources, including indicator- and event-based surveillance, laboratory data, and animal health data, as well as relevant contextual data in line with the concept of Collaborative Surveillance.

Emphasis should also be placed on systematic engagement of communities through well-established coordination mechanisms between communities, primary health care centers, local public health authorities, and multisectoral, One Health counterparts.

Signals of potential health emergencies can also come from changes in hazards and resulting risks (for example, flooding creates an increased risk of water-borne infectious disease outbreaks). In this way, multi-sectoral risk identification can improve response times across different hazard types if the appropriate alert triggers are identified. For many natural hazards, early warning systems are in place to facilitate early interventions.

Event alert and notification

At the community and subnational level, mechanisms for alerting the relevant national authority of potential or emerging health emergencies should be in place to ensure rapid action where required. In some cases (e.g. an earthquake, or food contamination), these mechanisms for alert and notification are already in place; for others (e.g. flooding), mechanisms should be in place to inform the relevant authorities when certain thresholds or trigger points are reached, to initiate further actions.

Under the IHR, States Parties are required to notify WHO of all events that may constitute a PHEIC, through their National IHR Focal Point. Notifications must occur within 24 hours of assessment by the country using the decision instrument provided in Annex II of the IHR (2005)[19], the WHO guidance[20] and WHO case definitions[21]. This includes four diseases where a single case is immediately notifiable (smallpox, poliomyelitis due to polioviruses, human influenza caused by a new subtype, and Severe Acute Respiratory Syndrome (SARS)); a set of diseases for which the algorithm must be used as they have demonstrated the ability to cause serious public health impact and to spread rapidly internationally, and for which the outcome of the algorithm may result in the need to provide a notification; and any public health event of potential international concern, where the decision instrument criteria should be used to ascertain whether an event is notifiable to WHO:

- Is the public health impact of the event serious?
- Is the event unusual or unexpected?
- Is there a significant risk of international spread?
- Is there a significant risk of international travel or trade restriction?

Additionally, World Organisation for Animal Health (WOAH) Member Countries have a legal obligation to report the occurrence of disease events of animal health significance to WOAH, including reports of new emergence and significant epidemiological changes[22] in a timely and transparent manner.

Notification must be followed by ongoing communication and sharing of detailed public health information on the event, including source and type of risk, number of people impacted, conditions affecting the spread of the risk and the health measures employed. For infectious diseases, information on case definitions, epidemiological updates, and laboratory results should also be shared where possible. For events notified to WHO through the IHR National Focal Points, information will be shared with other Member States confidentially through the Event Information Site (EIS) to enable rapid international cooperation where necessary.

Risk assessment

Risk assessments performed during health emergencies

The decision to trigger a risk assessment is the responsibility of the designated sub-national or national institution, but predefined criteria can be established to support this decision (e.g. if the local capacity to respond may become overwhelmed) and should be part of national standard operating procedures for systematic assessment.

The objectives of the risk assessment process for a hazard-specific health emergency are (1) to characterize (assign) the risk level, (2) to identify the most effective and commensurate public health actions – especially those that will prevent any further amplification of the event and those which will mitigate impact and (3) to identify the information gaps.

During a risk assessment process, a risk assessment team is formed and tasked to collect, analyse and interpret qualitative and quantitative data and information on the hazard, the entire range of public health risks that may

19 Annex II of the IHR (2005): https://www.who.int/publications/m/item/annex-2-of-the-international-health-regulations-(2005)

20 WHO Guidance for the Use of Annex II of the IHR (2005): https://cdn.who.int/media/docs/default-source/documents/emergencies/who-guidance-for-use-of-annex-20b384e1a-1699-4794-a4d0-7c7b806cb31f.pdf?sfvrsn=1ae61836_3&download=true

21 See the case definitions for the four diseases requiring notification to WHO in all circumstances: https://www.who.int/publications/m/item/case-definitions-for-the-four-diseases-requiring-notification-to-who-in-all-circumstances-under-the-ihr-(2005)

22 Details on the legal basis for the notification of animal and human diseases for WOAH Member Countries: https://www.woah.org/fileadmin/Home/eng/Current_Scientific_Issues/docs/pdf/notification-EN.pdf

stem from the hazard and its impact on health system functioning or health services delivery, the level of exposure of the population and the context in which the event is happening. The risk assessment team produces and disseminates an output with key information about the range of risks, the risk level, main drivers of the event and resulting risks, evidence-based recommended actions to implement and information gaps to address.

Risk assessments allow for documentation of reasons for decisions made in response to public health events, which can be useful both during response and during early-, intra- and after-action reviews. Ideally, a risk assessment process should start as quickly as possible once the decision has been made to conduct one. The timing of conducting a risk assessment may vary by hazard, the accessibility of the affected areas, the speed by which the emergency evolves and the tool used to perform the risk assessment (see below for some possible timeframes). Risk assessment is an iterative process and should be updated during the event. Ideally the criteria and the timing to update the risk assessment are defined in advance but the process should be flexible enough to accommodate for unforeseen changes (especially for emerging hazards).

Different types of risk assessments can be used for individual events. WHO has developed multiple risk assessment tools and guidance for health emergency preparedness and response, tailored to different needs and with various scopes. Some are for quick initial risk assessment during acute public health events, while others are more comprehensive. Some can be used for events caused by a wide range of hazards, and others are tailored to specific hazards. Such guidance and tools enhance the ability to monitor a situation, deploy resources effectively, and adjust strategies as needed during an emergency. WHO will continue to conduct independent risk assessments for public health events to inform WHO's actions for response in support of Member States.

An all-hazard methodological guidance on risk assessment for acute public health events is available from WHO[23], which was operationalized through the creation of a risk assessment toolkit for Member States in 2024[24] (see Annex 1 for more information). The toolkit is designed to support Member States in risk characterization, providing recommendations, identification and documentation of information gaps and sources of uncertainty, and assessing the level of confidence in their assessment. It forms a basis for further risk management and risk communication. The toolkit includes two key components, currently in interim version:

The Quick Initial Risk Assessment Algorithm (QIRA) for a quick initial assessment which takes less than an hour. The QIRA allows the users to assign a risk level and identify pre-defined, non-event specific actions (e.g. trigger a more comprehensive rapid risk assessment).

The Member State Rapid Risk Assessment Tool (MS RRA) for a more comprehensive and nuanced risk assessment. This tool allows users to systematically assign a risk level (risk characterisation) and identify event-specific countermeasures and key information gaps. The MS RRA can be completed in less than 48 hours.

Risk assessments performed for planning and readiness purposes

Outside of emergencies, it is important to conduct thorough analyses of a country's general risk profile for health threats and emergencies, in order to recognize potential hazards and underpinning seasonality, and identify the priority hazards for a given country. WHO can support such risk profiling through the process known as STAR (Strategic and Technical Assessment of Risks)[25].

23 2012 WHO Manual on RRA for Acute Public Health Events: https://www.who.int/publications/i/item/rapid-risk-assessment-of-acute-public-health-events

24 Risk assessment tools for WHO Member States: https://www.who.int/tools/risk-assessment-tools-for-member-states

25 Strategic toolkit for assessing risks: a comprehensive toolkit for all-hazards health emergency risk assessment https://www.who.int/publications/i/item/9789240036086

Furthermore, a NHEROP identifies priority risks following a multi-hazard emergency risk assessment and should be complemented by hazard-specific contingency plans and other readiness measures for imminent threats[26]. In these plans, there should also be considerations for potential concurrent emergencies, including workforce capacities for surge requirements, as well as linkages to health system strengthening and recovery from emergencies. This is supported through an integrated approach in national health-sector and emergency planning, and cross-financing.

Figure 3 summarizes key risk assessment tools developed by WHO, with a focus on those used in health emergencies. Additional examples of specific tools can be found in Box 3, and many more hazard-specific examples exist.

Situational analysis

During complex emergencies, threats can be posed by more than one hazard at the same time, and the situation may merit a broader, holistic, situation assessment, encompassing all public health issues and actors in a given context. For multisectoral, One Health events, a joint risk assessment or situational analysis may be warranted. Such broader situation analyses may take more time than risk assessments for acute public health events or emergencies (which commonly focus on risks posed by single hazards). In humanitarian emergencies, for example, Public Health Situation Analyses (PHSA)[27]are conducted using available secondary data to determine the immediate needs of a population and serve as a joint response planning tool. Following disasters, countries may conduct a Post-Disaster Needs Assessment (PDNA)[28] to evaluate post disaster damages, losses, risks and recovery needs.

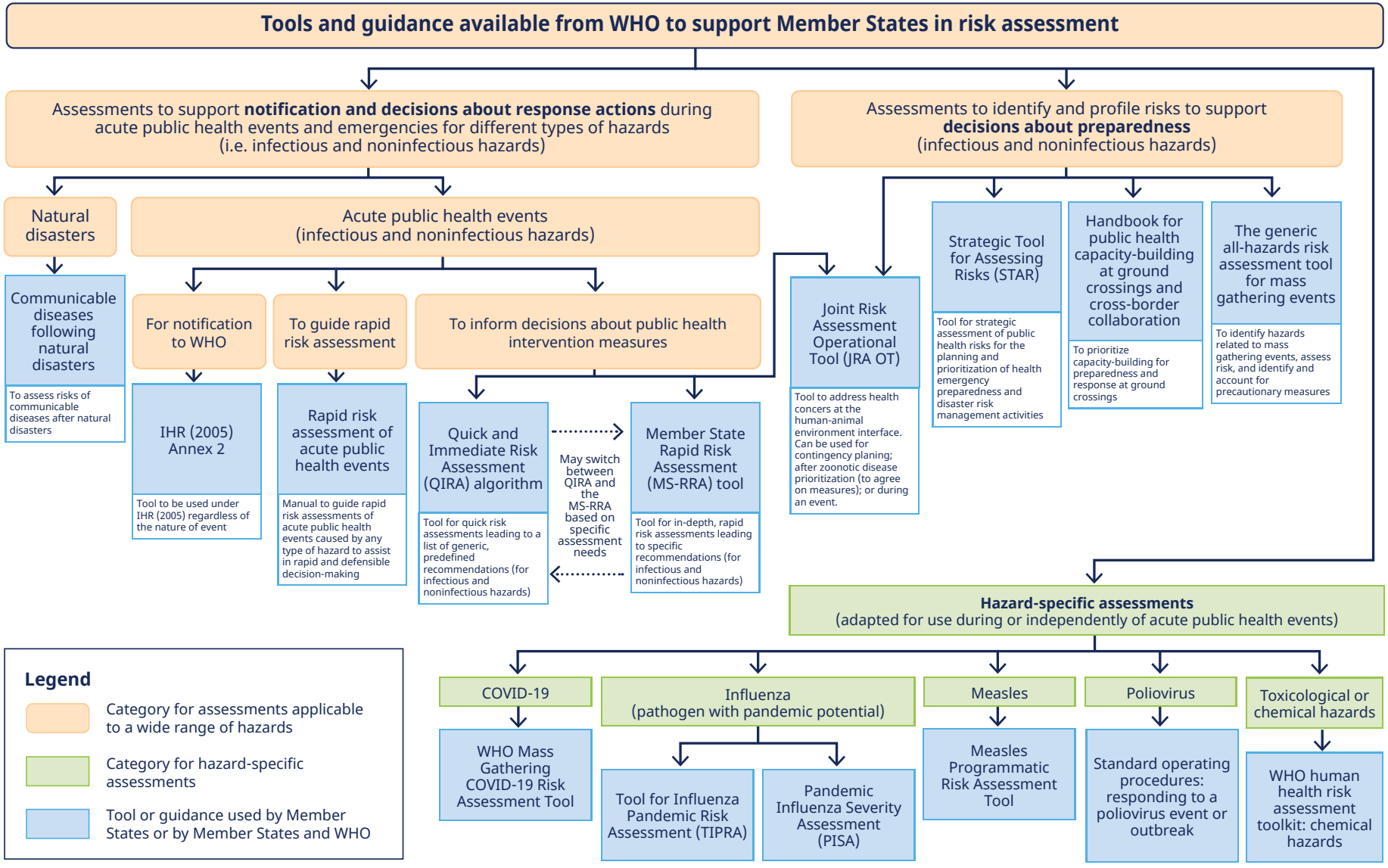
Box 3. Examples of risk assessments used in specific circumstances

- WHO Handbook for public health capacity-building at ground crossings and cross-border collaboration includes a tool to conduct local risk assessments in cross-border areas and can be used jointly by neighboring countries.
- Joint Risk Assessment Operational Tool (JRA-OT) was developed by FAO-WHO-WOAH to support countries in applying a consistent and harmonized approach to assessing risks posed by zoonotic disease hazards. See the Tripartite Guide to Addressing Zoonotic Diseases in Countries for further details.

26 See the WHO guidance on preparing for national response to health emergencies and disasters and developing a NHEROP: https://www.who.int/publications/i/item/9789240037182

27 Examples of PHSAs can be found at https://reliefweb.int/updates?search=PHSA

28 See additional details on the PDNA tool: https://www.undp.org/publications/post-disaster-needs-assessment



Risk Analysis Package for Member States

IHR (2005): International Health Regulations (2005); WHO: World Health Organization.
Short titles are used for most tools and guidance. Where full titles are used, they have been italicized.
The flowchart does not present an exhaustive list and is based on tools available as of December 2024. The list of tools and guidance supports Member States in risk assessments for events, emergencies, and preparedness and response activities. Hazard-specific tools continue to be developed and published by WHO. Tools and publications that are not described here (e.g. the microbiological risk assessments senes, risk assessments for food allergens, and others published on WHO's website) are for use in specific settings.

World Health Organization

Figure 3. WHO risk assessment tools and guidance.

Emergency response

Grading of health emergencies

A risk assessment of a developing event may indicate the need for an operational response which exceeds 'normal' health activities, requiring coordinated actions and a possible surge of additional resources. For these events, a risk assessment can recommend the activation of emergency procedures, sometimes referred to as *event grading*, and subsequent actions scaled to the needs of the response. It is the responsibility of the designated lead agency (for example, the NDMA, the NPHA or the Ministry of Health, or the identified national IHR authority) to conduct the grading and inform the relevant stakeholders of the outcome, including activation of the PHEOC where relevant.

A clear mechanism for rapid response activation following a risk assessment determines the trajectory and scale of the response. It:

- defines and informs stakeholders (for example, other parts of the government, key partners, the public) of the level of operational response required to respond to an emergency, the public health rationale underpinning the use of any public health measures, and the need for mobilization of resources;
- activates the incident management system (IMS) and any Standard Operating Procedures for emergencies[29] at the right level (e.g. subnational, national);
- determines and communicates the need for a surge of additional human and material resources to support the response;
- permits access to and the use of contingency resources;
- conveys the scale of unmet needs and any requirement for additional national or international resources.

Grading should be conducted within 24 hours of a risk assessment that indicates the likely need for an operational response. For slower-onset events, for example due to conflict or drought, grading may happen days after initial assessment as the situation evolves. The grading process should be guided by a number of agreed triggers as well as criteria for emergency deactivation and post-emergency operations, including recovery needs assessment and planning. The grade should be in line with the strategic and operational objectives of the response, as defined by the national lead agency.

A standardized mechanism for grading of events helps in mobilizing resources and stakeholders efficiently, including international support. Grading decisions should be based on the scale, urgency, complexity, and current capacity to manage the event, to trigger the appropriate level of response and coordination.

Proposed criteria to facilitate decisions on grading:

Scale:

- size of affected population, and projected population at immediate risk;
- number and geographic size of affected areas;
- large or increasing number of daily cases or deaths reported if an infectious agent is involved, or casualties and displacement for natural and human-induced hazards in a given place and time.

Urgency:

- serious public health impact based on the number of people affected, and fatality and morbidity rate;
- significant risk of in-country, cross border or international spread or implications;
- significant risk of international travel and trade restrictions.

29 This includes accelerated or modified administrative procedures to enable rapid mobilization of resources and staff.

Complexity:

- event unusual or unexpected (for example, due to unknown agent or unknown mode of transmission, large-scale disaster in conflict area);
- risk of disruption to essential health service delivery; including overcrowding, critical infrastructural disruption, endangerment of patients or health and care workers;
- multi-layered emergency, presence of a multitude of actors, lack of operational access, high security risks;
- presence of known vulnerable or marginalised communities or persons at risk of exclusion from the response, including related to gender, and other such as children, refugees, migrant communities, or LGBT communities in contexts of criminalisation;
- Contextual dimensions, e.g. political instability or risk of politicisation, civil unrest, population density/urban slums, health system functioning, local level trust in government, health and public health system status, previous emergency events and response.

Capacity:

- presence of actors/stakeholders;
- assistance needed to investigate (where relevant), respond to and control event exceeding the local capacity: includes consideration of available infrastructure, expertise and leadership;
- availability, readiness, and time resources required to accelerate access to medical countermeasures at scale if necessary in response to the health emergency.

Some countries have established grading procedures, either within their Ministries of Health, NPHA, or NDMA. The scale of an event may also trigger an official declaration of a 'public health emergency', which can activate extraordinary measures and delegations of authority, and additional coordination mechanisms between agencies or sectors. This (often time-limited) status can be invoked by designated authorities when certain pre-defined criteria are met and aims to reduce the impact of a health emergency and prevent further deterioration of the public health situation. Some individual organisations also define internal grading procedures to support their respective operational response, which are independent of the Member State grading.

The Incident Management System

The grading of an emergency should activate an incident management system (IMS), which provides a standardized but flexible approach to managing an emergency response. The IMS approach is internationally recognized as best practice for emergency management, and has been adopted by many organisations in diverse fields, including WHO. The structure described below is primarily for sub-national and national level response. More detailed guidance on what each of these functions may include within a public health emergency response is in Annex 2.

Standardized emergency functions. Key functions for any health emergency response can be brought together through the IMS regardless of the number of people involved in the operations (Figure 4).

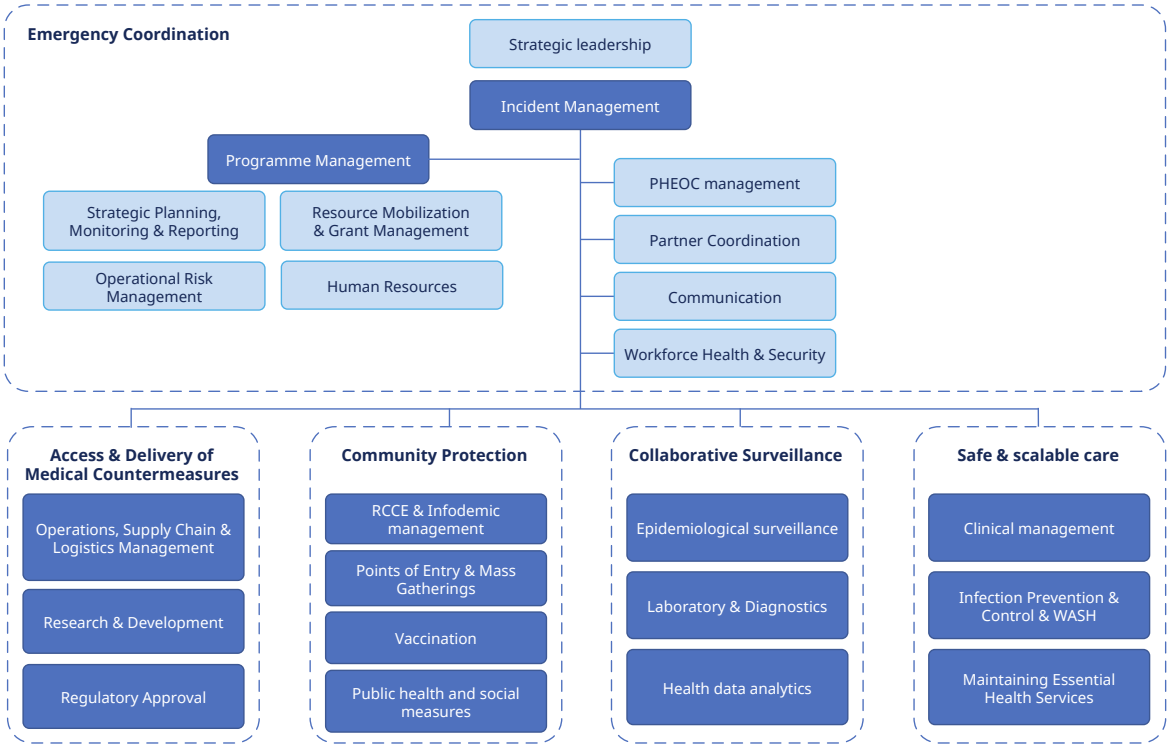


Figure 4. Functions within a health response under an IMS. These can be reduced or expanded as required.

There are also important cross-cutting principles that should be integrated as functions into all operational responses, such as ensuring equity in response interventions, that interventions do not exacerbate risks of gender-based violence or risks to vulnerable populations, and integration of measures for prevention of sexual exploitation, abuse and harassment. These are critical to ensure safe programming and monitoring the impact of response interventions, and are done in collaboration with communities and partners to ensure capacities for safe reporting and victim support services are in place.

Functions like scientific research, learning and training should be embedded and conducted across all pillars to strengthen the quality of interventions. A comprehensive multi-sectoral response should also include One Health expertise where relevant. Additional functions may be needed for different types of hazards or as an event develops. For example, regulatory and ethical approvals for new countermeasures may play a major role and thus should be well integrated within the response architecture.

Flexibility, adaptability and scalability. The IMS is applicable to all types and scales of emergencies. It can be easily adapted as needs evolve, while maintaining standards and predictability. It should be able to address expanding (or shrinking) needs for services and support. Incident management structures for disasters may look different than those for disease outbreaks, but the principles remain the same.

Personnel may be assigned to functions within the IMS that are different to their normal roles and lines of reporting, i.e., the reporting lines in an IMS are fixed according to the IMS functions, not the people who occupy them. This helps facilitate smoother functioning and more rapid information sharing within the Incident Management Team (IMT) when it involves people from different agencies and sectors. For large events, personnel from key partner organizations can be embedded in the national IMT to streamline communication and strengthen coordination, for both technical and operational purposes.

Interoperability. The IMS enables stakeholders to respond together coherently, effectively and efficiently. It can be achieved by considering multiple dimensions: technical (hardware, equipment and systems), human (terminology and training) and procedural (aligned standards and procedures).

Public Health Emergency Operations Centre

An IMT is established as geographically close to the emergency as possible, and works out of a PHEOC[30]. The PHEOC is a facility for emergency management, compiling all relevant operational, epidemiological and contextual information, including monitoring of key process indicators against the emergency procedures. The PHEOC must be embedded within the whole-of-government response architecture and work across relevant sectors.

The PHEOC(s) at sub-national level should be closely connected with the national level PHEOC for close coordination and sharing of information. Where relevant, the national PHEOC should also link with regional or global level EOCs for enhanced international coordination.

Depending on the operational context, the PHEOC may be located at the Ministry of Health or within a different national body that is leading the emergency response. For example, some disaster responses are managed by a dedicated national body such as the NDMA, of which public health response is only one aspect of the overall response. In other situations, the PHEOC may be run from the NPHA, which is capacitated for disease outbreaks. In the event of a pandemic or other large-scale response, a country may opt to host the national PHEOC at cabinet level to facilitate rapid decision-making by the leaders of the response.

Health emergency workforce

All countries should be able to leverage a professional and semiprofessional body of experts working on health emergencies in different ministries and agencies, a Health Emergency Corps. It should be comprised of coordinated leadership, interoperable surge capacities, and a well-practiced emergency workforce. The diversity of experts should cover a range of disciplines such as incident managers, epidemiologists, doctors, nurses, laboratory specialists, logisticians, appropriate engineering expertise, risk communicators, community engagement specialists, social and behavioral scientists, WASH and IPC professionals, veterinarians, anthropologists, and environmentalists to prevent, prepare for and be operationally ready to rapidly detect and respond to new health threats.

Similarly structured health emergency workforces in all countries will facilitate the coordination and collaboration across countries and response actors under the GHEC framework (Figure 5). With every country having a similarly structured Health Emergency Corps, the GHEC represents the ecosystem of emergency networks through which countries and health emergency actors collaborate. This includes health emergency networks such as the Global Outbreak Alert and Response Network (GOARN), the Emergency Medical Teams Initiative, the global network of Public Health Emergency Operations Centers (EOC-NET) and the Global Health Cluster as well as specific regional initiatives, such as the African Volunteers Health Corps.

30 Detailed guidance on setting up and managing a PHEOC is available: https://www.who.int/publications/i/item/framework-for-a-public-health-emergency-operations-centre

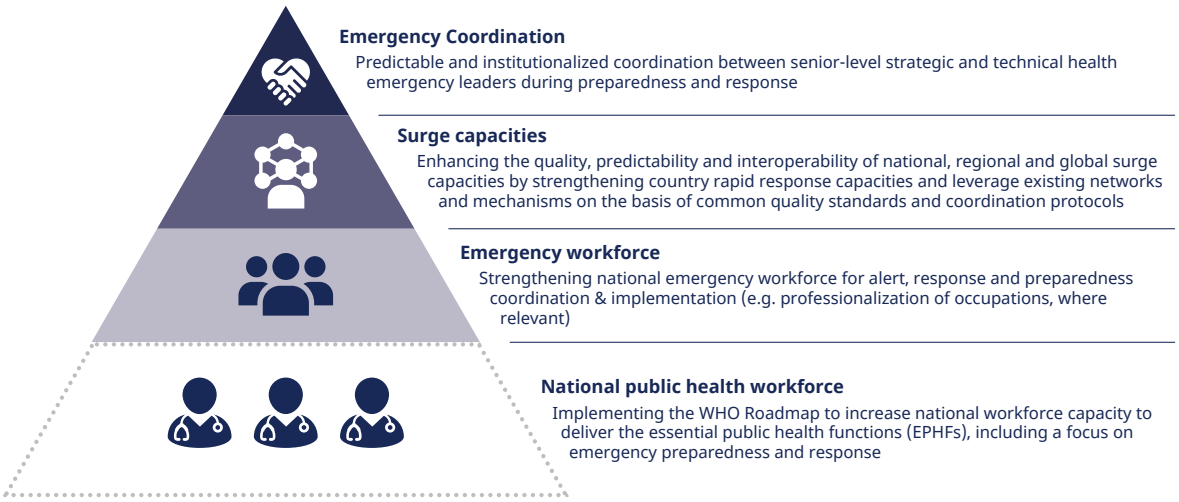


Figure 5. The Global Health Emergency Corps (GHEC) framework for strengthening national health emergency leadership, surge, and workforce capacity.

The definitions for graded emergencies in Table 1 are proposed to enhance interoperability of emergency operations, and at the national level should be aligned with established protocols for declaration of a state of health emergency, within existing legal frameworks. Emergency workforce and coordination mechanisms like the IMS, PHEOC and GHEC are complementary in the management of health emergencies at all grades.

Table 1. Proposed grading and coordination structures for health emergency response.

Event scale	Ungraded	Grade 1	Grade 2	Grade 3
Local *Event in one specific localized area.*	Contained event. Managed at local level (IMT, PHEOC activated)	Contained event. Managed at local level with national level support (sub-national IMT, PHEOC activated)	Event difficult to contain with local resources. National IMT, PHEOC activated; National, bilateral or regional collaboration requested in response through existing networks and mechanisms under the GHEC framework	Event difficult to contain with local resources. National IMT, PHEOC activated; Global collaboration requested through existing networks and mechanisms under the GHEC framework (e.g. response to major earthquake)
National *Event affecting more than one sub-national area.*		National support is required. Managed at national level (sub-nation and national IMTs with localized operations in affected areas, PHEOC activated)	Event difficult to contain with national resources. Risk of international spread/ impact National IMT, PHEOC activated; National, bilateral or regional collaboration requested in response through existing networks and mechanisms under the GHEC framework	Event difficult to contain with national resources. High risk of international spread/impact National IMT, PHEOC activated; Global collaboration requested through existing networks and mechanisms under the GHEC framework
International *Event affecting multiple countries.*				IMS and coordination structures activated at all levels (subnational to global); Global collaboration requested through existing networks and mechanisms under the GHEC framework. Formal and informal global coordination mechanisms activated to support regional and national structures, including for information sharing; global resource allocation (funding, medical countermeasures, research agenda); amended IHR provisions may apply

Emergency response reviews and the integration of performance metrics

It is important to monitor, evaluate and improve emergency interventions as a response progresses. Performance targets that define the indicators by which responses should be monitored can provide a guiding metric for the strengthening of health emergency preparedness and response. Consistent targets create a shared vison of success and set clear goals that can be used for decision-making, communication, and accountability. Tracking these targets also allows the integration of lessons into future responses and plans.

Targets and indicators vary depending on the type of hazard and the response required. While not all threats fall within the same timeliness parameters, the logic of defining metrics for early response activities is relevant to most hazards, as the promptness of intervention is a critical factor to reducing the health burden from emergencies.

Complementing the IHR Monitoring and Evaluation Framework[31] and key indicators for core country capacities, several initiatives have been developed to guide countries in evaluating and improving their response performance, and more broadly the health system capacity to respond.

- The National Response Checklist (Annex 3) can support responsible national authorities to assess the status of each system within the response architecture, and facilitate a gap analysis and steps for corrective actions.
- An Early Action Review[32], conducted in the first days of a response, examines a subset of the systems required for early detection and response using Resolve to Save Lives 7-1-7 target[33] (see Box 4 for details).
- An Intra-Action Review[34], conducted as an operational review within a few months of the response is a more formalised evaluation and allows for strategic course corrections.
- Following an event, an After-Action Review[35] allows stakeholders to retrospectively assess the response and inform preparedness and health systems strengthening activities.

Aside from these more formalised reviews, it is highly useful to informally reflect on progress and challenges after the initial 'wave' of a response has been completed and a rhythm has been established with the involved stakeholders. This can be done at the operational level by the IMT to recalibrate operations in support of the broader strategic objectives. Below, this is described as the first 28+ days of a response, indicating the window of time where the initial scaled up response phase can occur, based on experience; this varies by response and hazard type and **28 days is not intended as a timeliness metric**.

Building on these concepts and the Detect, Notify, and Respond (DNR) indicator developed for WHO's 14th Global Programme of Work (GPW14)[36], a non-exhaustive collection of key actions in first phases of a response at the subnational, national and international levels is included below, beyond the initial seven days, for an infectious hazard (Table 2) and a sudden onset disaster (Table 3). These tables focus on country-level coordination platforms/ structures, linking them to international-level platforms and actions.

The aim is to promote timeliness in response actions while ensuring that essential health services do not collapse, and to allow partners to identify and address bottlenecks, and integrate lessons into future responses for different types of hazards and across the HEPR systems.

31 For more information on the IHR Monitoring and Evaluation Framework and key related assessments: https://www.who.int/emergencies/operations/international-health-regulations-monitoring-evaluation-framework

32 Guidance for conducting an EAR: https://iris.who.int/bitstream/handle/10665/372579/WHO-WPE-HSP-CER-2023.1-eng.pdf?sequence=1

33 More details and background information on Resolve to Save Lives 7-1-7 global target for early detection & response to infectious disease threats: https://resolvetosavelives.org/prevent-epidemics/7-1-7-early-disease-detection/

34 Guidance and training on conducting an IAR: https://extranet.who.int/sph/iar

35 Guidance and training on conducting an AAR: https://extranet.who.int/sph/aar

36 WHO's Global Health Strategy and Fourteenth General Programme of Work 2025–2028: https://www.who.int/about/general-programme-of-work/fourteenth

Box 4. Integration of performance metrics

Through the 7-1-7 target, countries aim to detect every suspected threat within *seven days* of emergence, report alerts to appropriate public health authorities within *one day*, and initiate seven essential response activities across core functions within *seven days*. The seven components defined in early response include: response activation (grading), epidemiological investigation, laboratory confirmation, medical treatment, countermeasures, communications and community engagement, and response coordination. Designed for diseases with epidemic potential, 7-1-7 is instrumental for many outbreak responses (except for a few e.g. tuberculosis). While not suitable for all hazards (e.g. cyclones, earthquakes, etc.), it has proven to be a valid and useful metric for countries, especially for infectious disease outbreaks.

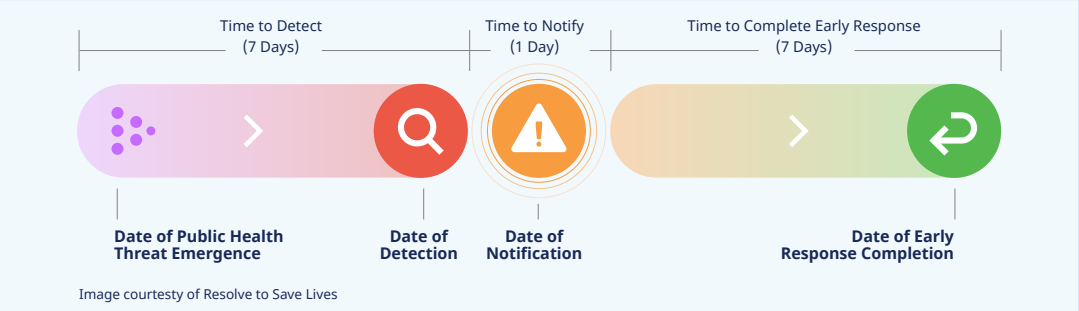


Figure 6. The 7-1-7 target for detection, notification and response, largely applicable to infectious disease outbreaks.

In the case of emergencies resulting from natural hazards, including sudden onset disasters such as earthquakes or tsunamis, early warning systems enable anticipatory action and rapid response activation – which have different timeliness metrics for successful response than an outbreak of an infectious disease. Following sudden onset disasters (and in some cases like tropical cyclones, in advance of onset), certain actions should take place within the first 24-72 hours to reduce morbidity and mortality (Figure 7). Beyond immediate Search and Rescue operations, and 'on the spot' and pre-hospital mass casualty management, clear systems must be in place and activated for triage and referral of patients to appropriately resourced healthcare facilities, or temporary surge facilities when needed.

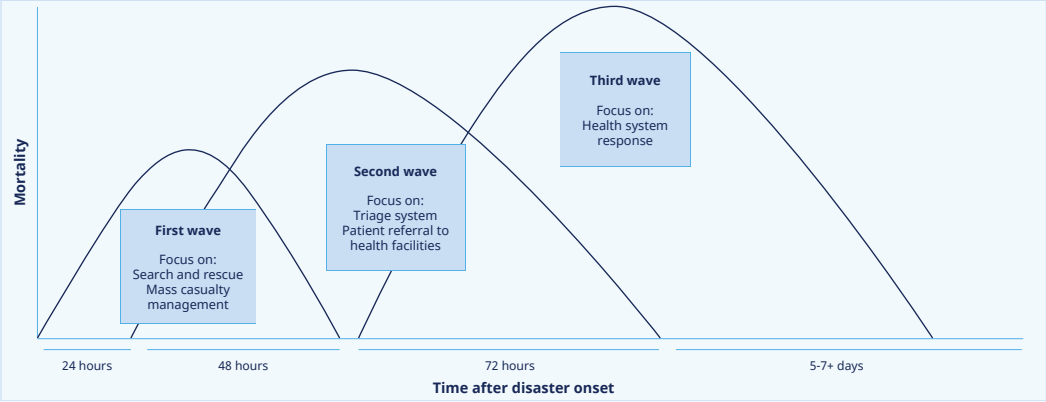


Figure 7. Mortality following a sudden onset disaster can follow a tri-modal death curve. The first peak includes direct mortality caused by the event itself, and is largely determined by the scale of damage, mitigated by the existing infrastructure, disaster risk reduction measures and preparedness of communities. The second and third peaks can be caused by secondary effects like infectious disease outbreaks, or accumulated healthcare needs. These can be mitigated by timely interventions and a strong health system response based on a broad public health risk analysis, working with other sectors. Specific actions are detailed in later sections.

For slow onset emergencies, it is more difficult to define timeliness metrics – however, there should be monitoring processes in place with triggers for response activation depending on agreed or established thresholds for different risks (e.g. food insecurity classifications or monitoring of climate-related crises).

- For classification and minimum standards for EMTs see https://www.who.int/publications/i/item/9789240029330
- For food insecurity classifications see https://fews.net/ and https://www.ipcinfo.org/ipcinfo-website/ipc-overview-and-classification-system/en/
- For climate-related indicators see https://www.oecd.org/en/publications/2024/11/the-climate-action-monitor-2024_f0f16874.html

Table 2. Actions in the initial response phase (infectious hazards).

HEPR system	Subnational and national level		International level	
	First 7 days of response	**28+ days**	**7 days after notification received**	**28+ days**
Collaborative surveillance	Epidemiological analysis and initial risk assessment conducted Rapid Response Team deployed if needed, including epidemiologist and relevant technical expertise Laboratory confirmation of outbreak etiology obtained (through national lab or sample referral to regional lab if needed) Case definition agreed and disseminated First situation report issued Contact tracing initiated	Full Member State Rapid Risk Assessment conducted Disease surveillance and reporting mechanism put in place from the local level[37] Diagnostic capacity established at or near point of care; Pathogen genomic sequencing and sharing Regular situation report being produced Health service mapping and usage monitoring in place Contact tracing system functional, well performing	Rapid risk assessment conducted and EIS issued (WHO) Country(ies) supported with rapid investigation if/as requested Lab network activated as needed; sample transport to reference lab facilitated if required Initiate screening at PoEs if relevant/required	Technical support to country(ies) provided as required, across all HEPR systems

37 See WHO's operational guide for Early warning alert and response (EWAR) in emergencies: https://www.who.int/publications/i/item/9789240063587

Community protection	Local community leaders engaged Risk communication and community engagement (RCCE) activities initiated: development of context-appropriate prevention and response messaging, social listening, local community networks activated Relevant public health and social measures put in place, and reporting mechanism established Reactive vaccination if available Vector control measures done if relevant Community access to WASH services provided Activities for social and economic protection initiated (including provisions for protection of livelihoods, education, food security)	Community engagement and social listening in place Community-based surveillance in place Messages refined as situation evolves, including on transmission risks and treatment referral Support provided in delivering available vaccines, treatments where requested	Public information shared through agreed mechanisms	Technical support to country(ies) provided as required, across all HEPR systems

Safe and scalable care	Secure the location for medical care and ensure the availability of medical staff Appropriate triaging, clinical management and IPC measures in health facilities initiated Confirmed and suspected cases isolated in appropriate facilities Assess the necessity of critical care Ensure patient privacy is protected (ongoing)	Dedicated treatment and isolation centres established Schedule staff rotations and confirm the feasibility and sustainability of patient care Survivor follow up program established where relevant IPC strengthened in health facilities, including appropriate waste management and biosafety WASH measures in place at health facilities Safe and dignified burials conducted Collect clinical information to guide countermeasures and prevention controls Any adaptation to essential health services agreed and maintained.	Surge initial supplies to support immediate response as needed	Technical support to country(ies) provided as required, across all HEPR systems

Access to countermeasures	Initial rapid needs assessment conducted List of essential countermeasures and norms and standards defined Minimum quantity of personal protective equipment (PPE) and other urgent medical supplies distributed to affected areas from national stockpile Demand and supply signals for countermeasures given	Supply consortiums convened Plan for stockpile deployment and distribution activated Supply needs re-assessed and plan developed	Initial available supplies surged to support immediate response as needed Assessment of medical countermeasure (MCM) needs and placement within the value chain (e.g. R&D, manufacturing, in stock, ready for delivery)	Global R&D agenda updated, and accelerated research efforts underway Accelerated regulatory pathways agreed Target Product Profiles developed as needed Adaptive platform trials initiated for experimental countermeasures Rapid planning of manufacturing expansion initiated Coordinated scale-up of procurement, access, distribution initiated MCM delivery partnerships established/ activated where existing

Emergency coordination	PHEOC activated at the sub-national and, where needed, national level IMS activated through grading; Incident Manager appointed within 24 hours, with streamlined reporting to key decision makers. Key functions in place (see main text). Emergency SOPs activated Partner engagement initiated with relevant stakeholders, e.g. One Health; where relevant, humanitarian coordination of in-country partners – through an activated health cluster (or sector coordination group) National/sub-national surge capacity plan assessed Request(s) for international support made as relevant	Multi-sectoral Strategic Response Plan launched with key partners 90-day operational plan developed with partners Initial performance review conducted and key performance indicators (KPIs) agreed Reporting against response monitoring framework initiated (linked to strategic and operational plan) Continuous engagement with partners If an event is declared a PHEIC, countries should follow the temporary recommendations issued and report to WHO additional measures implemented, based on the provisions laid out by the Emergency Committee	IMS activated through grading; depending on scale, inter-agency IMT/IMST embedded within national coordination structure and scaled appropriately. Emergency SOPs activated Multi-country coordination and partner engagement initiated with relevant stakeholders under the GHEC framework: including alert and information sharing networks at the leadership and technical level Initial surge needs assessed, and resources activated; include requests for assistance as requested by country under the GHEC framework (including GOARN, EMTs, Standby Partners, laboratory networks, others) Initial action plan developed with partners	Technical support to country(ies) provided as required, across all HEPR systems Partner Response Plan launched in line with national plan IASC scale up protocol for infectious diseases activated, if relevant Initial performance review conducted and KPIs agreed, in line with country efforts Convene Emergency Committee and Standing Committee on Health Emergency Prevention, Preparedness and Response, as required
Financing	Rapid access granted to contingency surge financing	Initial financing needs determined, with increased access to surge financing and establishment of credit lines through national contingency financing/crisis toolkit as needed Longer term resource mobilisation efforts initiated	Rapid access to contingency funds granted as needed	Resource mobilization efforts initiated Surge financing triggered (e.g., advance purchase agreements, care infrastructure and operations, R&D)

Table 3. Actions in the initial response phase (sudden onset disasters).

HEPR system	Subnational and national level		International level	
	First 7 days of response	**28+ days**	**7 days after notification received**	**28+ days**
Collaborative surveillance	Initial mapping of available health ser-vices following event completed – cov-ering impact and accessibility First SitRep issued within 3 days Initial disease surveillance and report-ing mechanism put in place at local level	Diagnostic capacity established or reinforced at or near point of care SitReps published on regular basis	Initial PHSA conducted (WHO)	Long form PHSA and other assessments completed Health service mapping and usage monitoring in place (eg HERAMS[38]) Technical support to country(ies) pro-vided as required, across all HEPR systems PDNA conducted (UN Develop-ment Programme led) – start of recovery phase

38 For more information on the Health Resources and Services Availability Monitoring System (HeRAMS) initiative: https://www.who.int/initiatives/herams

Community protection	Evacuation of people at risk, if relevant Community leaders engaged, local net-works activated Risk communication and community engagement (RCCE) activities initiated: risk messaging, social listening	Community engagement and social listening in place Community based surveillance in place Messages refined as situation evolves, including on transmission risks and treatment referral Relevant public health and social measures put in place, and reporting mechanism established Vaccination if needed (e.g. cholera risks) Vector control measures conducted if relevant (e.g. flooding) Community access to WASH services provided Activities for social and economic pro-tection initiated (including provisions for protection of livelihoods, education, food security)	Technical support to country(ies) pro-vided as required, across all HEPR systems Support with vaccine allocation, pro-curement and delivery if needed

Safe and scalable care	Mass casualty management as needed. Appropriate triaging, case management and IPC measures in health facilities initiated. National EMTs, mobile teams, and surge resources in to affected area(s) deployed EMT coordination cell established for deployment of international teams, where relevant Specialised care needs assessed (e.g. burns/respiratory/trauma, etc)	Temporary shelters/medical points established where relevant IPC strengthened in health facilities, including appropriate waste manage-ment and biosafety WASH measures in place at health facilities Safe and dignified burials conducted Minimum package of health services agreed and maintained		Technical support to country(ies) pro-vided as required, across all HEPR systems Partner pipeline and rotations in place for 3 months
Access to countermeasures	Initial rapid needs assessment of sup-plies conducted Minimum quantity of supplies relevant to the emergency delivered from na-tional stockpile (e.g. PPE, trauma kits, cholera kits, etc) Initial demand and supply signals for countermeasures provided to relevant stakeholders	Re-assessment of supply needs con-ducted and plan developed Plan for stockpile deployment and distribution activated	Initial supplies and human re-sources surged to support immedi-ate response as requested by country OSL concept of operations devel-oped within broader plan, togeth-er with partners	Coordinated scale-up of procurement, access, distribution initiated Where relevant, global procurement plan developed for 3-6 months, coordi-nated with partners (e.g. through Global Logistics Cluster)

Emergency coordination	Multi-sectoral EOC activated IMS activated through grading; Incident Manager appointed within 24hours, with streamlined reporting to key deci-sion makers Emergency SOPs activated Initial action plan developed to support national level of response, including workforce plan Partner engagement initiated with relevant stakeholders, e.g. One Health where relevant, Cluster, etc. National/sub-national surge capacity plan assessed, and request for interna-tional support made as relevant	Continuous engagement with partners through regular mechanism for opera-tional coordination and information sharing Multi-sectoral Strategic Response and Recovery Plan launched with partners 90-day operational plan established with partners, for response and recov-ery Initial performance review conducted and KPIs agreed Reporting against response monitoring framework (linked to operational plan)	IMS activated through grading; depending on scale, inter-agency IMT/IMST embedded within na-tional coordination structure and scaled appropriately. Emergency SOPs activated Initial action plan developed to support national response Partner engagement initiated with relevant stakeholders, including e.g. IASC, Health Cluster Technical networks alerted and coordinated activation of surge capacities through technical net-works under GHEC framework (including GOARN, EMTs, Standby Partners, Laboratory networks, others) Event scale of need communicated and advocacy for mobilisation of resources initiated	Technical support to country(ies) pro-vided as required, across all HEPR systems Health Sector Response and Recovery Plan launched in line with national multi-sectoral plan; clearly identifying areas of responsibility per agency IASC scale up protocol activated, if relevant Initial performance review conducted and KPIs agreed, in line with country efforts Advocacy efforts for support continued as relevant

In the event of a PHEIC, or a Pandemic PHEIC

Based on the outcomes of an in-depth risk assessment for a particular event, WHO may recommend convening an Emergency Committee, a selected group of international experts who provide technical advice to the WHO Director-General on whether an even constitutes a PHEIC. Additional obligations for Member States apply under the IHR (2005) when a PHEIC or a Pandemic emergency is declared by the WHO Director General, in line with the Pandemic Agreement. All countries should comply with the Temporary Recommendations issued by the Committee, which may include recommendations to:

- Activate preparedness, readiness and response actions as appropriate to the nature of event, including issuance of national plans for the emergency response;
- Implement or enhance Early Warning, Alert and Response systems, including defined reporting sources such as healthcare facilities and laboratories;
- Strengthen surveillance activities and risk management at points of entry, border communities adjacent to land borders, for early detection to reduce risk of exportation/ importation, and implement contingency plans and SOPs in collaboration with all stakeholders at point of entry and with conveyance operators to mitigate public health risks associated with cross border movements;
- Rapidly assess risk of infection transmission among patients and health and care workers and strengthen safety measures in health care settings to manage suspected and confirmed cases with robust IPC measures and WASH services, including the implementation of standard and transmission-based precautions relevant to the known or suspected mode(s) of transmission; and strengthening screening, triaging and isolation capacities;
- Mobilize relevant community-based organizations, volunteer networks and civil society groups for two-way exchange of information and advice for community protection;
- Establish mechanisms for data collection, analysis and presentation which immediately inform the emergency response;
- Voluntarily provide assistance to affected countries, coordinated through WHO;
- Continue to maintain core capacities under the IHR (2005) and respond to the event with specific recommended measures;
- Report to WHO all additional measures implemented (see article 43 of the IHR (2005) for more information).

WHO and other partners should:

- Formally activate technical response platforms if not already activated, including:
    - Research and development: coordinating the development and update of a global research agenda and pathway to development of countermeasures (including a landscape analysis of existing vaccine and therapeutic candidates and a research roadmap, development of target product profiles, provision of guidance on regulatory pathways, support to clinical trial design);
    - Medical countermeasure procurement and delivery: working through the Interim Medical Countermeasures Network (i-MCM-Net)39, and international supply chain coordination alongside relevant partners;
    - Mechanisms to ensure equitable access and benefit sharing, and technology transfer;
- Review existing evidence-based recommendations for their relevance and applicability to the emergency, and adapt as required.
    - Where needed, rapidly collate evidence to develop and implement guidance on use of population and environmental interventions;
    - Monitor the implementation of Public Health and Social Measures40;
- Activate integrated coordination mechanisms for different technical areas in collaboration with country response, to support the strategic, technical and operational activities including but not limited to resource mapping, development and dissemination of technical products, and conducting assessments needed for readiness and response;
- Call on other international organisations for assistance and other countries for voluntary assistance to the affected countries;
- Coordinate response with relevant international UN agencies and partners.

39 For more information on i-MCM-Net see: https://www.who.int/initiatives/i-mcm-net

40 See global guidance on monitoring public health and social measures policies during health emergencies: https://www.who.int/publications/i/item/9789240094444

Annex 1: Risk assessment methodology for Member States

Member States require the capacity to independently conduct risk assessments within their public health institutions that support decision-making during acute public health events or emergencies. In 2023, WHO conducted a survey with 19 Member States from all WHO regions to capture needs in relation to enhancing this capacity. In line with these needs, in 2024, an all-hazard toolkit for Member States which supports Member States in risk assessments during acute public health events, was developed by WHO. This toolkit operationalizes existing WHO risk assessment guidance and incorporates more recent advancements in the risk assessment field.

It includes two components: the Quick Initial Risk Assessment Algorithm (QIRA) for a quick initial assessment which takes less than an hour to complete, and the Member State Rapid Risk Assessment Tool (MS RRA) for a more comprehensive and nuanced risk assessment.

In 2024, the toolkit was piloted by countries from all WHO regions. Users of the QIRA found the algorithm to be practical and simple, and piloting countries are progressively incorporating it into their routine national and sub-national public health intelligence workflows. Testing of the MS RRA highlighted the tool's potential to streamline risk assessments and provide a strong basis for risk management and risk communication. Its recommendations are not pre-set but crafted through a systematic process during the likelihood and impact assessments. The toolkit is available here: https://www.who.int/tools/risk-assessment-tools-for-member-states. Appropriate guidance is provided for each tool in a corresponding User Manual.

An overview of the logic and structure of the QIRA and MS RRA can be found in Figure A1.1 and A1.2 below.

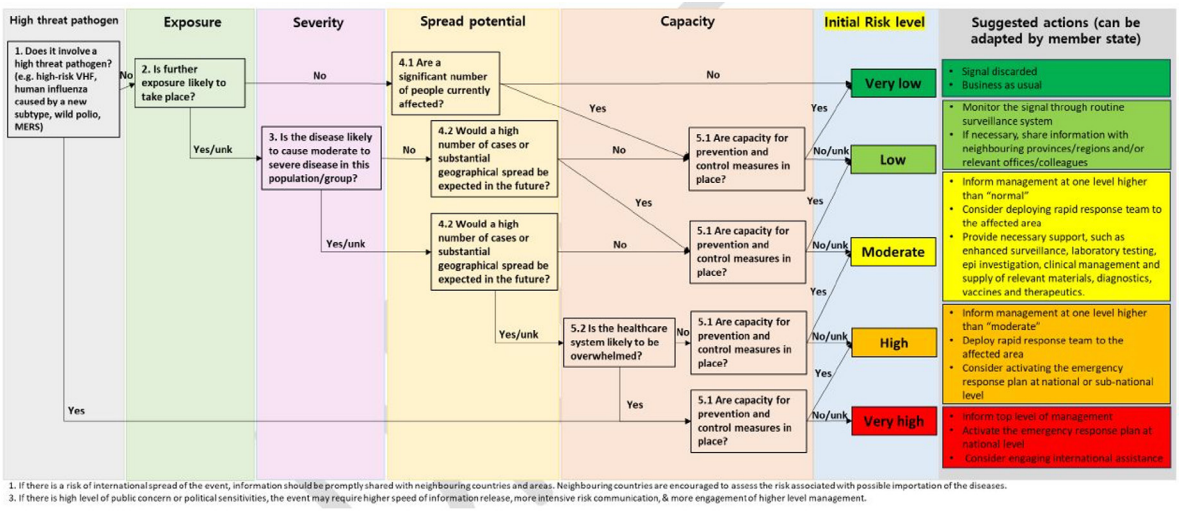


Figure A1.1: *Quick Initial Risk Assessment Algorithm.* The QIRA includes hierarchically linked questions, which can be answered with "Yes, No and Unknown". The answers lead to risk levels. Each risk level is associated with a list of pre-defined suggested generic actions. The generic actions proposed can be modified by the countries to fit their needs.

Figure A1.2: *The MS RRA Tool.* The MS RRA tool guides the risk assessment team through a more detailed and comprehensive process. It includes a Worksheet with five parts (A. Risk framing (setting the scope of the assessment), B. Assessment of the likelihood of event worsening, C. Assessment of the potential impact of the event, D. Risk level assignment, and E. Confidence level assignment), and an Output where key findings can be summarized for a wider audience.

Annex 2: Description of functions within a health response IMS

Emergency Coordination

Incident management

The incident manager manages the day-to-day emergency response, including assigning responsibilities to individuals performing other critical functions as they are established, and supervising team leads for other IMS functions. Depending on the scale of the event, the incident manager may delegate specific duties to a deputy incident manager. The incident manager can be supported by an incident coordination team, working across the other pillars with coordination and response implementation, and monitoring follow-up of key deliverables.

Public health emergency operations centre management

The IMT usually works out of an emergency operations centre (EOC), which is a central facility for emergency management, compiling all relevant operational and contextual information, including monitoring of key process indicators against the emergency procedures. The facility manager of the EOC ensures that all of the centre's systems (hardware and software), and staff support tools are well maintained and operational when needed.

Intersectoral partner coordination

Health and intersectoral partner coordination ensures that collective action results in appropriate, quality health services and interventions for the affected population, especially the most vulnerable. Regardless of the mechanism, the purposes of coordination are similar: to engage all stakeholders in risk assessments and needs assessments, planning, information management and sharing, service delivery, monitoring and quality assurance and advocacy. This pillar includes liaison officers from different stakeholders in the response who are embedded within the structure and can bring issues and concerns to the attention of the incident manager as required, with a recommended course of action.

Communication

Coordinates responses to media and public queries for information and develops and disseminates communication products and public messaging. Working with other response agencies and technical experts, the communications team takes a proactive approach so that risk and crisis communications are coherent and consistent.

Workforce health, well-being and security

Ensures that concrete measures for the health and physical and mental well-being of all personnel in the response team are taken. Reasonable occupational health measures should be in place, and personnel should have ready access to security support, medical care, medical evacuation, psychosocial services and counselling.

Programme management

Ensures that decisions made by the incident manager trigger the provision of management and administrative services according to established SOPs and performance standards. It comprises the following subfunctions:

Strategic planning, monitoring and reporting

Develops response, recovery, and contingency plans as well as plans for demobilization, with detailed inputs from teams with other functional roles. Effective planning requires contributions across different sectors and governmental agencies, NGOs, civil society entities, the private sector and others. It involves the development of common strategic priorities, joint operational objectives and plans, and strong coordination within and among sectors.

It also systematically tracks the evolution of the emergency and the progress of the response in meeting the objectives of the operational response plan. It involves identifying technically sound indicators and sources of information; setting operational targets; gathering and interpreting data; and tracking progress to determine whether the response is meeting its objectives. If the response is not on track, personnel responsible for this subfunction analyse the reasons and make recommendations regarding corrective actions or modification of targets in collaboration with partners and other responsible areas. This team also supports other relevant performance evaluations.

Resource mobilization and grants management

Coordinates all activities related to resource mobilization, donor relations and advocacy to support the implementation of the strategic and operational response plans. Develops workplans and budgets based on the response plan; manages funding allocations and awards; tracks and reports on financing against internal budgets; and supports, monitors and reports on implementation of external grants. Works closely with logistics to facilitate procurement and payment to suppliers. It oversees all financial transactions.

Operational risk management

Risk analysis and risk response planning involve foreseeing challenges and assessing their likelihood and impact on key areas of the response. Operational risk types can be categorized into institutional, programmatic or contextual risks, and should include an analysis of factors to enable planning for mitigation measures. After a risk is identified and assessed, designated staff decide how to respond to the risk, which can inform the operations as well as development of contingency and business continuity plans.

Human resources and surge

Includes sourcing, recruitment, medical clearance, travel, briefing, on-site administrative support, debriefing and performance evaluation. The team tracks and reports on human resource requirements against plans, status of filled positions and vacancies, and projected human resource needs.

Collaborative surveillance

Epidemiological surveillance

This function involves the collection, analysis and dissemination of emergency-specific and contextual information and data, including on health risks and impacts, needs, service coverage and gaps. It uses information to develop and continually refine the response and inform recovery planning. This group establishes, strengthens and operationalizes rapid response teams that are responsible for prompt investigation of alerts, field risk assessment and, when required, early operational response. It also includes active case finding, case investigation and contact tracing activities, as well as data analysis as required.

Laboratory and diagnostics

Depending on the hazard(s), this can include point-of-care laboratory services; specimen transport and specialized laboratory tests; deployment of mobile labs.

Health data analytics

Compiles information from risk and needs assessments, early warning and surveillance systems, response monitoring mechanisms (for example, service coverage) and surveys to develop information products that allow stakeholders to monitor public health risks and needs and the effectiveness of the health sector response, and to take appropriate actions.

Community protection

Risk communication and community engagement and Infodemic management

Works with community leaders and representatives to frame the event and risk, and provide authoritative information using all relevant communication platforms. The team considers the social, cultural, economic, political, security and other relevant contexts of populations at risk; engages stakeholders at national and local levels; and develops a common narrative to the dialogue with affected and at-risk communities based on an understanding of the local context, new scientific knowledge and the evolving situation. Deliver health messages using the most effective means preferred by the target population in local languages, and monitor their effectiveness. Mechanisms should be established to regularly collect community feedback to adjust the response operations as needed. This team also develops risk communication materials, builds community engagement capacity in country and coordinates with key local, national and international partners.

Points of Entry and Mass Gatherings

For infectious hazards, the response must consider the risks of cross-border spread and elevated transmission risks during mass gatherings, and implement mitigation measures in line with public health advice and other obligations.

Vaccination

For some emergency responses, reactive vaccination campaigns will be a critical part of protecting communities from infectious disease risks. This function will include the planning and delivery of vaccines to communities, working closely with all other pillars.

Public health and social measures

In conjunction with relevant partners and technical experts, identifies and develops clear recommendations, disseminate guidance and provide technical assistance on the most relevant actions to prevent and control public health risks. This includes linkages to the animal sector for zoonotic disease outbreaks and broader environmental health sectors. The recommended actions are defined based on a regular risk and needs assessment.

Safe and scalable care

Clinical management

Develops and implements robust clinical care protocols and where relevant, home care advice for patients and caregivers. Participates in training healthcare workers and clinical trials where relevant; supports establishment of isolation and treatment centres in collaboration with other key pillars.

Infection prevention and control and WASH

The function is responsible for strengthening infection prevention and control (IPC) measures and improving water, sanitation, and hygiene (WASH) conditions in health facilities and in community settings to reduce infection risks.

Maintaining essential health services

Ensures the delivery and continuity of essential health services. This includes service delivery for communicable diseases, reproductive health, gender-based violence, mental health and psychosocial support, noncommunicable disease care and trauma care. The function defines an essential package of health services that covers community, primary and referral levels and where needed, coordinates the support of partners for the direct delivery of care.

Access and delivery of medical countermeasures

Operations, supply chain and logistics management

All responding organisations should have a reliable operational platform to deliver effectively on the emergency response plan. The function comprises: supply chain management, field support, and health logistics. As with other critical functions, partnership is key to ensuring effective and efficient operational support and logistics. Leveraging the comparative advantages of other partners, for example in procurement, warehousing, convoy management and telecommunications, has clear advantages.

Supply chain management

Ensures an end-to-end, timely and efficient provision of consumables and equipment to support emergency operations. This includes selection, forecasting, procurement (working closely with the Programme Management pillar), transportation, customs clearance, storage and distribution of these material assets.

Field support

Provides logistics strategy, management and field support to response teams. This includes secure and comfortable accommodation, functional and secure working spaces and equipment, capabilities for communications and information technology, safe staff transport and effective fleet management.

Health logistics

Provides technical expertise, tools, methods and means to meet the specific logistical needs of medical facilities, cold chain management, laboratories and blood banks.

Research and development

Health operations must be informed by the best available technical expertise and guidance and adhere to recognized standards and best practices. This requires engagement with donors, academics, research institutions, the private sector and operational partners to promote, advise on and coordinate relevant research, knowledge or product development.

Regulatory approval

Novel medical countermeasures may require national regulatory approval before administering to the target population. It is important this regulatory mechanism is linked closely with the response and can act rapidly according to the evidence base.

Annex 3: National response checklist and tools for emergency response

The below checklist is designed to support countries in rapidly assessing their national capacities for detection and response coordination in line with the functions and actions described in this framework, and the HEPR sub-capabilities. Assigning responsible focal points ensures that coordination of the emergency response is facilitated by clear roles and accountabilities. This exercise can be supported by a country's NHEROP.

Countries may also use the HERO CAPE tool (https://partnersplatform.who.int/) to identify gaps in 12 health emergency response operational (HERO) capabilities and select anticipatory actions to scale up capabilities according to county context. This online tool generates an action matrix of selected anticipatory actions for scaling up all 12 core capabilities, aligned to SPAR 2.0, JEE 3.0 and HEPR.

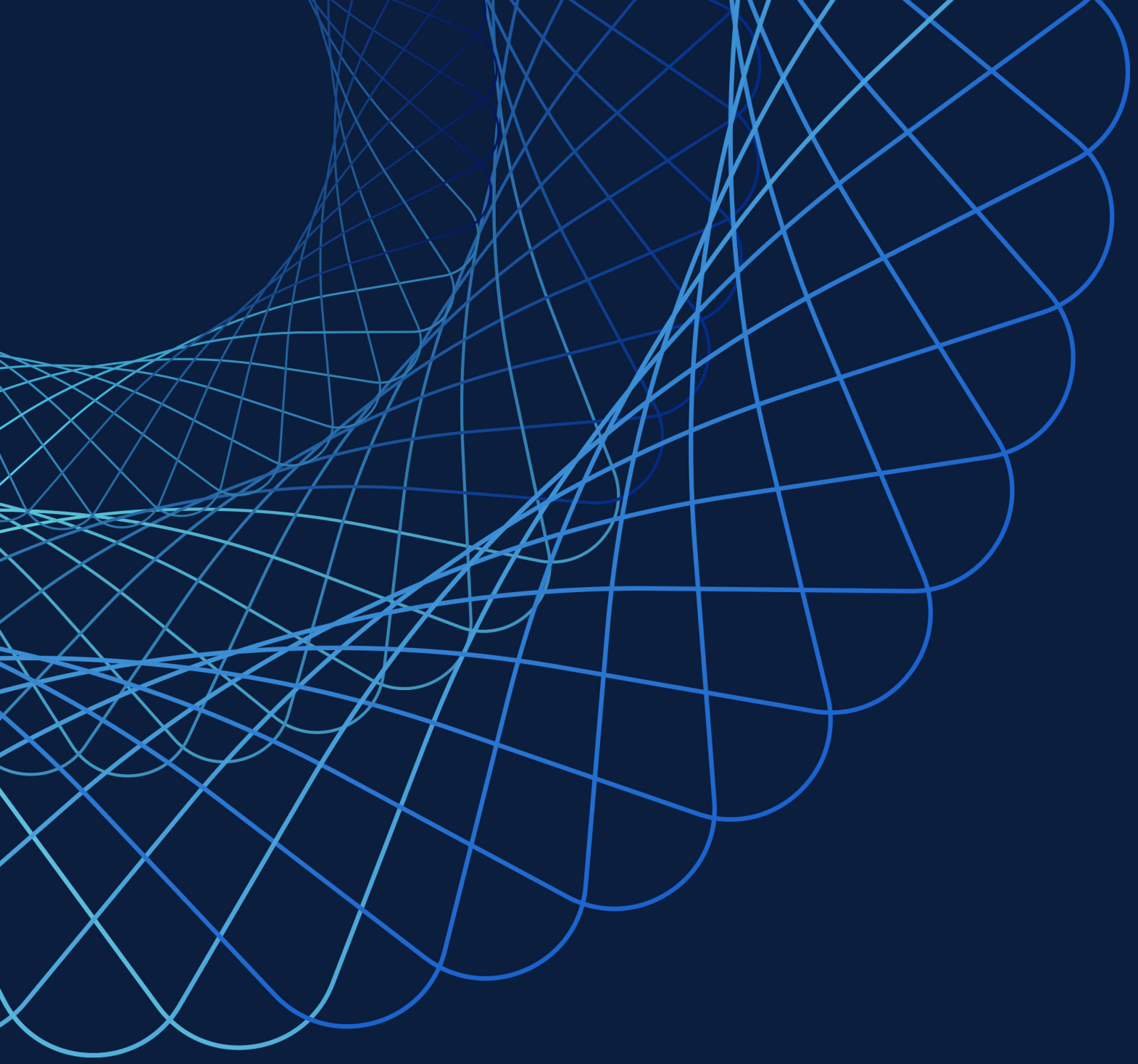
Table A3.1. National checklist for detection, alert and response coordination, in line with HEPR capabilities.

	Mechanisms required to implement alert and emergency response	Responsible agency and focal point
Collaborative surveillance	Detect and verify	
	Collaborative public health+ surveillance system in place	
	public health surveillance system functional, including mechanisms at the community level	
	surveillance system beyond the health sector functioning (e.g. animal health surveillance for zoonotic spillover risk & detection)	
	different surveillance systems interoperable, or communicating	
	health service monitoring and reporting in place	
	Effective diagnostics and lab capacity for pathogen and genomic surveillance	
	decentralised testing available near point of care	
	capacity for testing with capacity to surge, including genomic capacity	
	biosafety and biosecurity measures in place	
	integration into tiered national and international lab networks, including mechanisms for data and sample sharing	
	Alert and notify	
	Collaborative approach to event detection, reporting, risk assessment and response monitoring	
	integrated infrastructure between sub-national and national public health delivery bodies	
	tools available for data collection, management, analysis, and visualisation	
	networks for enhanced information sharing active, including IHR NFPs	

	Respond
Community protection	**Community engagement, risk communication and infodemic management in place**
	social listening mechanisms in place at local levels
	community leadership and multi-sectoral networks actively engaged in response
	Population and environmental interventions ready to be deployed
	OneHealth coordination mechanisms integrated into response
	vector control strategies developed and under implementation
	community access to WASH services provided
	public health and social measures implemented on evidence-based advice
	vaccination ready to be deployed, where relevant
	Multi-sectoral action for social and economic protection
	social protection policies are in place based on risk and vulnerability assessment
	mental health protection mechanisms integrated into response
	mechanisms in place to deliver financial support to affected/at risk communities
	policies in place to ensure continuation of education during public health emergencies
	mechanism in place to ensure food security for affected/at risk communities
Safe and scalable care	**Scalable clinical care provided during emergencies**
	clinical pathways defined, including surge planning and transitioning
	scalable infrastructure consistent with quality standards in place
	essential list of medicines and supplies mapped
	essential list of medicines and supplies procured through a robust supply chain
	Measures to protect health workers and patients in place
	WASH services provided in all healthcare facilities
	evidence-based IPC measures in place in all healthcare facilities
	policies active to protect patient and workforce safety
	Essential health services mapped and maintained during health emergencies
	essential service needs assessed
	essential service delivery plan in place
	mechanism for regular monitoring of service delivery in place
	policies in place for resilient health systems, including continuity planning for facilities and workforce training
Access to countermeasures	**Fast tracking R&D to provide access to countermeasures**
	participation in global R&D agenda development and development of national research plans tailored to hazards
	mechanisms and protocols in place for ethical research (e.g. ethics review board) and data/sample sharing linked to access and benefit sharing
	mechanisms in place to fund national research
	national research capability assessment conducted
	participation in robust and ethical clinical trials
	mechanism in place for regulatory and legal review of products (e.g. national regulatory body)

Access to countermeasures	**Mechanisms for scalable manufacturing in place at national level**
	national manufacturing plan in place informed by national needs and capacity
	national policies in place to implement pre-negotiated technology transfer, access and benefit sharing, licensing and financing agreements
	manufacturing facility set up
	dual purpose manufacturing policy in place
	procedures in place to facilitate adaptable manufacturing during emergencies, in line with global standards
	End-to-end health emergency supply chains capacitated at national level
	pre-defined list of essential countermeasures and technical standards in place
	demand forecast completed to inform initial push of supplies
	real-time dashboards developed to display updated assessment of relevant multi-sectoral data
	participation in global allocation process for MCM
	strategic stockpiles of MCM established at national level
	export and import processes for MCM streamlined for rapid distribution
	Public health and emergency workforce capacitated and strengthened at national level
	mapping of occupations and workforce that conduct essential public health functions, including gap analysis completed and updated regularly
	action plan developed to define workforce education, development, and retention strategies
	clear institutional accountabilities for health emergency leadership, coordination and response (including surge) outlined
	minimum standards for rapid response capacities in place
	activation, coordination and information exchange protocols in place for surge deployment
	emergency leadership embedded in the national structure and linked to regional, global network
Emergency coordination	**Mechanisms to strengthen health emergency preparedness, readiness and resilience at national level in place**
	comprehensive threat and vulnerability assessments conducted
	comprehensive national capacity assessment updated
	costed plans developed with priority actions identified (e.g. NHEROP)
	existing financial resources at national level mapped, including contingency resources
	resource mobilisation mechanisms rapidly activated
	technical and operational delivery partners identified with assignment of roles and responsibilities

Mechanisms for health emergency alert and response coordination in place at national level
mechanism for declaration of emergency to public, different authorities/sectors involved in response
SOPs for emergencies triggered by declaration/activation
multisectoral response coordination mechanisms and platform: PHEOC
IMS ready to be activated, with core functions and leads identified
national strategic and operational response plan developed for the emergency, aligned to technical standards
functional platform for operations support and logistics, including human resources and finances
monitoring mechanism in place to track response implementation (e.g. 7-1-7, operational reviews)
contingency fund and release mechanism in place for rapid activation



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