A Strategic Framework for
Emergency Preparedness

World Health Organization

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ISBN 978-92-4-151182-7

CONTENTS

Acknowledgements

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Contributors marked with an asterisk provided substantive input during a WHO-convened workshop held from 8 to 9 June 2016. Further contributions were received during, and subsequent to, the High-level Meeting on Advancing Global Health Security held from 27 to 29 June 2016 in Bali, Indonesia.

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The following international organizations: Food and Agriculture Organisation (FAO); International Civil Aviation Organization (ICAO); International Federation of the Red Cross and Red Crescent Societies (IFRC); International Organization for Migration (IOM); International Medical Corps (IMC); United Nations Children's Fund (UNICEF); United Nations Office for Disaster Risk Reduction (UNISDR)*; United Nations World Food Program (WFP)*; United Nations World Tourism Organization (UN-WTO); World Organisation for Animal Health (OIE)*.

The following public health institutions, NGOs and academic institutions: African Field Epidemiology Network (AFENET); Caribbean Public Health Agency (CARPHA); European Centre for Disease Prevention and Control (ECDC); Médecins Sans Frontières (MSF); Malaria Alliance; No More Epidemics; Save the Children; Training Programs in Epidemiology and Public Health Interventions Network (TEPHINET); United States Centres for Disease Control and Prevention (CDC); University of Alabama; University of Tokyo.

The following donors and foundations: African Development Bank Group (AfDB); Asian Development Bank (ADB); Asian Pacific Cooperation (APEC); Bill and Melinda Gates Foundation; United Kingdom Department for International Development (DFID)*; European Commission; German Federal Ministry for Economic Cooperation and Development (BMZ); Japan International Cooperation Agency (JICA); Korea International Cooperation Agency (KOICA); Mekong Basin Disease Surveillance Foundation; World Bank Group (WBG)*; Skoll Global Threat Fund; United States Agency for International Development (USAID)*.

The following WHO Regional Offices: WHO Regional Office for the Americas (AMRO); WHO Regional Office for Africa (AFRO); WHO Regional Office for the Eastern Mediterranean (EMRO); WHO Regional Office for Europe (EURO); WHO Regional Office for Southeast Asia (SEARO); WHO Regional Office for the Western Pacific (WPRO).

The following WHO Headquarters departments: Country Preparedness and IHR (CPI/WHE); Infectious Hazards Management (IHM/WHE); Emergency Operations (EMO/WHE); Health Emergency Information and Risk Assessment (HIM/WHE); Service Delivery and Safety (SDS/HIS); Public Health and Environment (PHE/FWH); Health System Governance and Financing (HGF/HIS).

Executive summary

The Strategic Framework for Emergency Preparedness is a unifying framework which identifies the principles and elements of effective country health emergency preparedness. It adopts the major lessons of previous initiatives and lays out the planning and implementation process by which countries can determine their priorities and develop or strengthen their operational capacities. The framework capitalizes on the strengths of current initiatives and pushes for more integrated action at a time when there is both increased political will and increased funding available to support preparedness efforts.

The health emergency preparedness framework advocates for prioritizing financial and other resources for community and country emergency preparedness, and for mobilizing and sustaining increased domestic and international investment for these.

The types of events covered by in this framework include local and national outbreaks of infectious diseases that have the potential to cross borders; epidemics and pandemics; and other types of emergencies caused by natural, technological and societal hazards that can have a significant impact on people's health and on society.

A common, efficient, coordinated multisectoral approach, comprising all-hazard and hazard-specific measures, is needed to ensure preparedness for all types of emergencies at the community, national and international levels. At the national level, emergency preparedness should set out to achieve the following strategic objectives:

1. Operational readiness to respond to emergencies

2. Resilient health system

3. One Health at the human-animal-environment interface

4. A whole-of-government, whole-of-society approach.

The Framework identifies twelve core components that represent distinct areas of work. These include components associated with the strengthening of the following areas.

- **Governance:** national policies and legislation that integrate emergency preparedness; plans for emergency preparedness, response and recovery; and coordination mechanisms

- **Capacities:** assessments of risks and capacities to determine priorities for emergency preparedness; surveillance and early warning; information management; access to diagnostic services during emergencies; basic and safe health and emergency services; risk communications; and research, development and evaluations to inform and accelerate emergency preparedness.

- **Resources:** financial resources for emergency preparedness and contingency funding for response; logistics mechanisms and essential supplies for health; dedicated, trained and equipped human resources for emergencies.

The process for strengthening these core components of emergency preparedness must follow an iterative cycle. This cycle starts from assessing risks and capacity, and moves through establishing coordinating mechanisms, planning, financing and implementing, to evaluating and taking corrective action.

Exercises provide evidence-based assessments to monitor and strengthen emergency preparedness.

Ensuring health security at all levels of society relies on coordinated multisectoral action and investment to build consolidated emergency preparedness. When prepared, responses are more timely and effective, and the human, economic and societal consequences of emergencies can be significantly limited.

Investment in this strategy to reduce the number and severity of such emergencies is critical.

1. Introduction

Public health is constantly threatened by a wide range of hazards. Despite measures to prevent them, emergencies of varying types, scales and consequences still occur. Local communities and countries, supported by the international community, must be ready to respond to these emergencies. When we are prepared, responses are more timely and effective, and we can limit the human, economic and societal consequences.

Emergency preparedness is a continuous process in which action, funding, partnerships and political commitment at all levels must be sustained. It relies on all stakeholders working together effectively to plan, invest in and implement priority actions.

For the purposes of this framework, emergency preparedness is defined as:

…*the knowledge and capacities and organizational systems developed by governments, response and recovery organizations, communities and individuals to effectively anticipate, respond to, and recover from the impacts of likely, imminent, emerging, or current emergencies.*[1]

A common, efficient, coordinated multisectoral approach, comprising all-hazard and hazard-specific measures, is needed to ensure preparedness for all types of emergencies.[2]

2. Purpose, objectives and use of this framework

The purpose of this document is to provide a high-level, strategic, unifying framework that outlines what is needed for emergency preparedness.

This framework builds on previous efforts, capitalizes on current opportunities, and gives direction for stronger investment in emergency preparedness across relevant sectors and at all levels. It also responds to a number of post-event reviews that have concluded that the world is

inadequately prepared for different types of emergencies, and which have recommended strengthening emergency preparedness in countries and communities worldwide.

The main objectives of this framework are:

- To strengthen country and community emergency preparedness in order to ensure a timely, efficient and effective response to events including: local and national outbreaks of infectious diseases that have the potential to cross borders; epidemics and pandemics; and other types of emergencies caused by natural, technological and societal hazards that can have a significant impact on people's health and on society.
- To advocate for prioritizing financial and other resources for community and country emergency preparedness, and mobilizing increased domestic and international investment in this area.

Ministries of health can use this framework to prioritize and implement important emergency preparedness actions while strengthening intersectoral collaboration with other government sectors, the private sector and civil society. This framework identifies the principles and elements of effective emergency preparedness and lays out the planning process by which countries can determine their priorities and develop or strengthen their operational capacities. It also informs resource allocation, guiding decisions to ensure that financial investments support implementation. Each country's priorities will be different depending on its risk context and capacities.

In addition, the framework enables stakeholders to identify their roles in and contributions to emergency preparedness, and gives national and international financial partners a grounding to inform their investments. It also points to other more detailed frameworks and tools that can help set priorities (see Appendix 3).

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[1] WHO, Framework for a Public Health Emergency Operations Centre, 2015.
[2] For working definitions see Appendix 1, and for descriptions of types of emergencies see Appendix 2.

3. Context of this framework

National governments and the international community, including international financial institutions and development partners, have demonstrated their commitment to working together to improve emergency preparedness at all levels. Disasters caused by natural hazards, protracted crises associated with conflicts, and the international spread of infectious diseases – the latter recently highlighted by the Ebola epidemic in West Africa – have increased recognition of the profound effects of emergencies on development. The implementation of the sustainable development goals (SDGs), especially in low-resource settings, will be strengthened by stronger emergency preparedness. Investment in this strategy to reduce the number and severity of emergencies is critical. It should be accompanied by strengthening of health and other societal systems to improve the availability and quality of, and access to, the basic services upon which communities rely.

Countries have been working on emergency preparedness for many years, demonstrating that a high level of preparedness contributes to effective responses to many types of emergencies, and reduces their health and other consequences. This experiences of this work have highlighted the value of public, private and community partnerships within and across sectors, acknowledging and reflecting the roles that various stakeholders play in emergency preparedness.

Levels of preparedness remain uneven across and within countries, however, leaving communities and states at risk of significant short- and long-term health and other societal impacts. The recent Report of the UN Secretary-General's High-Level Panel on the Global Response to Health Crises, Protecting Humanity from Future Health Crises, declared that the Ebola outbreak in West Africa (2013-2016) must 'serve as a wake-up call for increased global action to prevent future health crises'.

On the basis of past trends, an important and frequently cited challenge to sustained action on emergency preparedness has been inconsistent financing. Sustained funding from national and international financial institutions is essential to achieving emergency preparedness, but for the most part resources have been insufficient to develop capacities or test even the best of plans. Emergency responses of appreciable magnitude are generally followed by a rapid decline in attention and funding. This is despite the fact that past emergencies have reinforced the need for the world's political, financial and health establishments to work together to strengthen preparedness.

Emergency preparedness is addressed by a range of global frameworks and initiatives related to health, emergencies and disasters. These include:

- The SDGs
- The International Health Regulations (IHR 2005)
- The Sendai Framework for Disaster Risk Reduction 2015-2030
- The Pandemic Influenza Preparedness (PIP) Framework
- The World Organization for Animal Health (OIE) Performance of Veterinary Services (PVS Pathway)
- The Paris Agreement on Climate Change
- The Global Health Security Agenda (GHSA)
- Universal Health Coverage (UHC) 2030.

These are complemented by regional strategies that address preparedness and disaster risk management around the world, such as the Asia-Pacific Strategy for Emerging Diseases (APSED); the Integrated Disease Surveillance and Response (IDSR) framework; and Health 2020 in the European Region.

The framework for emergency preparedness is an effort to help achieve greater coherence between these varied global and regional frameworks. It captures the opportunities currently available, capitalizing on the strengths of current initiatives for more integrated action at a time when there is both increased political will and increased funding available to support preparedness efforts. It adopts and outlines the major lessons of previous emergency preparedness initiatives.

4. Principles for emergency preparedness

This framework is built upon the following set of principles:

1. Safeguarding, maintaining and restoring the health and wellbeing of communities. These are the highest priorities for emergency preparedness. Improving the state of individual, community, and national health security in every country, and particularly in higher-risk, low-capacity countries, contributes to global health security and helps raise the level of health security for all.

2. Communities are critical to effective emergency management. Community members are the first responders – and the first victims – of any emergency and, as such, essential members of the preparedness process. They should be represented in all activities around developing and implementing plans for emergency preparedness.

3. Preparedness requires sustained political commitment, partnerships, and funding. The management of emergencies by authorities, including governments, often has significant political dimensions. Political leadership and attention, combined with strong community and national ownership, should be accorded to preparedness in a sustained manner, just like funding. Emergency preparedness is a shared responsibility that requires coordination between communities and national and international actors. It also necessitates effective partnerships between public and private actors, civil society, donors, technical agencies and operational entities.

4. Achieving emergency preparedness has a cost, but this is an investment in health, safety, security and development. Sustained funding should be aligned with costed, prioritized preparedness measures based on risk and capacity assessments.

5. Health systems and emergency preparedness reinforce one another, and along with other systems contribute to the resilience of communities and countries. A focus on systems is extremely important to emergency preparedness, because it is not only specific activities and actors that are needed to build stronger systems, but also the right relationships between them. Strong human and animal health and other societal systems are the foundations of emergency preparedness. Conversely, emergency preparedness builds the resilience of these systems.

6. Emergency preparedness should be addressed with an all-hazards approach. Many elements of emergency preparedness are common to all hazards, and plans for emergency preparedness should be designed to incorporate them. There is also a need for hazard-specific emergency preparedness measures based on risk assessments, and these should build on and supplement all-hazard plans as appropriate.

7. A risk management approach underpins the assessment, planning and implementation of emergency management actions including prevention and mitigation of risks, preparedness activities, coordinated response, and recovery and reconstruction. Emergency risk management should continue to emphasize prevention measures to avoid hazards and reduce vulnerability.[3]

8. A whole-of-society approach is critical for emergency preparedness. Addressing the health dimensions of emergency preparedness requires the health system to interact with other government sectors at all levels of the national system; the commercial sector; and civil society, including non-governmental and community organizations.

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[3] Despite these preventive efforts, events will occur requiring preparedness, response and recovery. This framework is concerned with the process of preparing to respond and recover from emergencies.

5. Framing emergency preparedness

Preparedness for emergencies relies on a set of complex, multidimensional processes that are difficult to operationalize if any of the pieces is missing. Although a number of approaches to emergency preparedness are available, this framework considers two main issues: (1) the level at which preparedness is implemented; and (2) strategic approaches to preparedness.

1. Emergency preparedness needs to be implemented at all levels

- **Community:** Effective emergency preparedness can only be achieved with the active participation of local governments, civil society organizations, commercial organizations, local leaders, and individual citizens. Communities must take ownership of their preparedness and strengthen it for emergencies ranging in scale from local or national events to pandemics and disasters. In addition, local, subnational and national plans should include support for community emergency preparedness; this means that community representation in the development of national policies and processes should be assured to the greatest extent possible. Communities should also be included in the implementation of all emergency preparedness activities, especially locally. Local and international NGOs, the private sector and other community actors play important roles in community-based emergency preparedness, providing additional resources to complement the capabilities of the state.

- **National/subnational/local:** The overall responsibility for safeguarding, maintaining and restoring the health and wellbeing of communities lies with national governments. Many of the rights and obligations set out by the IHR (2005), the Sendai Framework and other international agreements are the responsibility of the Member State. Usually, national or subnational policies and legislation describe the roles and responsibilities of ministries, local government and other stakeholders for emergency preparedness. Preparedness efforts should be made for emergencies that occur on a local or national scale as well as for large-scale disasters and pandemics with international ramifications.

- International and regional: Global and regional preparedness is essential for responses to emergencies that surpass the capacities of local and national authorities . Even when national authorities are capable of managing an emergency with health consequences, they benefit from external resources, commodities and technical assistance that supplement (rather than replace) national actions. International and regional actors also provide a range of technical and financial assistance that can strengthen country and community preparedness.

2. Strategic approach to emergency preparedness

Key elements of emergency preparedness presented in this framework have been identified from an analysis of the following four strategic outcomes:

1. **Operational readiness** to respond to emergencies: a high level of readiness will allow a timely, effective and efficient response. Achieving readiness is a continuous process of establishing, strengthening and maintaining a multisectoral response infrastructure that can be applied at all levels, which follows an all-hazard approach and which a focuses on the highest priority risks. Operational readiness builds on existing capacities to design and set up specialized arrangements and services for emergency response. It requires political commitment, coordination, risk assessment, infrastructure, preparedness and response plans, financing, human resources, equipment, exercises, and knowledge.

2. **Health systems resilience:** Health systems—which include essential public health functions and the capacities of related societal systems—are the foundation for emergency preparedness for known and emergent hazards, and must be strengthened. Emergency risk management and preparedness help make a health system more resilient. It is important to recognize the importance of investing in underlying health system capacity: for example, emergency preparedness requires a health workforce which is adequately staffed and which has an appropriate, equitably distributed mix of skills and competencies. This workforce must be properly remunerated, supported and motivated to carry out its duties in routine and emergency situations.

Emergencies often require scaled-up health services to address surges in the health needs of affected people. They can also disrupt the delivery of routine health services, necessitating plans for continuity of existing health systems, or for temporary health services in areas affected by emergencies. These situations highlight the importance of the specific aspects of health systems that support preparedness, including:

a. Development, training and equipping of a health emergency workforce

b. Maintenance of structurally and functionally safe hospitals and other health facilities

c. A reliable supply of medicines

d. Disease surveillance systems and laboratory services

e. Competent health service delivery for people directly affected by the emergency and other important health conditions

f. Financing for emergency risk management, including preparedness as an integral part of national health financing

g. Contingency funds for emergency situations.

3. **One Health:** Most emerging epidemic and pandemic threats have a zoonotic origin. Human health is intrinsically linked to the health of animals and to the environment. The overall aim of the One Health approach is to ensure connectivity and coordination at the human-animal-environment interface, to facilitate and improve the effectiveness of emergency preparedness at all levels. This involves strengthening all aspects of veterinary health systems, as guided by the PVS Pathway promoted by the OIE. For example, the inclusion of veterinarians and other animal health specialists in epidemiology and laboratory training programmes, and in all aspects of emergency response planning, is an important element of emergency preparedness. So too is the extension of epidemiologic surveillance systems to domestic animals and wildlife habitats, with an emphasis on those areas where human-animal interaction is most common and disease spillover most likely. Joint review of capacity, which includes national IHR/PVS Pathway bridging workshops and outbreak exercises, should be promoted. It is critical to facilitate information-sharing between human and animal health services, and the cooperation of these services in emergency preparedness activities.

4. Whole-of-government/whole-of-society approach: Emergencies have widespread effects on many parts of society, and the health sector has an important role to play in all of them. Integrated support for emergency preparedness across all sectors of government and society, including non-governmental and private sector organizations and essential services, is paramount. Focus should be on building relationships between health and non-health sectors, and on coordinating planning and implementation of emergency preparedness. Interactions between the ministry of health and all stakeholders at all levels of the system are critical to emergency preparedness and response, and help reduce the consequences of outbreaks and other emergencies—not only for the health and well-being of communities, but also for economies, livelihoods, the environment and other social assets.

The national disaster management agency (NDMA) and/or the equivalent bodies at subnational and local levels are often designated as responsible for coordinating preparedness and response to many types of emergencies, including those caused by natural and technological hazards. While the lead agency for the management of localized outbreaks is usually the Ministry of Health, in some situations – for example during epidemics or pandemics – coordination of numerous sectors is required. In such cases, the lead may be transferred to another authority such as the NDMA. It is essential to increase cooperation and collaboration between health and other sectors (e.g. agriculture, water, energy, law enforcement, transport, migration, foreign affairs and trade) before, during and after all types of emergencies.

The private sector plays an increasingly vital role when limited resources are stretched and overwhelmed. This underscores the need to strengthen private sector emergency preparedness and proactive partnerships between government, small and large-scale commercial organizations and other stakeholders as part of community and country emergency preparedness.

6. Elements of emergency preparedness

Common elements for strengthening preparedness, and information on their application at community, local, subnational, national, regional and global levels, can be found in Annex 1. These include:

Governance

— National policies and legislation that integrate emergency preparedness
— Plans for emergency preparedness, response and recovery
— Coordination mechanisms

Capacities

— Assessments of risks and capacities to determine priorities for emergency preparedness
— Surveillance and early warning, information management
— Access to diagnostic services during emergencies
— Basic and safe health and emergency services
— Risk communications
— Research development and evaluations to inform and accelerate emergency preparedness

Resources

— Financial resources for emergency preparedness and contingency funding for response
— Logistics mechanisms and essential supplies for health
— Dedicated, trained and equipped human resources for emergencies

7. Operationalizing emergency preparedness

The process for developing and implementing emergency preparedness follows an iterative cycle. Key actions are as follows:

- **Coordinating:** development and implementation of emergency preparedness requires robust coordination mechanisms that include multisectoral and partner participation. Coordination among all partners is essential for every aspect of the process, and enables community, local, national, cross-border and international actors to work toward common objectives under a joint planning process (see below).

- **Financing:** All steps of emergency preparedness planning should take account of available financial and in-kind resources from local, national or international sources. National action plans should be costed to guide financial investment for implementation. Domestic and international investments should be aligned with the priorities articulated in the national action plan. Where multiple action plans exist, they should be brought together before costing and financing occurs to ensure that the countries' priorities are reflected and funded. Countries must ensure that health financing structures for strengthening emergency preparedness are included in a budget for health security or emergency risk management, which in turn should not

only be part of the health budget, but also part of multisectoral budgets for emergency preparedness. Countries must include contingency funding mechanisms for rapid access during emergencies. In most higher-risk low-capacity countries, these processes will require considerable international financial support.

- **Assessing risk and capacity:** The development of an emergency preparedness programme and associated plans should be based on all-hazards assessments of risk, and of the available capacity to manage the priority risks. A standardized approach to all types of assessment is required so that they may be applied in a comparable, reproducible and defensible manner to inform emergency preparedness plans. A range of generic, multi-hazard or risk-specific frameworks and tools enables countries to assess emergency preparedness capacities, and provides the information needed to institute targeted measures to strengthen preparedness and response systems in a proactive, evidence-based way.

- **Planning:** Countries and communities will use different frameworks and tools to develop preparedness and emergency response plans. The resulting plans may vary from one context to another because of the different risks and capacities to be found in communities and countries, and because different tools have been used. It is crucial that emergency preparedness plans between and within sectors and levels are aligned and do not generate unnecessary fragmentation or duplication. The planning process should involve broad stakeholder consultation and must be aimed at developing consensus and agreement not only on content, but also with regard to roles in implementation and financing.

Different plans may exist in a country for health emergency preparedness, notably:

- (i) a national action plan to which stakeholders commit to improving a country's level of preparedness over a given period of time
- (ii) an all-hazard national health emergency response plan that sets out the common processes and responsibilities for all health sector, all hazard responses
- (iii) contingency plans developed for priority hazards that are linked to the national action plan and all-hazard plan.

For the development of the national action plan, a process for prioritization and timeframes for implementation that take into account available resources must be in place. All efforts should be made to secure the resources needed to operationalize the highest-priority response capacities.

- **Implementing:** Successfully implementing a national action plan requires a number of things. A coordination mechanism, involving stakeholders with responsibilities identified in the national action plan, should oversee and monitor progress. The participation of stakeholders in planning is essential to ensure commitment to, and ownership of, emergency preparedness measures. The priorities for strengthening emergency preparedness should be described clearly in the action plan; responsibilities and accountabilities should be clearly identified; and sufficient resources should be available to put actions into practice over the duration of the plan. Another important factor is the need to limit the time lag between development and implementation of the plan, to maintain momentum and commitment to emergency preparedness.

- **Evaluating and taking corrective action:** Emergency preparedness is a dynamic process. The implementation of emergency preparedness plans should be monitored and evaluated in line with pre-defined indicators and standardized tools and processes, and should be reported accordingly. Reviews should be conducted at pre-agreed times by the coordinating body, or by an independent body convened for the purpose. Where there are changes in risk priorities or in the availability of capacities and resources, or where post-emergency or post-exercise reviews have identified areas for improvement, corrective action should be applied to the assessment, planning and prioritization of emergency preparedness activities.

- **Exercising:** Exercises provide evidence-based assessments for the monitoring and strengthening of emergency preparedness. As training tools, exercises are useful to help build individual competencies, allowing participants to learn and practice their roles in emergencies. As quality assurance tools, exercises can test and evaluate emergency policies, plans and procedures at organization- or system-wide levels. After exercises have been conducted, action should be taken to institute the recommendations for strengthening emergency preparedness.

8. The way forward

The world is at a moment of convergence. The majority of stakeholders—whether national ministries, civil society, or international agencies—understand that they must take concerted action. Protecting public health from emergencies and ensuring health security at all levels of society relies on coordinated multisectoral action and investment to build consolidated emergency preparedness. This strategic framework has been developed by the World Health Organization in collaboration with interested and committed stakeholders to capture this momentum, acting on the universal desire to prepare for all emergencies that threaten people's health worldwide.

Annex 1. Elements of preparedness at all levels

CORE ELEMENTS	COMMUNITY	NATIONAL/SUBNATIONAL/LOCAL	GLOBAL/REGIONAL
Governance			
Policies and legislation that integrate emergency preparedness	• Community emergency preparedness recognised in policies and legislation	• Integration of emergency preparedness in national health strategies and plans and financing • Multisectoral emergency risk management policies and legislation include health • Legislation for management of emergency situations (emergency powers)	• Development and monitoring of compliance with international legal frameworks (e.g. IHR (2005); IATA/ICAO) • Technical assistance for implementing emergency preparedness elements of global and regional intergovernmental frameworks (e.g. Sendai Framework, IHR, SDGs, Paris Agreement on Climate Change)
Plans for emergency preparedness, response and recovery	• Community level drills and exercises to test planning for emergency preparedness, response and recovery	• Intersectoral plans for emergency preparedness, response and recovery include health (e.g. national disaster management organizations, One Health) • National health emergency plans for preparedness, response and recovery • Multi-hazard, multisectoral exercise management programmes	• Regional and global health coordination mechanisms and plans for international emergency preparedness, response and recovery—including for pandemics, conflicts and widespread disasters (e.g. Emergency Medical Teams, Global Health Cluster, GOARN) • Technical assistance and guidance for preparedness, response and recovery planning • Global and regional exercises

CORE ELEMENTS	COMMUNITY	NATIONAL/SUBNATIONAL/LOCAL	GLOBAL/REGIONAL
Coordination mechanisms	• Community leaders, members and other stakeholders participate in local, subnational and national multisectoral and health coordination mechanisms	• Health coordination mechanisms and plans include relevant sectors, public, private and civil organizations, and other stakeholders across and between all levels • Emergency preparedness of public, private and civil society organizations in public health, animal health, environment, tourism, transport, water, emergency services, migration and other sectors • Public health emergency operations centres (PHEOCs) and incident management systems are established and integrated with multisectoral emergency operations centres (EOCs) and coordination mechanisms across all levels .	• Health coordination with multisectoral regional and global coordination mechanisms (e.g. Interagency Standing Committee) and UN Country Teams
Capacities			
Assessments of risks and capacities to determine priorities for emergency preparedness	• Community level risk assessments, capacity assessments and prioritization • Community participation in local, subnational and national risk assessments, capacity assessments and prioritization	• Multi-hazard multisectoral risk assessments and capacity assessments include health • Strategic health emergency risk assessments, capacity assessments and prioritization include stakeholders from all sectors and levels	• Technical assistance and guidance for country risk assessments, capacity assessments and prioritization • Event risk assessments, forecasting and modelling • Coordination of regional and global risk and capacity assessments with national and international partners
Surveillance, early warning and information management systems	• Community event-based surveillance • Multi-hazard early warning systems reach communities • Community emergency evacuation centres identified with rapid access to services and supplies	• Surveillance systems for public health and animal health • The availability, quality, accessibility and use of health datasets are strengthened for emergency preparedness, monitoring, reporting and multi-hazard disaster databases	• Global and regional coordination mechanisms for data sharing for emergencies, including regional centres for disease control (CDCs) for epidemiological intelligence, data sharing, surveillance, early warning, preparedness and response • Multi-hazard early warning systems include human and animal diseases and contain health warnings • Technical assistance and guidance on surveillance, early warning, health data and disaster databases

CORE ELEMENTS	COMMUNITY	NATIONAL/SUBNATIONAL/LOCAL	GLOBAL/REGIONAL
Access to diagnostic services for emergencies	• Access to rapid diagnostic services in emergencies at community level	• Laboratory capacities for diagnostic services in emergencies • Mobile capacities for field deployment of services in emergencies (e.g. public and animal health laboratories, environmental monitoring devices, decontamination equipment)	• Technical assistance and guidance for developing diagnostic and laboratory services in public health and animal sectors for emergencies • Agreements and mechanisms to share and test samples • Regional reference laboratory capacity for emergencies
Emergency preparedness and continuity of basic services, emergency services and health facilities	• Availability and access to specialised emergency services that address physical, financial and cultural barriers • Continuity plans for access to community health and basic services in other sectors in emergencies • Health facility emergency preparedness	• Emergency health systems and specialised services (e.g. mass casualty management) in health, veterinary health and other sectors • Continuity plans for health and basic services in other sectors in emergencies • Emergency preparedness of hospitals and infrastructure in safe hospitals programmes • Clinical guidance and protocols	• Technical assistance and guidance on clinical management and health services of direct relevance to emergency preparedness and continuity planning • Safe Hospitals Initiative
Risk communications with all stakeholders for emergency preparedness	• Community risk communication for emergency preparedness • Community awareness of health protective practices for emergencies • Social mobilization strategies for emergency preparedness	• Coordinated mechanisms and strategies across sectors for risk communications and social mobilization for emergencies • Actions to support community emergency preparedness	• Coordinated interagency communication strategies and mechanisms for public and official communications • Technical assistance and guidance on risk communications, social mobilization and community capacity development
Research, development and evaluation to inform and accelerate emergency preparedness	• Operational research focuses on community emergency preparedness • Evaluation of emergency preparedness at community level	• Coordination with national and international actors for the development of vaccines, diagnostics, treatments and other measures • Evidence for development of technical guidance for emergency preparedness and emergent diseases • Country evaluation of emergency preparedness	• Global coordination of rapid development of vaccines, diagnostics, treatments and other measures (e.g. WHO R&D Blueprint) • Evidence for development of technical guidance for emergency preparedness and emergent health issues • Global and regional research, cost-benefit studies and evaluation of emergency preparedness

CORE ELEMENTS	COMMUNITY	NATIONAL/SUBNATIONAL/LOCAL	GLOBAL/REGIONAL
Resources – human, financial, logistics and supplies			
Financial resources for emergency preparedness and contingency funding for emergency response	• Availability and access to budgets and other resources for emergency preparedness • Availability and access to emergency contingency funds	• Domestic funding committed to emergency preparedness priorities from national health financing, regular health budgets and emergency budgets • Establishment and resourcing of contingency funding mechanisms for emergency response	• International funding directly aligned with country preparedness plans and priorities • Multisectoral and organizational contingency funding for emergencies
Dedicated, trained and equipped human resources for emergencies	• Training of health workers in all-hazards emergency preparedness • Multi-stakeholder training of community emergency volunteers on health aspects of emergencies	• Multi-hazard multisectoral training courses include health • Establishment and maintenance of specialized teams (e.g. emergency medical teams, rapid response teams) and pools of experts • Health workforce development plans incorporate emergency-related functions, address skill shortages and include public, private and civil society sectors	• Technical guidance and assistance for preparedness of regional and global health emergency workforce (including teams and pools of experts) • Pre-deployment training • Agreements between countries for surge capacity
Logistics mechanisms and essential supplies for health	• Access and availability to emergency stocks and equipment at community level	• Systems and agreements for stockpiling and maintenance of vaccines (including cold chain), antidotes, sampling, diagnostics, PPE and other essential supplies • Emergency preparedness of logistics systems to support health in emergencies	• Agreements for global prioritisation and distribution of key supplies in emergencies • Global and regional stockpiling, pre-positioning and preparedness of logistics systems for distributing essential supplies for emergencies

Appendix 1. Different types of emergencies

Emergency preparedness is required for the following types of emergencies.

1. **Emergencies due to natural hazards**

    a. **Biological hazards**

    I. **Local and national outbreaks:** Some diseases have relatively low pandemic potential— Ebola, for example, because of its route of transmission (and in spite of how it is portrayed in much of the world's media). Others, such as meningitis, are unlikely to progress beyond national or regional outbreaks, although they have the potential to be quite serious and to warrant consideration as public health emergencies of international concern (PHEICs). Many other communicable diseases threaten communities and districts without posing an important threat to global health. The relatively limited nature of these outbreaks has important implications for the kinds of preparedness that are required; their management depends largely on the ability of national and local health systems to detect them and to respond rapidly and competently, albeit at times with external assistance. Importantly, the management of outbreaks of this nature, if well executed, can usually remain largely under the authority of the ministry of health or designated health agencies.

    II. **Outbreaks due to pathogens with pandemic potential:** There are several known pathogens currently circulating that are potentially highly transmissible among humans and which have been detected in numerous countries, but which have not yet reached pandemic status: MERS CoV and avian A(H5N1) influenza are examples. Approaches to preparing for these may be fundamentally different than for the other categories of threat presented here.

    III. **Pandemics:** Influenza is the prototype disease in this category. Influenza pandemics of varying severity have occurred throughout history. Even a relatively mild pandemic, such as the one caused by influenza A(H1N1) in 2009, requires a substantive response. A pandemic of greater severity would have a profound impact on the nature of the response in many countries. Two prominent features of pandemics that need to be considered when undertaking pandemic preparedness planning are as follows: (1) societal functions are likely to be seriously compromised; and (2) external assistance for countries whose capacities are surpassed is not assured, because by definition all countries will be affected and will have to deal with their own domestic emergencies. Country and community emergency preparedness for pandemics involves readiness to reduce transmission and manage the response with limited access to vaccinations, drugs and other forms of assistance.

    b. **Emergencies due to hydrometeorological and geophysical hazards:** Sudden-onset and slow-onset emergencies due to natural hazards, resulting in direct and indirect effects on health and disruption of societal and health systems (and the further possibility of outbreaks), require multisectoral and health sector preparedness. Technological events, outbreaks of communicable disease and other secondary hazards may follow natural hazard events that cause disruption of societal functions (including health services), and countries must be prepared to deal with them.

2. **Emergencies due to human-induced hazards**

    a. **Emergencies due to technological hazards** Emergencies may arise from a range of technological hazards with the potential to cause localised effects or to result in widespread regional or global phenomena. These can originate from technological or industrial conditions, dangerous procedures, infrastructure failures or specific human activities. Examples include industrial pollution, nuclear radiation, toxic

13

waste, dam failures, transport accidents, factory explosions, fires and chemical spills. Technological hazards may also arise from the impacts of other hazardous events.

b. Emergencies due to societal hazards

Societal hazards are mostly associated with different forms of violence on scales ranging from civil unrest through armed conflicts and terrorism to the deliberate use of chemical, biological, radiological and nuclear agents (CBRN). Armed conflicts can cause great morbidity and loss of life and disruption to basic services including health that can last for many years, even decades. A range of preparedness and response measures are required to deal with the consequences of these complex situations, which often include migration, population displacement and lack of security for affected populations and personnel providing health and other services. National and local resources in conflict situations are often complemented by international assistance from the UN system, non-governmental organizations and the Red Cross and Red Crescent Movement. Countries facing protracted crises may also experience other types of emergencies, for example outbreaks and earthquakes, for which further emergency preparedness, response and recovery measures are needed.

Societal hazards also include financial crises, which can constrain national budgets, affect the socioeconomic and health status of individuals and households, and severely reduce access to health services, triggering emergency situations for communities and countries.

Appendix 2. Working definitions for this framework

Emergency preparedness: the knowledge, capacities and organizational systems developed by governments, response and recovery organizations, communities and individuals effectively to anticipate, respond to, and recover from the impacts of likely, imminent, emerging, or current emergencies.

An emergency: an event or threat that produces or has the potential to produce a range of consequences that require urgent, coordinated action.

Comment: an emergency may have limited consequences in a circumscribed area, or catastrophic consequences on a global scale. The impact of an emergency may exceed the capacity of a community or a state to cope using its own resources, and external assistance may be required. This type of emergency is often termed a disaster. Emergencies may pose a substantial risk of significant morbidity or mortality in a community. Emergencies may result from naturally occurring outbreaks; from accidental or intentional release of pathogenic agents; from the consequences of natural and technological hazards such as earthquakes, typhoons, volcanic eruptions, chemical or radiological emergencies; or from societal hazards including violence and conflict.

A plan: a document designed to identify, at various levels, responsibility for a range of activities aimed at meeting specific objectives and at implementing accompanying strategies and tactics.

An emergency response plan (ERP): a document describing how an agency or organization will manage its response to emergencies. An ERP describes the objectives, policies and concept of operations (CONOPS) for the response, as well as the structure, authorities and responsibilities to make that response systematic, coordinated and effective. For example: a national whole-of-government ERP can be a synthesis of ministry-

specific ERPs, and can detail the resources, capacities, and capabilities that each ministry will employ in its response. A whole-of-society ERP also includes contributions from the private sector.

Risk: the combination of the probability of an event and its consequences. Risk results from interactions between natural and human-induced hazards, vulnerability, exposure, and capacities.

Risk assessment: the process of determining those risks to be prioritized for risk management by a combination of risk identification, risk analysis, and evaluation of risk level. A risk assessment includes a review of the technical characteristics of hazards, analysis of exposures and vulnerability, and evaluation of the effectiveness of existing coping capacities.

Risk management: coordinated activities to direct and control risk in order to minimize potential harm. These activities include risk assessments, implementing risk treatment or response measures, and evaluation, monitoring, and review.

Appendix 3. Frameworks and assessment tools for emergency preparedness

Global strategies and frameworks

- IASC/UNDG/UNISDR Common Framework for Preparedness https://interagencystandingcommittee.org/iasc-transformative-agenda/content/common-framework-preparedness

- International Health Regulations (2005) http://www.who.int/topics/international_health_regulations/en/

- OIE Performance for Veterinary Services Pathway http://www.oie.int/support-to-oie-members/pvs-pathway/

- Operational Framework for Building Climate Resilient Health Systems (WHO) http://www.who.int/globalchange/publications/building-climate-resilient-health-systems/en/

- Pandemic Influenza Preparedness Framework http://www.who.int/influenza/resources/pip_framework/en/

- Paris Agreement with the Framework of the United Nations Framework Convention on Climate Change

- Sendai Framework for Disaster Risk Reduction 2015-2030 http://www.unisdr.org/we/coordinate/sendai-framework

- Sustainable Development Goals http://www.un.org/sustainabledevelopment/sustainable-development-goals/

- United National Plan of Action on Disaster Risk Reduction for Resilience (UNISDR) http://www.preventionweb.net/publications/view/33703

- Comprehensive Safe Hospitals Framework (WHO) http://www.who.int/hac/techguidance/comprehensive_safe_hospital_framework.pdf?ua=1

- Early Detection, Assessment and Response to Acute Public Health Events: Implementation of early warning and response with a focus on event-based surveillance (WHO)
  English: http://www.who.int/ihr/publications/WHO_HSE_GCR_LYO_2014.4/en/
  French: http://www.who.int/ihr/publications/WHO_HSE_GCR_LYO_2014.4/fr/
  Russian: http://www.who.int/ihr/publications/WHO_HSE_GCR_LYO_2014.4/ru/
  Spanish: http://www.who.int/ihr/publications/WHO_HSE_GCR_LYO_2014.4/es/

- Framework for a Public Health Emergency Operations Centre (WHO) http://www.who.int/ihr/publications/9789241565134_eng/en/

- Global Action Plan on Antimicrobial Resistance (WHO) http://who.int/drugresistance/global_action_plan/en/

- Recovery toolkit: Supporting countries to achieve health service resilience (WHO) http://www.who.int/csr/resources/publications/ebola/recovery-toolkit/en/

Regional strategies

- Asia Pacific Strategy for Emerging Diseases (SEARO/WPRO) www.wpro.who.int/emerging_diseases/APSED2010/en/

- Disaster Risk Management: A health sector strategy for the African Region (AFRO) https://www.aho.afro.who.int/en/ahm/issue/18/reports/disaster-risk-management-strategy-health-sector-african-region

- Europe 2020 http://www.euro.who.int/en/health-topics/health-policy/health-2020-the-european-policy-for-health-and-well-being
- Strategic Plan for Disaster Risk Reduction and Response 2013-2018: A more resilient health sector in the Americas (PAHO)
- Framework of Action for Disaster Risk Management for Health (WPRO) http://www.wpro.who.int/publications/9789290617082/en/
- European Strategic Action Plan on Antibiotic Resistance http://www.euro.who.int/en/about-us/governance/regional-committee-for-europe/past-sessions/sixty-first-session/documentation/working-documents/wd14-european-strategic-action-plan-on-antibiotic-resistance

International initiatives

- Global Health Security Agenda www.ghsagenda.org

Assessment Tools

- Assessment Tool for Core Capacity Requirements at Designated Airports, Ports and Ground Crossings http://www.who.int/ihr/publications/PoE/en/
- Benchmarks, Standards and Indicators of Emergency Preparedness and Response (SEARO) http://www.searo.who.int/entity/emergencies/topics/EHA_Benchmarks_Standards11_July_07.pdf
- Emergency Response Preparedness Guidance (IASC) https://www.humanitarianresponse.info/en/programme-cycle/space/emergency-response-preparedness-guidance-and-templates
- Hospital Safety Index 2nd Edition, Guide for Evaluators (WHO) http://www.who.int/hac/techguidance/hospital_safety_index_evaluators.pdf?ua=1
- IHR Joint External Evaluation Tool (WHO) http://www.who.int/iris/handle/10665/204368
- Initial Assessment of National Surveillance (in press)
- Initial Assessment of Public Health Surveillance of Events Related to Points of Entry (in press)
- Joint Assessment of National Health Strategies (International Health Partnership +) http://www.internationalhealthpartnership.net/en/key-issues/national-health-planning-jans/

- OIE Tool for the Evaluation of Performance of Veterinary Services http://www.oie.int/support-to-oie-members/pvs-evaluations/oie-pvs-tool/
- PAHO Health Sector Self-Assessment Tool for Disaster Risk Reduction (WHO/PAHO) http://www.paho.org/disasters/index.php?option=com_content&view=article&id=1375%3Ahealth-sector-self-assessment-tool-for-disaster-risk-reduction&Itemid=924&lang=en
- Toolkit for assessing health system capacity for crisis management (EURO) http://www.euro.who.int/en/publications/abstracts/strengthening-health-system-emergency-preparedness.-toolkit-for-assessing-health-system-capacity-for-crisis-management.-part-1.-user-manual-2012
- WHO Emergency and Disaster Risk Management for Health Survey Tool (WHO)
- WHO Laboratory Assessment Tool
  English: http://www.who.int/ihr/publications/laboratory_tool/en/
  French: http://www.who.int/ihr/publications/laboratory_tool/fr/
  Russian: http://www.who.int/ihr/publications/laboratory_tool/ru/
  Spanish: http://www.who.int/ihr/publications/laboratory_tool/es/

Information sharing platform: the Strategic Partnership Portal

The Strategic Partnership Portal (SPP) is a WHO coordination tool that provides comprehensive, up-to-date reporting of health security contributions made by donors and partners; notes the collaborations between various stake-holders; and identifies the specific needs and gaps each country faces in building its IHR capacities. Such information is crucial to improve transparency and facilitate future collaborations.

In addition, under WHO's new Outbreaks and Health Emergencies (OHE) programme, the SPP plays a central role in country emergency preparedness, reporting the recommendations of the Joint External Evaluations (JEE) and other elements of the IHR Monitoring and Evaluation Framework (IHR MEF) to link countries with donors and partners interested in supporting implementation of national action plans.

- Strategic Partnership Portal (WHO) https://extranet.who.int/donorportal/

Health security learning platform

Through the International Health Regulations (IHR 2005), WHO keeps countries informed about public health risks, and works with partners to help countries build capacity to detect, report and respond to public health events.

The health security learning platform (HSLP) supports the learning needs of organizations and individuals with responsibilities in public health and other related sectors. It is focussed on strengthening health security by implementing the IHR 2005 through a wide range of learning programmes, activities and materials.

The HSLP can be accessed here:
https://extranet.who.int/hslp/

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