

Health responses to humanitarian crises

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Introduction

What overall approach should be taken in responding to health needs in a humanitarian crisis?

Humanitarian health responses require both coverage and effectiveness in order to achieve the overall goal of reducing mortality and morbidity. Key criteria to maximise coverage and effectiveness include feasibility, timeliness, maximum opportunity benefit and minimum opportunity cost, and cost-effectiveness.

The response should support a multi-sectoral approach, as improvements in health outcomes are likely to involve coordination between key sectors such as health; water, sanitation and hygiene (WASH); nutrition and food security; and shelter. Responses should be targeted, and generally be concentrated at the community level and through the primary health care system. Ultimately, these should also seek to help strengthen health systems and engage communities in the promotion and protection of their health. Coordinating humanitarian response is essential and this is commonly managed through the national government and/or the health cluster of the overall humanitarian cluster.

Key health topics, risk-factors and responses

Key health outcomes include: communicable diseases (particularly malaria, pneumonia, and diarrhoea) and disease outbreaks (e.g. measles, cholera, meningitis)¹; malnutrition; sexual and reproductive health (SRH); mental health and psychosocial support (MHPSS); non-communicable diseases (NCDs); and injury and physical rehabilitation. In general, the most common causes of mortality in a crisis are the same as in non-emergency situations, but with higher rates and greater impact. There are some conditions which increase with specific emergencies.

About the author

Bayard Roberts is the Director of ECOHOST - The Centre for Health and Social Change. His research addresses the health determinants, policies and systems of countries in transition such as conflict-affected and fragile states or those in the former Soviet Union. This research has focused particularly on mental health, other non-communicable diseases, and harmful health behaviours - particularly tobacco and harmful alcohol use. Prior to joining LSHTM he was involved in supporting reproductive health and HIV/AIDS programmes in Afghanistan, Nepal, Pakistan, and Uganda amongst others.

¹ Communicable disease outbreak, surveillance and response which are covered in a [separate Reading Pack](#).

Immediate risk factors for mortality and morbidity in crises include:

- disruption to health services and other key health system functions
- decreased access to health services
- exposure to violence and other traumatic events
- high exposure to disease vectors
- insufficient vaccination coverage
- environmental factors such as reduced access to clean water and sanitation
- overcrowding
- inadequate shelter
- insufficient access to food and low nutrient intake
- change in behaviour following crises

Conditions which increase with specific emergencies:

- Communicable disease outbreaks such as cholera / diarrhoea outbreaks from flooding / drought, and measles outbreaks as a result of overcrowding
- Injury from natural disaster

Key health topics, their response activities/principles, and some leading guidelines are given in Table 1.

Table 1

Health topic	Key response activities/principles	Guidelines*
Communicable disease	<ul style="list-style-type: none"> • Immediate prevention activities should include: vaccination services, with the Expanded Programme of Immunisation (EPI) re-established as soon as possible; vector control methods (e.g. for malaria, dengue); shelter; water, sanitation and hygiene. • Standard operating procedures, essential diagnostic equipment, and medications specified on the essential medicines list should be available. • <i>Please note that communicable disease outbreak, surveillance and response are addressed in a separate Reading Pack.</i> 	<ul style="list-style-type: none"> • WHO Field Manual on Communicable Disease control in Emergencies • WHO Outbreak surveillance and Response in Emergencies • Epidemic preparedness and response in refugee camp settings
Nutrition	<ul style="list-style-type: none"> • Malnutrition is a major underlying cause of deaths in children <5 years. Therefore, priority is to support infant and young child feeding (as), management of acute malnutrition and micronutrient deficiencies. • Examine food security issues. 	<ul style="list-style-type: none"> • WHO Nutrition in Emergencies (and other WHO guidelines) • UNHCR nutrition intervention guidelines
Water, sanitation and hygiene (WASH)	<ul style="list-style-type: none"> • Activities should seek to protect health through hygiene promotion, safe water supply, excreta disposal, vector control, solid waste management and drainage. 	<ul style="list-style-type: none"> • WHO Technical Notes on WASH
Sexual and reproductive health (SRH)	<ul style="list-style-type: none"> • Essential SRH services should be integrated into emergency responses through the Minimum Initial Service Package (MISP) • Key MISP activities include service coordination; preventing and responding to gender-based violence (GBV); preventing and treating HIV and other sexually transmitted infections; provide 	<ul style="list-style-type: none"> • Inter-agency Field Manual on RH in Humanitarian Settings • IASC GBV guidelines • IASC HIV guidelines

	maternal and newborn health services; and then planning for more comprehensive SRH health services (including family planning) as the situation continues and stabilises.	
Mental health and psychosocial support (MHPSS)	<ul style="list-style-type: none"> • Use community-based activities and integrate services into primary health care. • Key activities include ensuring basic services and security, strengthening community and family support, non-specialised support services in the community and primary health care, and then specialist services by mental health professionals for more serious conditions. 	<ul style="list-style-type: none"> • IASC guidelines on MHPSS • MHPSS Assessment guidelines • Mental health Clinical Treatment guidelines • WHO Sustainable Mental Health Care after emergencies
Non-communicable diseases (NCDs)	<ul style="list-style-type: none"> • Maintain treatment for those already receiving treatment for NCDs to avoid interruption of treatment. • People with acute life-threatening complications from NCDs should receive treatment. • Standard operating procedures, essential diagnostic equipment, and medications specified on the essential medicines list should be made available. • Registration systems should be established to ensure continuity of treatment. 	<ul style="list-style-type: none"> • Sphere Handbook
Injury	<ul style="list-style-type: none"> • If appropriate, employ surgeons within 72 hours of the crisis, following agreed <u>standards</u>. • Ensure coordination of health service response, establishment of triage system and standardised protocols, verification of appropriate expertise and resources, and provision of assistive devices and mobility aids (e.g. wheelchairs, crutches). 	<ul style="list-style-type: none"> • Health Cluster Guide • WHO Field Hospital Guide
Health system and health services	<ul style="list-style-type: none"> • Responses should follow WHO building blocks of essential functions required to deliver essential health services (services, information, human resources, medical products and technologies, health financing, leadership and governance). • For the health service building block, much of the focus should be on primary health care services, but hospitals will need to be supported or field hospitals established. 	<ul style="list-style-type: none"> • Health Cluster Guide • WHO guide on analysing disrupted health sectors • WHO guide on field hospitals • UNHCR Essential Medicines List • UNHCR urban health care access
<p><i>*These are examples of leading guidelines, but humanitarian agencies also have their own guidelines. In addition, some more general humanitarian guidelines include the WHO resources, Sphere Handbook, UNHCR guidelines (various), Johns Hopkins/Red Cross/Red Crescent guidelines and Médecins Sans Frontières reference books.</i></p>		

Should the same response be used in all humanitarian crises? While the health topics included in Table 1 are all commonly agreed health priorities in a humanitarian crisis, the responses need to be specific to the identified needs and context, and continually adapt as this changes. There are often specific needs arising directly or indirectly from the humanitarian crises. The contextual factors include:

- Different stages of a crisis (e.g. acute crisis phase or more prolonged chronic crises). For example, injuries will be highest following a natural disaster, but may be less of a public health priority after the first few weeks, with other health issues increasing with time, such as diarrhoea, malaria and

respiratory infection. See Figure 1: this graph was developed as an indication of changing priority of health problems following a natural disaster.

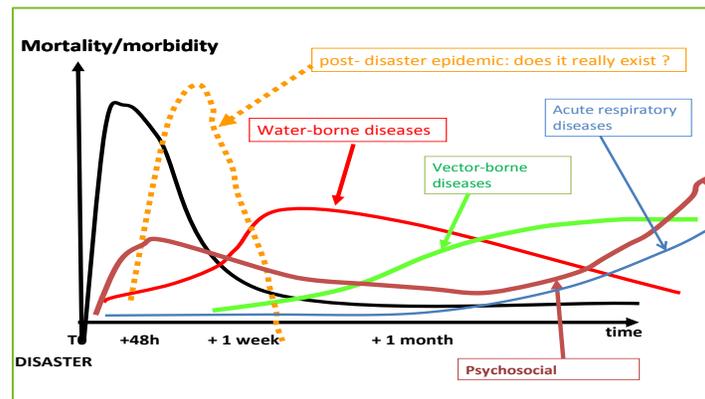


Figure 1: Health priorities over time following a natural disaster

- Different types of crisis such as armed conflicts (including the type and severity of fighting and impact on civilians) or natural disasters (e.g. earthquake, flood etc). See table 2:

Table 2: Features of different types of emergencies

Effect	Complex emergencies	Earthquakes	High winds (without flooding)	Floods	Flash floods/ tsunamis
Deaths	Many	Many	Few	Few	Many
Severe injuries	Varies	Many	Moderate	Few	Few
Increased risk of communicable diseases	High	Varies*	Small	Varies*	Varies*
Food scarcity	Common	Rare	Rare	Varies	Common
Major population displacements	Common	Rare (may occur in heavily damaged urban areas)	Rare (may occur in heavily damaged urban areas)	Common	Varies

* Depends on post-disaster displacement and living conditions of the population
Source: Adapted from Pan American Health Organization, 1981

- The location of affected populations such as whether they have been displaced into refugee camps or dispersed in urban areas, or remain entrapped in the most affected areas.
- The different epidemiological, demographic, socio-economic and cultural contexts and localised risk-factors.

Assessment and Monitoring

Is it really possible to collect detailed information in the midst of a humanitarian crisis? Yes - the [timely and coordinated](#) collection of information is critical in effectively responding to humanitarian crises. The failure to collect such information can result in inappropriate, ineffective, inefficient and unethical practice. Initial responses (e.g. in the first 72 hours) should include a [rapid risk assessment](#) to obtain immediate information on potential health risks and needs (e.g. using existing data sources such as demographic and health surveys, other surveys, country profiles, epidemic reports, satellite imagery).

Field assessments can then be conducted (weeks 1-2) to better understand actual needs relating to the key health topics, their risk factors, and the specific needs and context of the affected population.

More health specific assessments should be conducted from week 3 onwards. These include random sampling population surveys and surveillance systems to estimate mortality, morbidity and malnutrition and also [needs identified by affected populations themselves](#). The goal should be to establish population-level surveillance systems and health facility routine data systems as soon as possible in order to monitor health outcomes and detect changes in mortality, morbidity, and potential disease outbreaks and epidemics immediately. Different types of key health information sources are provided in Table 3.

Table 3: Key health information sources in humanitarian crises

Health topic	Methods
Affected population size and composition	<ul style="list-style-type: none"> • Essential in order to provide a denominator for calculating key measures such as mortality and malnutrition rates, disease prevalence, vaccination coverage; and for overall planning purposes • Methods include residential structure count (e.g. aerial counts through satellite imagery) plus occupancy estimation (e.g. random household surveys); and surveillance systems
Mortality	<ul style="list-style-type: none"> • Community-based demographic surveillance (preferred option) • Passive “body count” surveillance • Retrospective mortality surveys • Verbal autopsies added-on to above methods explore causes of death
Communicable and non-communicable disease	<ul style="list-style-type: none"> • Desk-based disease risk assessment • Vaccination coverage surveys • Morbidity surveillance • Early Warning Alert and Response Network (EWARN) systems • Survey to measure point prevalence of chronic diseases or retrospective incidence of acute disease syndromes • Analysis of health facility-based morbidity and mortality data
Water, sanitation and hygiene (WASH)	<ul style="list-style-type: none"> • Mapping of water supply quantity and quality, excreta disposal, and water equipment, in relation to the overall size of the affected population • Hygiene practice using qualitative methods (e.g. focus groups) • Prevalence surveys of water-related and vector-borne diseases • Access and security to WASH facilities (especially for women and children) using qualitative methods, mapping and observation
Nutrition	<ul style="list-style-type: none"> • Desk-based nutritional risk assessment • Repeated anthropometric sampling from surveillance sites • Cross-sectional anthropometric surveys • Food security methods include: market analysis and agricultural production monitoring; household surveys; qualitative methods (e.g. focus groups) on household livelihoods, food access, food consumption and feeding practices
Sexual and reproductive health (SRH)	<ul style="list-style-type: none"> • Demographic surveillance system • Service mapping • Random household survey of reproductive health needs • Health facility-based surveillance of sexual and gender-based violence cases • Random household survey of exposure to sexual and gender-based violence
Mental health and psychosocial support (MHPSS)	<ul style="list-style-type: none"> • Collecting data covering serious mental health symptoms as part of general facility-based health surveillance • Services mapping • Participatory assessment
Injury	<ul style="list-style-type: none"> • Service availability mapping • Outcome assessments using routine health facility records

Health service availability, coverage and effectiveness	<ul style="list-style-type: none"> • Who What Where When (4Ws) analysis • Health Resources Availability Mapping System (HeRAMS) • Coverage surveys (vaccination, health services, nutritional programme, etc.) • Focus groups, other qualitative methods for exploring service utilisation and barriers • Health system building blocks analysis using surveys, mapping exercises, existing data and documents, and qualitative methods • Analysis of facility data (e.g. on cure rates) • Facility audits and spot checks, patient exit interviews
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Health systems approach

Is it really possible to take a health systems approach in a humanitarian crisis? Yes. Indeed it is crucial to take a health system approach in order to ensure a comprehensive and coordinated response and that short-term humanitarian interventions can support longer-term development goals (and that these longer term development goals in turn build resilience to conflict and disasters). The earlier a health systems approach can be adopted, the greater the benefits over the longer-term.

One of the key mechanisms for doing this is to have an understanding of the following “building blocks” of the health system:

1. Services: A set of effective and safe health services (formal and informal, including community led interventions)
2. Information: Health information systems that help map disease and measure health impact
3. Human resources: A capable health workforce
4. Products and technologies: Availability of medical products, vaccines and technologies, to prevent and treat disease
5. Financing: The funding needed to provide health services
6. Leadership/Governance: The leadership and governance systems to ensure that resources are used to maximum effect

It is useful to analyse the impact of the crisis on each of these health system building blocks in order to plan an appropriate response. For example, by developing a matrix to analyse pre-crisis capacity/needs, the impact of the crisis, and the potential initial response, for each of the six building blocks. See Figure 2:

Figure 2: Matrix to analyse crisis needs

	Pre-Crisis	Impact of Crisis	Potential Initial Response
Services			
Information			
Human resources			
Products and technologies			
Financing			
Leadership/Governance			

If the health system and all the building blocks are not adequately functioning, responses are unlikely to succeed, as delivery of health services requires all building blocks of a health system to be functioning.

For example, DFID can fund delivery of medicines, but these will have no impact if staff are not available to prescribe them, if health information systems are not identifying what diseases are a priority and if appropriate treatment guidelines are not followed.

Health in a Humanitarian Crisis from Health Position Paper

DFID works to strengthen collaboration between humanitarian and development health partners, to ensure that short-term humanitarian interventions support longer-term development goals, and that these longer term development interventions build resilience to conflict and disasters. Building resilience includes strengthening health systems and strengthening the community interface, enabling them to be the first to respond when disaster strikes. Our understanding of how best to save lives in an emergency is always improving and DFID is investing in research and innovation that will improve it further. It will evaluate the evidence around the cost-effectiveness of resilience-building activities to inform future activities. We work with others to strengthen early warning systems and facilitate early action using science, research and country knowledge.

The UK government will continue to reinforce its capacity to respond to health emergencies and humanitarian crises in countries overseas, improving accountability, impact and professionalism. Health teams should work closely with, and strengthen national and district systems and local communities to leave behind expanded and more resilient health systems after an emergency.

Key readings

Reading 1: Leaning J, Guha-Spari D. 2013. Natural Disasters, Armed Conflict, and Public Health. *New England Journal of Medicine*; 369:1836-42
http://www.heart-resources.org/doc_lib/natural-disasters-armed-conflict-and-public-health/

Reading 2: Spiegel PB, Checchi F, Colombo S, Paik E. 2010. Health-care needs of people affected by conflict: future trends and changing frameworks *Lancet*; 375: 341–45
http://www.heart-resources.org/doc_lib/health-care-needs-of-people-affected-by-conflict-future-trends-and-changing-frameworks/

Reading 3: Checchi F, Gayer M, Grais RF, Mills EJ. 2007. Public health in crisis-affected populations: a practical guide for decision-makers. HPN Network Paper 61. Overseas Development Institute.
http://www.heart-resources.org/doc_lib/public-health-in-crisis-affected-populations-a-practical-guide-for-decision-makers/

Reading 4: Checchi F, Roberts L. 2005. HPN Network Paper 52: Interpreting and using mortality data in humanitarian emergencies. London: Overseas Development Institute.
http://www.heart-resources.org/doc_lib/interpreting-and-using-mortality-data-in-humanitarian-emergencies/

Reading 5: Haskew C et al. 2010. A standardized health information system for refugee settings: rationale, challenges and the way forward. *Bull World Health Organ*; 88:792–794.
http://www.heart-resources.org/doc_lib/a-standardized-health-information-system-for-refugee-settings-rationale-challenges-and-the-way-forward/

Reading 6: Kruk ME, Freedman LP, Anglin GA, Waldman RJ. 2010. Rebuilding health systems to improve health and promote statebuilding in post-conflict countries: a theoretical framework and research agenda. *Social science & medicine*; 70(1): 89-97.
http://www.heart-resources.org/doc_lib/rebuilding-health-systems-to-improve-health-and-promote-statebuilding-in-post-conflict-countries-a-theoretical-framework-and-research-agenda/

Questions to guide reading

1. What are different examples of health risk-factors in humanitarian crises?
2. What are key criteria for selecting optimal health interventions in a humanitarian crisis?
3. What are the main methods for measuring mortality and morbidity in humanitarian crises and what are their main advantages and disadvantages?
4. What are five reasons that health programmes for forcibly displaced persons (such as refugees) and internally displaced persons may have distinct monitoring requirements from standard national programmes?
5. How may health systems contribute to improved health status?