

# Disaster Risk Management for Health

## OVERVIEW

### What is disaster risk management for health?

Disasters and other emergencies often result in significant impacts on people's health, including the loss of many lives. Every new threat reveals the challenges for managing health risks and effects of emergencies and disasters. Deaths, injuries, diseases, disabilities, psychosocial problems and other health impacts can be avoided or reduced by disaster risk management measures involving health and other sectors.

Disaster risk management for health is multisectoral and refers to:

the systematic analysis and management of health risks, posed by emergencies and disasters, through a combination of (i) hazard and vulnerability reduction to prevent and mitigate risks, (ii) preparedness, (iii) response and (iv) recovery measures.

The traditional focus of the health sector has been on the response to emergencies. The ongoing challenge is to broaden the focus of disaster risk management for health from that of response and recovery to a more proactive approach which emphasises prevention and mitigation, and the development of community and country capacities to provide timely and effective response and recovery. Resilient health systems based on primary health care at community level can reduce underlying vulnerability, protect health facilities and services, and scale-up the response to meet the wide-ranging health needs in disasters.

**Disaster risk management for health is  
"EVERYBODY'S BUSINESS"**

### Advocating disaster risk management for health

These advocacy materials are an introduction for health workers engaged in disaster risk management and for multi-sectoral partners to consider how to integrate health into their disaster risk management strategies.

The overview places disaster risk management in the context of multi-sectoral action and focuses on the generic elements of disaster risk management, including potential hazards, vulnerabilities of a population, and capacities, which apply across the various health domains.

The accompanying fact sheets identify key points for consideration within a number of essential health domains.

However, importantly, all health domains are inter-linked; each fact sheet should therefore be considered as part of the entire set and in conjunction with the overview.

### Why is there a need for disaster risk management for health?

Natural, biological, technological and societal hazards put the health of vulnerable populations at risk and the potential to cause significant harm to public health. Examples of these hazards are as follows:

- Natural: earthquake, landslide, tsunami, cyclones, flood or drought.
- Biological: epidemic disease, infestations of pests.
- Technological: chemical substance, radiological agents, transport crashes.
- Societal: conflict, stampedes, acts of terrorism.

Disasters, emergencies, and other crises may cause ill-health directly or through the disruption of health systems, facilities and services, leaving many without access to health care in times of emergency. They also affect basic infrastructure such as water supplies and safe shelter which are essential for health.

International consensus views disasters as barriers to progress on the health-related Millennium Development Goals (MDGs), as they often set back hard earned development gains in health and other sectors.

## Natural Disasters

Over a twenty year period, in excess of 8500 natural disasters occurred, affecting more than 2.6 billion people.<sup>2</sup> A comparative analysis of disaster statistics in Latin America found that for each disaster listed in global disaster databases, there are some 20 other disasters with destructive impact on local communities that are not recorded.<sup>3</sup> In Latin America, the cumulative effect of ten years of local disasters were found to have had a greater impact on the poor than any one-off event.<sup>4</sup>

The incidence of natural disasters has been increasing and the impact of climate change will be to increase the risk for millions of individuals, their homes, their communities, and the infrastructure that supports them.

## Biological Disasters

During the last few decades, biological emergencies have assumed an increasing importance: major outbreaks related to new and re-emerging infectious diseases such as SARS, influenza (H1N1 and H5N1) and cholera.

## Technological disasters

The International Federation of the Red Cross has estimated that between 1998 and 2007, there were nearly 3 200 technological disasters with approximately 100 000 people killed and nearly 2 million people affected.<sup>5</sup>

## Societal Disasters

Complex emergencies, including conflict, continue to affect tens of millions of people, causing displacement of people both inside and across borders. In 2010 there were an estimated total of 27 million persons who remained internally displaced by armed conflict across the world.



Democratic Republic of Congo (WHO/M. Koric)

## Country capacities and needs

Progress has been made at global, regional, national and community levels, but the capacity of countries for risk reduction, emergency preparedness, response and recovery remains extremely variable.

The 2007 WHO global assessment found that less than 50% of national health sectors had a specified budget for emergency preparedness and response.<sup>7</sup> Factors affecting capacity include:

- weak health and disaster management systems.
- lack of access to resources and know-how.
- continuing insecurity due to conflict.

But a number of high-risk countries have strengthened their disaster prevention, preparedness and response systems; in some countries, the health sector has led initiatives developing multi-sectoral approaches to disaster risk management.

## Disaster risk management for health in context

### Sustainable development

Disaster risk management has emerged as a core element of sustainable development and an essential part of a safer world in the twenty-first century.<sup>6</sup> Reducing risk is a long-term development process, managed by communities and individuals working together.

### Health Systems

Health care systems provide core capacities for disaster risk management for health. Some countries affected by disasters have limited basic health services and infrastructure, which in itself hugely compounds the challenges of disaster response. Countries with well-developed systems are often much more resilient and better prepared for disasters.

Primary health care (PHC) focuses on basic services to improve health status, which in turn builds community resilience and provides the foundation for responding to emergencies. Policies and strategies focusing on PHC can contribute to decreasing vulnerability and preparing households, communities and health systems for disasters. Following a disaster, focus is often given to acute care needs and specialist interventions; whilst important, it is usually chronic and pre-existing conditions that prove the largest burden of disease.

Community-based actions are at the front line of protecting health in emergencies because:

- local knowledge of local risks is used to address the actual needs of the community.
- local actions prevent risks at the source, by avoiding exposure to local hazards.

- a prepared, active and well-organized community can reduce risks and the impact of emergencies.
- many lives can be saved in the first hours after an emergency through community response before external help arrives.

#### Hospitals and health infrastructure

Health systems are composed of public, private and nongovernmental facilities which work together to serve the community; these include hospitals, primary health care centres, laboratories, pharmacies and blood banks. Safe hospitals programmes ensure health facilities are safely built to withstand hazards, remaining operational in emergencies.

#### Developing adaptable and resilient health care systems

*Surge capacity:* Health care systems need to prepare to cope with large numbers of patients. This may require mobilising staff around the country to aid affected areas.

*Flexibility in health care systems:* Flexibility to deliver different functions is an essential component of health care delivery. This may mean reducing some services in order to increase others.

*Business continuity planning:* Plans to maintain the continuity of health sector operations includes identifying priority services, mechanisms for response co-ordination and communicating with staff and partner organisations.

#### **Multisectoral action**

In order for the health of the population to be protected during and after a disaster, wider determinants of health such as water, sanitation, nutrition, and security also need to be adequately addressed through multisectoral working.

Essential infrastructure such as communications, logistics, energy and water supplies, and emergency services and banking facilities need to be protected through multisectoral working to ensure the continuity of health services.



## Health and the Hyogo Framework for Action: 5 Priorities for Action

The Hyogo Framework for Action identifies 5 priorities for action towards strengthening community and country resilience to disasters. The application of these 5 priorities<sup>8</sup> for health and the health sectors as described below.

### **Priority 1: Disaster risk management for health as a national and local priority**

- Development and implementation of health and multisectoral policies, strategies and legislation to provide direction and support for disaster risk management, especially at local levels.
- Health sector and multisectoral coordination mechanisms at local and national levels to facilitate joint action on risk reduction, response and recovery by the various health and non-health actors.
- Commitment of sufficient resources to support disaster risk management for health.

### **Priority 2: Health risk assessment and early warning**

- Assessment of risks to health and health systems.
- Determining risk management measures based on risk assessments.
- Surveillance and monitoring of potential threats to health, particularly from biological, natural and technological (such as chemical and radiological hazards) sources to enable early detection and warning to prompt action by the public, health workers and other sectors.

There are three broad elements which are usually considered in risk assessment:

1. Hazard Analysis: Identification of the hazards and assessment of the magnitude and probability of their occurrence.
2. Vulnerability Analysis: Analysis of vulnerability of individuals, populations, infrastructure and other community elements to the hazards.
3. Capacity analysis: Capacity of the system to manage the health risks, by reducing hazards or vulnerability, or responding to, and recovering from a disaster.



## Reducing vulnerability to disasters: a public health priority<sup>9</sup>

Risks can be understood in terms of hazards and people's vulnerability to that hazard.<sup>10</sup> Human vulnerability to disasters is a complex mix of issues that includes social, economic, health and cultural factors. In many situations it is not the hazard itself that necessarily leads to a disaster, but the vulnerability and inability of the population to anticipate, cope with, respond to and recover from its effects.

The burden of disasters falls disproportionately on vulnerable populations, namely the poor, ethnic minorities, old people, and people with disabilities. Worldwide, the loss of life from climate related disasters is far higher among the less-developed nations than it is in developed nations. Within each nation, including developed nations, poor people are the most affected.<sup>11</sup> Poverty reduction is an essential component of reducing vulnerability to disasters. High-risk populations must be prioritized in targeted efforts to mitigate human vulnerability. Various risk factors for human vulnerability to disaster-related morbidity and mortality include the following.<sup>12</sup>

- Low income.
- Low socioeconomic status.
- Lack of home ownership.
- Single-parent family.
- Older than 65 years.
- Younger than 5 years.
- Female sex.
- Chronic illness.
- Disability.
- Social isolation or exclusion.

In the context of disaster risk management, public health programmes build capacities and resilience of individuals and communities to risks, to reduce the impact, cope with and to recover from the effects of adversity.<sup>13</sup> They address issues related to health disparities that arise between the general population and the most vulnerable groups.

## Priority 3: Education and information to build a culture of health, safety and resilience at all levels

Through education, training and technical guidance, strengthen the knowledge, skills and attitudes of professionals in health and other sectors for managing the health risks of disasters.

Information, education and risk communication for households and communities at risk to promote healthy behaviours to reduce risks and prepare for disasters. This may be through raising awareness through the media and community-based disaster risk management programmes.

## Priority 4: Reduction of underlying risk factors to health and health systems

Poverty reduction measures and systems aimed at improve the underlying health status of people at risk of disasters.

New hospitals are built with a sufficient level of protection and existing health care infrastructure is strengthened to remain functional and deliver health services in emergency situations.

Protection of other vital infrastructure, and facilities that have the potential to generate risks to public health, such as water and sanitation systems and chemical facilities, should also apply risk management measures.

Adherence to building standards and retrofitting of vulnerable health infrastructure, protection of ecosystems, and ensuring effective insurance regimes and micro-finance initiatives to ensure business continuity across all health care settings.

## Priority 5: Disaster preparedness for effective health response and recovery at all levels.

Disaster preparedness, including response planning, training, pre-positioning of health supplies, development of surge capacity, and exercises for health care professionals and other emergency service personnel, is critical for the effective performance of the health sector in the response.



Structurally reinforced hospital, Ecuador (PAHO)

## Development of capacities for health disaster risk management

The health sector requires capacities and relationships with other sectors which span across the spectrum of disaster risk management measures at community, sub-national, national and international levels. The health risks of a disaster can be mitigated by decreasing exposures and the human susceptibility to the hazard, and building resilience of individuals, communities and the country to protect health, respond and recover effectively from the impact of the hazard.

**An all-hazards health emergency and disaster risk management programme could be expected to have the following components:**

1. Health and multisectoral policies, strategies and legislation to provide direction and support for disaster risk management.
2. Health sector and multisectoral frameworks and mechanisms to provide coordination across and between actors across the spectrum of disaster risk management.
3. Health emergency information management, including risk assessment and technical guidance.
4. Response and recovery planning and operations at community, sub-national, national and international levels (and business continuity management at an institutional level).
5. Capacities in health and related technical disciplines/domains for disaster risk management at community, sub-national and national levels, for example:
  - Child health.
  - Maternal and newborn health.
  - Management of communicable diseases, chemical incidents, radiation emergencies.
  - Mass casualty management.
  - Mental health and psychosocial support.
  - Mass fatality management.
  - Nutrition.
  - Sexual and reproductive health.
  - Trauma care.
  - Water, sanitation and hygiene.
6. Safer and prepared hospitals, health facilities, infrastructure and organisations.
7. Information, education and communication networks to promote healthy behaviours in communities at risk of disasters.

8. Research capacities to develop, analyse, maintain and disseminate the evidence base for disaster risk management.

9 Capacity development measures to strengthen capacity across all relevant health domains and in other sectors for health aspects of disaster risk reduction, response and recovery.

10 Monitoring, reporting and evaluation of disaster risk management programmes.

## Developing a robust evidence base

The establishment of an evidence base is necessary to provide support for establishing or strengthening of multi-sectoral and multidisciplinary disaster risk management programmes in at-risk countries. This may best be achieved by:

- A multi-sectoral forum promoting and coordinating the development of research methodologies in disaster risk management.
- Enhanced multi-sectoral and coordinated communication and data sharing.
- Development of multi functional instruments to collect a minimum data set of information.
- Ensuring learning is used to influence decision making at all levels of civil society.

## Disaster risk management for health: key considerations

Development of national and community health emergency and disaster risk management systems with emphasis on primary prevention, vulnerability reduction and strengthening community, health facility, and health system resilience by reinforcing a community-centred primary health care approach.

Stimulate development of further evidence-based technical guidance and training programmes for the advancement of health emergency and disaster risk management capacities, including priority technical areas.

Strengthen partnerships, institutional capacities and coordination mechanisms among health and related sectors for global, regional, national and community health emergency and disaster risk management.

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Sichuan Earthquake, China 2008 (WHO)

## Fact sheet development & partners

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