

Rapid health assessment protocols for emergencies



World Health Organization
Geneva



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Field guide on rapid nutritional assessment in emergencies.

WHO Regional Office for the Eastern Mediterranean.

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1993 (61 pages) 15.–

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Eighth report of the WHO Expert Committee

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WHO Technical Report Series, No. 882, 1998 (77 pages) 19.–

Safety measures for use in outbreaks of communicable diseases.

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Preface

The initial phase of a major emergency is crucial for the survival of victims and for determining the future path of assistance to the stricken community. Many organizations from within and outside the affected country send teams to assess the emergency situation and determine the kind of response required to relieve human suffering. The absence of a common, standardized technical tool for damage and needs assessment in this initial phase may result in contradictory information being channelled to national and international humanitarian agencies. Consequently, the response may be one that fails to meet actual needs, aggravating rather than improving the emergency situation.

To address this gap, this publication brings together, in one volume, 10 protocols designed to help those involved in the rapid assessment determine the immediate and potential health impact of a broad range of emergencies and assist in planning appropriate responses.

The original protocols were the joint effort of three WHO Collaborating Centres for Emergency Preparedness and Response: the Centre for Research on the Epidemiology of Disasters, Brussels, Belgium; the Centers for Disease Control and Prevention, Atlanta, Georgia, USA; and the National Public Health Institute, Department of Environmental Hygiene and Toxicology, Kuopio, Finland. WHO distributed the draft protocols to Member States, the six WHO regional offices, and other WHO partners, including nongovernmental organizations, for extensive field-testing. On the basis of their written comments, the protocols were subsequently reviewed and updated by experts from intergovernmental and nongovernmental organizations with broad experience in the field of emergency management.

This series of protocols is meant to be used as a complete unit; the introduction deals with the basic elements of rapid health assessment, while the subsequent protocols cover specific types of emergencies. Certain topics, common to more than one type of emergency, are covered in only one protocol and cross-referenced to reduce redundancy.

Rapid health assessment is a complex task fraught with difficulties and one that carries heavy responsibilities. Therefore, whenever possible, it should be undertaken only by teams of well qualified and experienced specialists. Nevertheless, there are circumstances in which a life-saving response cannot wait while an expert team is assembled, and key information must be gathered as early as possible. For this reason, the protocols provide background information, so that they may assist general health personnel identify priorities in emergencies and respond accordingly.

The protocols are also intended for personnel and organizations who may not conduct the assessment but have responsibility for emergency preparedness and

response, such as ministries of health. They can be used to train emergency workers prior to emergencies, to demonstrate how rapid assessment can be integrated into multisectoral emergency preparedness, and to show how information collected through the assessments can be employed for effective emergency response.

Finally, while the protocols focus on health, they are meant to be used within the context of a larger assessment of the status and emergency needs of all aspects of a community. To be effective, emergency preparedness must be institutionalized at every level of management in countries vulnerable to major emergencies. This institutionalization comprises policy development, vulnerability assessment, emergency planning, developing information and resource management systems, training and education, and monitoring and evaluation. All major development activities should include a component of emergency preparedness to reduce the harm caused by emergencies. Without this component, thousands of people's lives are at risk and sustainable development is in jeopardy.

No one sector of a country or community is wholly responsible for every aspect of an emergency. However, each sector and organization should plan assessment activities, train personnel in assessment techniques, and practise these techniques with other sectors and organizations. Rapid assessment should be the joint activity of all humanitarian agencies so that they may provide definitive information to response and recovery decision-makers. The working partnerships and open communication that contribute to emergency preparedness lay the foundation for effective coordination and cooperation in times of actual emergencies.

WHO wishes to acknowledge the contributions of the following to the review and finalization of the protocols: Dr V. Brown, Médecins Sans Frontières/Epicentre; Dr R. Coninx, International Committee of the Red Cross; Dr M. Dualeh, Office of the United Nations High Commissioner for Refugees; Mr T. Foster, Registered Engineers for Disaster Relief; Mr A. Mourey, International Committee of the Red Cross; Dr H. Sandbladh, International Federation of Red Cross and Red Crescent Societies; and Dr B. Woodruff, Centers for Disease Control and Prevention. In addition, the following WHO personnel participated in updating the technical content of the protocols: Ms M. Anker, Division of Emerging and other Communicable Diseases Surveillance and Control; Dr K. Bailey, formerly of the Division of Food and Nutrition; Dr S. Ben Yahmed, formerly of the Division of Emergency and Humanitarian Action; Mr H. Dixon, formerly of the Division of Health Situation and Trend Assessment; Ms H. Hailemeskal, formerly of the Division of Emergency and Humanitarian Action; Mr P. Koob (editorial assistance), formerly of the Division of Emergency and Humanitarian Action; Dr J. Le Duc, formerly of the Division of Emerging and other Communicable Diseases Surveillance and Control; Dr A. Loretti, Panafrican Emergency Training Centre, Addis Ababa; Dr K. Nguyen, formerly of the Division of Emerging and other Communicable Diseases Surveillance and Control; Ms M. Petevi, Division of Mental Health and Prevention of Substance Abuse; Dr M. Santamaria, Division of Emerging and other Communicable Diseases Surveillance and Control; Mr M. Szczeniowski, Division of Emerging and other Communicable Diseases Surveillance and Control; and Dr E. Tikhomirov, Division of Emerging and other Communicable Diseases Surveillance and Control.

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Chapter 1

Rapid health assessment

Purpose

In emergency management, assessment means collecting subjective and objective information in order to measure damage and identify those basic needs of the affected population that require immediate response. The assessment is always meant to be rapid, as it must be performed in limited time, during or in the immediate aftermath of an emergency.

At the onset of a crisis, rapid assessment information will be used to recognize and quantify the emergency, and to readjust strategies and plans accordingly. Once a programme of assistance is under way, periodic assessments will assist evaluation of the effectiveness of response and recovery. In a wider perspective, rapid assessment will produce information for financial and political advocacy, public information, press releases, and case studies.

The information produced by the assessment is both an asset and a commodity. It must be used for vital decision-making, and for feedback along the different levels of the health sector. But this information can also be marketed to other sectors. Mutual exchange of information is the first step in effective coordination, and being recognized as a reliable source of information is the best way for an organization to assert its claim to a coordinating role.

The purpose of a rapid assessment is to:

- confirm the emergency;
- describe the type, impact and possible evolution of the emergency;
- measure its present and potential health impact;
- assess the adequacy of existing response capacity and immediate additional needs; and
- recommend priority action for immediate response.

Preparedness

If the rapid assessment is to be useful for guiding emergency health response, it must be clear in advance which individuals make the decisions on emergency interventions because they must receive the information and recommendations made by the rapid assessment team. Moreover, it is essential that responsibilities for each particular emergency health action are clearly defined at national, regional, and local levels. Ideally, the rapid assessment should be conducted as the cooperative effort of all organizations with responsibilities for emergency response.

While it is impossible to plan for all potential emergencies, the challenge for all health programmes is how best to make emergency preparedness a part of their current activities, to both strengthen existing services and prepare for emergency response. Emergency preparedness includes:

- policy development for preparedness, response and recovery;
- vulnerability assessment;
- emergency planning;
- training and education; and
- monitoring and evaluation.

Emergency plans should be prepared by the ministry of health for all anticipated emergencies. These plans should include a description of:

- management structure (emergency powers, control, command, communication, emergency coordination centres, and post-emergency review);
- organization roles (description by role, description by organization, description by sector and emergency operation centres);
- information management (alerting, emergency assessment, information processing, public information, reporting, and translation and interpreting);
- resource management (resource coordination, administration, financial procedures, external assistance);
- summary of vulnerability assessment;
- maps; and
- emergency contacts.

Provisions for the assessment should be part of these emergency plans. There should be clear mechanisms in place for incorporating the assessment findings in emergency decision-making.

Emergency health response does not always need to wait for the collection of data. Experience has shown that emergencies have specific, predictable patterns of impact on public health. Selected health responses can and should be planned in advance, ready to be carried out without awaiting the results of rapid health assessment.

An example of this is the higher risk of measles epidemics among children in displaced populations living in camps. In countries at increased risk of internal or cross-border displacements, the national programme of immunization should include strategies to prevent such outbreaks as part of preparedness planning. Another example applies to countries at increased risk of sudden-impact emergencies such as earthquakes: routine hospital management in these areas must include formulating mass casualty plans and holding regular emergency practice drills. In communities with chemical plants, formulating in advance standard treatment guidelines for chemical exposure makes prompt case management possible, should a chemical incident occur.

Preparedness checklist

These questions can be adapted for specific types of health emergencies. They can also provide a focus for health preparedness activities at regional, district, and community levels.

1. Is there a national health policy regarding emergency preparedness, response, and recovery? Is the policy being implemented?
2. Is there a person within the ministry of health in charge of promoting, developing, and coordinating emergency preparedness, response, and recovery activities?
3. What coordination in emergency preparedness activities exists between the health sector, civil defence, and key ministries (such as the ministry of the interior and the ministry of agriculture)?
4. What joint activities in emergency preparedness, response, and recovery are undertaken between the ministry of health, United Nations organizations, and nongovernmental organizations (NGOs)?
5. Are there operational plans for health response to natural, man-made or other emergencies?
6. Have mass casualty management plans been developed (both pre-hospital and hospital) at national level as well as for individual hospitals?
7. What health and nutrition surveillance measures have been taken for the early detection of health emergencies (high-risk seasons, geographical areas identified; early warning procedures in place; national reference laboratory established; surveillance system established and working)?
8. What preparedness steps have been taken by environmental health services?
9. Have facilities and areas been identified and designated as temporary settlements in the event of emergencies? What provisions have been made for health care? (Include details such as general or special health services, staffing, supplies, water, and sanitation.)
10. What training activities are devoted to emergency preparedness, response, and recovery in the health sector (at national, regional, and district levels) and what organizations are involved?
11. What resources are available to facilitate a rapid health response (e.g. an organized communications centre in the ministry of health, emergency budget, access to transport, and emergency medical supplies)?
12. Is there a system for updating information on the key human and material resources needed for an emergency health response (e.g. updated inventories of essential drugs, and four-wheel-drive vehicles)?
13. What opportunities exist to test emergency plans through, for example, simulation exercises and drills?

Organizational preparedness

The measures listed below are of particular concern to managers within the ministry of health. Such measures are essential components of health emergency preparedness and should be reflected in all the ministry's technical programmes.

The following structures for emergency health response should be in place:

- a position in the ministry of health with overall authority and responsibility for emergency health response;
- executive structures at all levels, with clear responsibilities for emergency health response (e.g. emergency health committees at community, district, regional, and central levels);
- a clear chain of command from central to peripheral levels for emergency health management;
- working links at all levels between the ministry of health, national emergency response and recovery organizations, the World Health Organization (WHO), the United Nations Children's Fund (UNICEF), the United Nations High Commissioner for Refugees (UNHCR), the United Nations Development Programme (UNDP), the World Food Programme (WFP), NGOs, and bilateral and intergovernmental organizations involved in health and nutrition; and
- coordination with other sectors, such as health, lifelines, transport, police and investigation, and social welfare.

Prepare emergency plans for anticipated emergencies

It is important to identify emergencies likely to occur at national and subnational levels, and their probable health consequences. Simple emergency plans, prepared and approved within the ministry of health, should outline the administrative and technical responsibilities and procedures necessary for a timely response. These plans and procedures should then be distributed to the relevant organizations involved in emergency response.

Existing information and experience gained in past emergencies are useful in setting priorities. The following questions should be considered:

- Where were the high-risk areas in past health emergencies? Who are the populations at risk? Based on experience, when are the high-risk seasons?
- What is the likely health impact of a flood or epidemic of meningitis? (Consider the number of cases, hospital admissions, and deaths.)

Compile and update information for prompt response

- Establish procedures for communicating early signs of possible emergencies between health authorities, key ministries, national emergency response organizations, international organizations, and NGOs so that a prompt alert is signaled.
- Keep updated lists and maps of health facilities, with information on bed capacity and specialist services available.
- Keep an updated inventory of NGOs working in health in the country, and their areas of expertise and experience in emergencies.
- In areas at high risk for health emergencies, have detailed maps available showing airfields, access roads, health facilities, and major water sources.

Clarify areas of responsibility and accountability

- Clarify who is responsible for emergency health action at each administrative level.

- Determine which organization is responsible for:
 - multi-organization coordination in an emergency (lead agency for the rapid assessment);
 - clearance, storage, and transport of emergency items;
 - directing technical health response; and
 - other critical activities such as travel clearances.

Standardize approaches to international health assistance

- Clarify reporting channels or lines of accountability for international organizations and NGOs.
- Develop standard procedures for requesting external health assistance.
- Establish standard working procedures for the importation and expedited clearance of emergency health items and drugs.

Anticipate needs for budget, transport, and communications

- Establish procedures for accessing funds and resources in health emergencies.
- Identify emergency options for rapid surface and air transport of personnel and emergency health items.
- Set up procedures for rapid collection, transport, and analysis of laboratory specimens.
- Establish procedures for emergency communication with peripheral areas.

Deal with the technical aspects

Plans of action should be developed for the early detection of and response to anticipated health emergencies. A useful starting point is to review and map existing data on past emergencies to identify areas of greatest risk, and assess local response capacity. The rapid health assessment team or person should ask people from the ministry of health or provincial or district health services the following questions:

- What is the distribution of facilities, number of beds, number of specialist services, and seasonal access to the area and facilities?
- How many health workers are there in the area and what is their level of experience?
- What are the likely effects of specific emergencies on health services in the areas identified as high risk (e.g. consider the number of admissions and the outpatient attendance)?
- What is needed for a prompt emergency response (e.g. hospital staff trained in mass casualty management, experienced epidemiologist, improved radio communication, and training of clinicians for better diagnosis)?
- Where are the gaps (in technical expertise, material supplies, emergency logistics, communication, and managerial skills)?

Establish early warning procedures

- Define the early signs that would signal an “emergency alert”. Can or could they be detected early through improved surveillance and reporting?
- Develop guidelines to help health personnel at all levels recognize and report these signs.

- Intensify surveillance for specific epidemic diseases during high-risk transmission periods.

Preparedness for rapid assessment

An important function of emergency planning is to identify in advance those warning signals which indicate that a rapid health assessment is needed. Alerts for these signals should also be determined, as shown in Table 1.

These alerts should be related to local conditions and expected seasonal variations. Ideally they will be triggered by ongoing activities such as epidemiological and nutritional surveillance.

Although all of the following seven measures are not always feasible, they are very desirable if the assessment is to be carried out rapidly.

1. Lines of authority within the ministry of health should be defined and clearly stated.
2. Organizational networks and partnerships should be maintained for mobilizing personnel and resources for the rapid assessment.
3. National, subnational, and district maps of high-risk areas, showing settlements, water sources, main transport routes, and health facilities, should be developed, kept updated, and made easily available.
4. Data collection forms, specimen containers, and other items essential for specific types of field assessments should be kept at the national and subnational levels.
5. Reference laboratories and special shipment procedures for rapid analysis of specimens should be identified in advance.
6. Communication channels between the assessment team, local authorities, decision-makers, and participating organizations should be agreed upon and kept open.
7. Qualified personnel should be identified in advance for rapid health assessment in specific types of emergencies.

Preparedness provides an opportunity to identify local skilled individuals as potential assessors in different types of emergencies, and to highlight gaps in technical expertise in advance. Although a rapid health assessment is usually best undertaken by a team, the composition of the group will vary according to the type of emergency.

Table 1. **Warning signals of emergencies**

<i>Warning signal</i>	<i>Alert</i>
An increase in hospitals reporting cases of meningococcal meningitis	Give alert for a meningitis outbreak
Above-expected seasonal levels of the disease in one district	
Rising prices of staple cereals, and migration of people into an area that is expected to have a major crop failure at harvest time	Give famine alert
Increasing hospital admissions with signs of irritation of the eyes, skin, and mucous membranes in a community near a chemical plant	Give alert for a chemical accident

For instance, it is more important that a nutritionist participate in assessing a refugee influx than a meningitis outbreak. However, an individual skilled in epidemiology or public health should be a member of every assessment team.

Planning the assessment

This section contains information on: time and distance factors in emergencies, final preparations, the assessment itself, the best working practices, and common sources of error.

The seven preparedness measures listed in the previous section can also serve as a checklist for planning a rapid health assessment when an emergency is reported or rumoured.

Considering time and distance factors

Rapid assessment time-frame requirements and opportunities vary with the type of event and the accessibility of the affected area. In general, the following holds true:

- Rapid-onset emergencies, such as earthquakes and chemical accidents, require the most immediate assessment, in a matter of hours after the impact.
- Epidemics, floods and sudden displacements of population should be assessed at the latest within two to four days.
- In the case of suspected famine, where the onset is usually slower and an adequate investigation requires sampling the population, the assessment may take somewhat longer.
- In some situations, logistic or security considerations (e.g. in complex emergencies) may reduce the time available for conducting the assessment at field level to a few hours.

Distance or difficult access to the affected area, or both, can delay the initial assessment. If several areas have been affected, or the emergency is thought to have had widespread impact, several small assessment teams may be needed. In almost all situations, the initial rapid assessment should be followed by a more thorough and focused one. In particular, when the effectiveness of emergency response is being evaluated, it is necessary to collect baseline information through surveys that use probability sampling of the population.

Making the final preparations

The final preparations include: determining what information to gather, coordinating different organizations, selecting team members, identifying the team leader and assigning tasks, and making administrative arrangements.

Determining what information to gather

The two most important criteria for deciding what information to collect in a rapid assessment are its usefulness for timely decision-making and its public health importance.

Coordinating different organizations

Members of the rapid health assessment team should contact as many as possible of the organizations delivering emergency response, to coordinate activities and avoid duplicating efforts. Coordination and pooling of resources can produce a more complete and rapid assessment.

Selecting team members

The rapid health assessment should be performed by a multidisciplinary team of qualified personnel, representing an appropriate range of expertise. For example, a team to assess the health needs of a refugee population should include an individual from each of the following fields: public health and epidemiology, nutrition, logistics, and environmental health.

The following criteria should be taken into account in selecting team members:

- familiarity with the region or population affected;
- knowledge of and experience with the type of emergency being assessed;
- personal qualities, such as endurance, motivation, and personal health, the capacity for teamwork, and local acceptability for team members recruited abroad;
- analytical skills, particularly the ability to see trends and patterns; and
- the capacity to make correct decisions in unstructured situations on the basis of relatively sparse data.

Identifying the team leader and assigning tasks

One team leader must be identified to coordinate technical preparations for the field assessment, such as delegating responsibilities among members, ensuring consistency in approach and use of questionnaires, and preparing laboratory supplies and other equipment.

Making administrative arrangements

These include:

- obtaining travel and security clearances;
- organizing transportation and other logistics (e.g. vehicles, fuel, and, in some cases, camping equipment, food, and beverages);
- setting up the communications system and informing the authorities in the affected area of the assessment's timetable;
- organizing other equipment, such as computers, height boards, scales, and checklists; and
- ensuring safety and security of team members from violence, infection or other hazards in the emergency-affected area.

Conducting the assessment

The steps for carrying out the assessment are: collecting data, analysing them, presenting results and conclusions, and monitoring.

Always take into consideration the following questions:

- How feasible is it to collect this information, given available personnel and resources?
- Is it worth the cost?
- How reliably do the data reflect the situation of the entire population affected by the emergency, i.e. how representative are they?

Collecting the data

Emergencies are often chaotic, and data collection during a rapid health assessment may not proceed in a step-by-step, logical fashion. Yet the plan for data collection and analysis must be systematic. In addition, the limitations of the various sources of information must be borne in mind during data collection and analysis. There are four main methods of collecting data:

- review of existing information;
- visual inspection of the affected area;
- interviews with key informants; and
- rapid surveys.

Review of existing information

Review baseline health and other information at national and regional levels from government, international, bilateral, and NGO sources about the following:

- the geographical and environmental characteristics of the affected area;
- administrative and political divisions of the affected area;
- the size, composition, and prior health and nutritional condition of the population affected by the emergency;
- health services and programmes functioning before the emergency; and
- resources already allocated, procured or requested for the emergency response operation.

Even official data sources are subject to limitations. For example, census data may underestimate certain subgroups or the population as a whole. In addition, morbidity surveillance data may represent an incomplete picture because diseases are routinely under-reported and the extent of under-reporting often varies.

Visual inspection of the affected area

When travel is undertaken by air, useful preliminary observations of the affected area can be made before landing. These may include a gross estimate of the extent of the disaster-affected area (e.g. the extent of flooding or of storm damage), mass population movements, condition of infrastructure (e.g. roads and railways), and of the environment.

A walk through the emergency-affected area may give you a general idea of the adequacy of shelter, food availability, environmental factors (such as drainage and vector breeding), other potential hazards, and the status of the population. The age and sex distribution and size of the population should be estimated.

During the observation, the affected area should be roughly mapped. Such maps should indicate the extent of the area affected, the distribution of the population,