Disaster preparedness and response

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INTRODUCTION

Most governments of countries in the developing world are struggling to cope with the health problems that confront them daily. This is particularly true of the often overwhelming health problems of vulnerable groups and communities. Ironically, these are often the very communities who are most severely affected by disaster, both because they are vulnerable and also because their capacity to respond is usually weak.

Because resources for health are limited and already overstretched, it is unlikely that governments will be able to set up systems at local level for responding to disasters which are different from those which they have in place for responding to the routine needs of such communities. This applies similarly to those non-governmental organizations who also direct their work to improve and maintain the health of vulnerable communities. If the resources that are used for responding to disasters are to contribute to sustainable development, and not merely 'fire-fight' during the crisis, they will need to work through and strengthen the existing structures, and be guided by the same philosophy and strategy, namely primary health care.

Response to disasters – a part of primary health care

The response to a disaster has to be a part of the primary health care system. Although a vertical approach may be needed at national or regional level, in the district an integrated response is essential, which builds on the existing strengths, the collaboration between sectors, the involvement of the community and the resources of people and services. Thus the system which has to deal with daily individual disasters is strengthened through getting prepared for major community disasters.

In addition, the priority health problems which follow in the wake of many disasters such as diarrhoea, acute respiratory infections, vaccine-preventable diseases, and malaria, and the groups usually most seriously affected by disasters, for example the poor, the isolated, women and children are, or should be, a priority focus for the routine health services.

This article will focus mainly on the health sector at *district* level. However, it needs to be emphasized that district level disaster preparedness and response must be seen within the context of national disaster plans, and that the health sector is only one of the many sectors that will have an important role to play in planning for and responding to disasters.

BASIC PRINCIPLES AT THE DISTRICT LEVEL

Preparing for and responding to disasters is really no different from preparing for and responding to any other type of health problem:

Health problems in a disaster
- What are the important problems?
- What are the urgent needs?
- What solutions could be effective?
- What can be done in practice?

Recognize that events are unpredictable

In addition to the normal problems associated with planning and responding to health priorities, an element of chance exists in disasters, which makes planning more difficult (although chance probably also interferes more often than we care to recognize in our non-disaster planning!). Disasters are usually unpredictable and since there is a need for rapid action, decisions have to be taken quickly bearing in mind that with many disasters there is probably less of an 'emergency' than the common misconceptions would lead us to believe. Anything that can help minimize the impact of chance (eg early warning systems, hazard mapping), or which facilitates a rapid and appropriate response at a time when there is often a great deal of political, media and other pressure for immediate action (irrespective of whether or not it is really necessary or appropriate), will help to ensure that the priority problems caused by disasters are met.

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Learn from the experience of the past
In preparing for disasters, we must learn from the past in order to define priorities and make sure that essentials are dealt with first. What works – what does not work? What lessons can a previous disaster give? Why was one response successful and another a failure? What were the main health problems and who was most seriously affected by previous disasters? In general, specific disasters, whether acute such as floods or earthquakes, or slow moving such as refugees or famine, cause fairly consistent health problems during the rescue, relief and rehabilitation phases. Of course the problems will differ depending on for example, the severity of the disaster agent, the time of day, the season, the population density, the particular groups affected, the access, the existing health infrastructure, the international appeal and the political milieu. Nevertheless, the priority needs and the main approaches to meeting these needs remain fairly constant for different disasters and these need to be understood if responses to disasters are to be efficient and effective.

Build on the strengths of the community
Just as good primary health care involves the community and its many and varied resources, so does an effective response to a disaster. It is the affected families and communities who respond initially, organizing themselves after a hurricane, scavenging for famine foods after a drought, and moving rubble to find relatives and friends after an earthquake. The people who are most frequently affected by disasters are generally accustomed to fending for themselves. Vulnerable communities have learned their own strategies for survival – strengthen these: their own methods to cope – support these: and have their own priorities – respect these.

Identify the most vulnerable
Get help to those most in need

Identify the most vulnerable
In any disaster some groups and individuals will be more seriously affected than others. These groups need to be identified, both before any disaster strikes, when the community is getting prepared, and while the effects of the disaster are being initially assessed. Ensure that those most in need benefit from the relief activities. Make a special effort to identify such groups when monitoring and evaluating relief programmes.

Mobilize existing resources immediately
The response to disasters will, for the most part, rely on the people who are responsible for meeting the daily health needs of the affected community (although of course, additional resources from outside will frequently be necessary). This applies both to the community and to the health workers. A foreign team which is flown into a disaster affected area is often quite inappropriate – they arrive too late, are often unable to work under the difficult conditions, do not speak the language and may rapidly exacerbate the problem rather than help alleviate it. Of course, external assistance *is* frequently required following disasters, but this assistance must be appropriate both to the needs and to the local conditions, in terms of people, food, medicines and other resources. But donors must be educated and their skills in assessing the initial and the real needs, must be developed.

Finally, the importance of working with other organizations and with other sectors needs to be emphasized. Anecdotes about agency anarchy' are still common and this needs to be prevented at all costs. It will require strong leadership and clear systems of coordination in preparedness planning, response and rehabilitation, so that the different sectors, such as health, transport and communications, public works, the media, and agriculture all work together.

Information and training are very important in disaster preparedness and response. First, the information that is really needed must answer priority questions. Second, it is important to clarify how accurate the data need to be in order to answer the questions in an adequate but not too detailed way. Data may be collected routinely or during special surveys using rapid assessment techniques.

PRINCIPLES OF DISASTER PREPAREDNESS

There is nothing particularly special about disaster preparedness. It is simply an attempt to take account of the elements of chance and speed of response that set planning for disasters apart from other planning activities.

Is there a national plan?
First find out if there is a national disaster preparedness plan, and if so, what responsibilities are envisaged for the health sector at district level. It is important to be clear about the responsibilities of other tiers within the health service and other sectors, in order to identify opportunities for improved collaboration and joint planning. The

political will and resources to develop national disaster plans may be given a boost during the International Decade for Natural Disaster Reduction, particularly in those countries which are so busy responding to disasters that they do not have the time to develop an effective national plan!

Are responsibilities clearly defined?
Clear definition of who is to be responsible for what in a disaster is essential for effective response. However, in some countries the national disaster plan may not yet have moved from paper to action. This places extra responsibilities on the health staff at district level both to advocate for a realistic and achievable plan, and also to identify local activities that can be carried out despite the absence of an overall plan.

Is communication well defined?
In addition to improving coordination and cooperation, within the health sector and with other sectors, it is also important to develop good communication links with the media before a disaster. In this way it may be possible to use the media as a channel for providing clear and accurate information, both to affected people and also to the 'world outside'. Thus the media can help to strengthen and assist the response rather than hamper it, which is sometimes the case. Since 'donor education' is an important aspect of disaster preparedness, the media should be involved with this and help to avoid pressures for unrealistic or inappropriate action.

What can be predicted from past experience?
For some people the response to disasters will always be too little too late, and no amount of preparation can ensure that the health sector is prepared for all eventualities. However, it will often be possible to identify the likely disasters in a given district, when and where they are likely to occur, and what their impact might be on the surrounding population. This is known as hazard mapping and is an important first step in planning for disasters.

An analysis of the response to, and impact of past disasters in the district can provide invaluable information about priority health and nutrition needs, the main problems encountered, and strategies that are likely to work in reality as well as on paper. A number of non-governmental organizations, governments and intergovernmental organizations have produced publications which build on their 'institutional memory' of responding to disasters, and outline an approach to meeting the priority needs of disaster-affected communities.

How can the community be encouraged to respond?
One issue that is emphasized in many of these publications is the need to develop good contact with the community. In most disasters it is the affected communities themselves who are the first to respond during the relief phase. It will also be the community who is left with the rehabilitation phase, when most of the external interest and enthusiasm has moved on. Every effort should be made to generate and sustain the commitment of community leaders – therefore improve two-way communication with the community, involve them in the planning, and strengthen their capacity to respond following the disaster.

Get community leaders committed
- Communicate with them
- Do planning with them
- Strengthen capacity to respond

What early warning systems exist?
Adequate information for early warning and planning the response are clearly essential. This will require a review of the data which are routinely collected at district level and, in addition, staff must be trained to carry out rapid assessments to identify the priority physical, psychological and social needs of affected communities – techniques which are in any event useful to them in their daily non-disaster work. Take epidemics as an example – data are routinely collected from health facilities but, when they show a change of pattern, more detailed and specific information is collected which enables an appropriate response.

Use disaster preparedness to strengthen district services
After deciding what needs to be done and how it is going to be carried out, train the staff who will be responding and ensure that the material resources necessary are available. Such training can be done as part of routine training of health staff. Guidelines will be needed on triage and essential emergency drugs and on ways to link with existing national programmes that focus on immunization (EPI), diarrhoeal disease control (CDD) and nutrition, or other relevant matters.

In general, disaster preparedness should be seen as an opportunity to strengthen what the health

sector is already trying to do, and to develop the skills and orientation needed for responding to the non-disaster needs of vulnerable communities. There may even be opportunities to re-examine or change existing programmes.

Preparedness for disaster – an opportunity to strengthen skills of health workers

A good example of this is 'first aid'. Within the Red Cross/Red Crescent, much first-aid training in developing countries has been modelled on training programmes that were developed in Europe or North America. While this traditional first aid has a role to play, the health problems addressed are not always those which are most important following disasters in developing countries. As well as broken bones and haemorrhage, it is essential to include basic information about home management and prevention of common diseases. In this way, first aid can focus on disaster health priorities and daily health priorities which are for the most part one and the same thing.

DISASTER PREPAREDNESS AT DISTRICT LEVEL

The first 24–48 hours are decisive for victims of sudden onset disasters such as earthquakes or technological disasters

The most important decisions for effective disaster response are taken at local level, in the district. A national disaster preparedness plan is important as are communication with, or external help from, outside the district. However, any significant intervention immediately after an acute disaster has to be local. It is the first 24–48 hours that are decisive in rescuing the victims of sudden onset disasters such as earthquakes or technological disasters. It will be one or two days before help from abroad arrives.

Even if help from within the country arrives within this period, its effect will be reduced if district and local disaster management is not organized. The same is true in the case of slowly emerging disasters such as drought and famine, although these allow much more time for decisions and action.

National disaster preparedness plans for health must also involve other sectors. The same applies to the district where police, labour union, agricultural cooperatives and other community organizations may have important roles to play. In addition, within the health sector at district level, all health facilities, institutions, hospitals, health training schools, etc. have to be brought into a health sector plan, and each of these units will have to have their own plans, coordinated by the district health authority. The responsibilities have to be clearly spelled out, and 'rules of conduct' established. Red Cross/Red Crescent Societies and other NGOs have important capacities at district and local level, and these need to be tapped.

The fundamentals

- Prepare the community
- Train all sorts of people
- Ensure that they are ready

Last but not least, the local community is the key player in disaster preparedness and response. If people know what to do in a disaster much of the chaos can be avoided and lives saved. Training and educational programmes in schools, to the general public through the media and in other ways, should be part of any district disaster preparedness.

PREPARING A COMMUNITY PROFILE

A community profile, established before a disaster, is an essential part of district preparedness. When preparing such a profile you should consider the following information, although the amount of detail that is possible will vary depending on the available resources:

- map of the area and boundaries
- population by village and age groups
  (high risk/vulnerable groups)
- socio-economic characteristics
- hazard/vulnerability analyses
- risk/hazard mapping
- history of disaster
- community resources
  (shelters–vulnerability)
- health system organization/structure:
  resources (personnel, facilities, vulnerability analyses)
  health information
  water source and distribution system.

DISTRICT HEALTH PLAN DEVELOPMENT

While developing the district disaster health plan, there are several phases to consider, such as

preparedness, warning, response, and recovery/rehabilitation.

Preparedness
Preparedness is a continuous activity, and in this phase the major activities are:
- education/training of health personnel with particular reference to resuscitation and life maintenance procedures and techniques
- education/training of community members in first aid and rescue
- collaboration with other key response sectors (District Disaster Preparedness Committee)
- development of plans and procedures
- procurement of essential supplies and equipment
- inventory of resources
- simulation exercises and drills.

Warning
The focus is on:
- dissemination of information on situation and also to remind community of safety measures to be taken
- review of emergency procedures and action plans
- ensuring that systems planned for are in place and in working order
- supervision of evacuation to shelters.

Response
The emphasis is on:
- management of casualties
- evaluation/referrals
- assessment of immediate damage/needs
- health care in shelters
- collection and dissemination of information
- monitoring of environmental health
- epidemiological surveillance
- public health information/education
- emotional/psychological support.

Recovery
The emphasis is on:
- restoration of normal health (primary care) systems
- needs/damage assessment
- rehabilitation of health facilities and services

THE DISTRICT HEALTH PLAN
The district health disaster plan itself should contain the following programme areas:

Health care
- management of mass casualties
- continued management of common acute and chronic conditions
- hypertension, diabetes, asthma, epilepsy (and contraceptives)
- maternal, paediatric and other emergencies
- medical/surgical emergencies
- emotional/psychological counselling

Environmental health and safety including vector control
The priorities are:
- damage/needs assessment
- ensuring and monitoring the water supply for acceptable levels of quality and quantity
- ensuring the level of solid and sewage wasted disposal is adequate to avoid the risk of disease transmission from pre-disaster levels
- community public health information/education
- shelter management (health care, environmental health, epidemiological surveillance).

Control of communicable disease
Knowledge of morbidity and mortality pattern (statistical data) in the district is a useful guide for recognizing unusual disease patterns. Routine health information also serves as a guide in estimating the number of persons who may need health care.

Epidemiological surveillance
- Monitor daily
  - the health status of individuals in shelters
  - particularly in the community in general
  - the sanitary conditions
- Report daily in daily format
- Be alert for gastroenteritis in infants, ARI, infectious skin conditions particularly scabies
- Any other disease which may be endemic to the district such as malaria.

Food and nutrition
In sudden impact disasters when severe shortage of food is not anticipated, the distribution and transportation systems may be disrupted. Priorities:
- evaluation of available stocks
- equitable distribution of food supplies to those in need
- food inspection
- community education eg food preservation, storage
- prevention of food poisoning
- monitoring the nutritional status of vulnerable groups, eg pregnant and lactating women, infants and young children and the elderly

Public health information/education
Supply management
Monitor levels of stores and identify items which are used often – reorder as appropriate.

Communication
Identify communication mechanisms within each health facility; in districts between other health facilities in the district:
- with community members
- with other agencies including NGOs in the district
- with Ministry of Health
- annex list of alternate communication systems, eg police radio, commercial or voluntary organizations.

Transportation
- Identify vehicles/methods currently in use by district health team
- Identify and annex list of owners of other vehicles which could be used if necessary, eg buses, private cars, boats, bicycles, lorries
- Identify helicopter landing sites.

In many districts, given the limitations of time, money, people and other resources, it is unlikely that it will be possible to prepare a community profile in such detail. What is important, however, is that the district health team obtains enough information and prepares itself and its community adequately to respond to the likely impact of the likely disasters in the district. The process of carrying out a community profile should help educate and motivate.

The response to disaster can only be timely and effective if people are prepared. Preparedness should build on and strengthen the everyday response by the health team to the daily 'disasters', those priority diseases which are usually much the same in disaster or daily work.