CHAPTER II

THE PREVENTION OF DISABILITY - WHAT SHOULD MEDICAL AND PARA-MEDICAL PERSONNEL DO?

This section deals with a strategy for prevention of disability, and outlines the essential measures which should be taken when first aid is administered. It also deals with the necessary equipment and supporting material that ought to be available in emergency in order to reduce the incidence of disability.

The first and main concern is the direct impact a disaster has on people and to what extent their health can be preserved. Theoretically, within minutes after a disaster has struck, depending on its type and severity, there may be tens, hundreds or even thousands of injured people requiring immediate medical care.

PERSONNEL PLANNING

The efficiency and speed of the mobilization and deployment of all available manpower and technical resources is in large part determined by the effectiveness of pre-disaster planning and preparedness. In most developed countries disaster preparedness, in terms of both planning and resources, is highly organized and is being constantly improved. Elsewhere, however, the degree of preparedness varies widely: in particular, there is often a shortage of doctors

and of the facilities and equipment necessary to support their work. 11/ Moreover, there is often a concentration of hospitals and medical personnel in the capital and larger cities of a country so that in rural areas, (many of them difficult of access because of lack of roads or the nature of the terrain), emergency medical assistance when a disaster occurs will be neither adequate nor effective. 12/ In these circumstances, aggravated as they may well be by the absence of prior planning, it is clear that a higher proportion of the injured will either die, or become permanently disabled.

11/ Of a sample of 60 medical personnel in the Dominican Republic 38% said they were not sufficiently equipped with the necessary materials.

12/ In the Dominican Republic, using the same sample the mean time taken to arrive at San Cristobal (25 Km from Santo Domingo) was 3 hours, and to the southern region between 7 and 14 hours according to destination. Road blockage and shortage of helicopters were factors contributing to these delays.

In Guatemala, of a sample of 100 victims, 58% believed they did not receive timely treatment. 12% had to wait 2 to 3 days before being admitted to hospital, and 16% for 1 week. In reply to a query about the time waiting for first-aid, 13% said they waited 2 - 4 hours, 12% waited 4 - 8 hours, and 21% 2 - 3 days.

Any country, regardless of its level of development and technical resources, has manpower available to assist in emergency first-aid. Medical students, nurses, Red Cross and other community workers, the military forces, organizations like Scouts or Guides, may all be sent to assist after a disaster in rescue and first-aid work. It is important that they should be instructed that certain injuries have the potential to become permanent disabilities, if they are not handled or treated correctly.

In planning for relief operations, emergency medical care should be accorded a very high priority. The nature and adequacy of the measures to be taken must be incorporated in the training of rescue teams, from whatever source they may be drawn, in order to avoid, or at least reduce, the possibility of unnecessary and preventable harm to an injured victim's future health.

The management of casualties includes the rescue of the injured and those trapped in wreckage, etc; first-aid; evacuation; and definitive treatment. Clearly advance planning for medical services must include provision for all these elements, if a proper standard of care is to be attained. There are several important factors to be considered when plans are being made:

a) will there be enough medical personnel for the increased demands generated by a disaster?

b) will they be appropriately qualified or experienced for this task?

c) if untrained or semi-trained personnel participate in first-aid emergency care, will they have been made sufficiently aware of the dangers inherent in certain injuries?

d) are the hospital personnel adequately trained for providing care for those victims who are admitted?

e) is there enough transport available (ambulances, helicopters, etc,) to take medical personnel to the site and to bring those who need specialized and urgent hospital care to the nearest hospital? 13/

f) do written plans exist for individual hospitals, and do they cover all possible contingencies, in particular provision for emergency supplies of power and water?

13/ In Guatemala, of 100 victims questioned, 40% believed their injury have been less serious if first-aid had arrived sooner; 21% felt the delay had made no difference; 38% expressed no opinion.

QUALIFICATION AND TRAINING

There may be enough medical and para-medical personnel available, but their quality is more important than their number. Specialized skills and expertise will be needed for treating certain kinds of injuries. Those who have received professional training in medicine, nursing, laboratory work, and rehabilitation therapy may be limited in numbers. Yet however few of them there are, they must be instructed wherever possible to take a supervisory role while working at the disaster site. Doctors often feel that they must work more or less continuously during emergencies to deal with the numbers of patients, but often their skills are in fact being under-utilized and treatments could be given by less qualified people working under guidance. 14/

In the process of "triage" explained in Chapter I, highly qualified doctors must be employed, who under pressure can decide which patients need treatment on the spot, immediate hospitalization, transfusion, etc. Persons who do not have visible injuries may nevertheless need immediate treatment, in order to prevent a disability. This kind of decision-making demands professional experience and high qualifications.

14/ In the Dominican Republic, 70% of the sample of 60 medical personnel felt there were sufficient doctors, but many of them worked exceptionally long hours.

If nurses or medical students are involved in the triage process, they should when in doubt seek guidance from qualified doctors. Delicate decisions between speed and accuracy have to be made and herein lies a serious source of error. The following list gives some examples to call attention to the potential of certain kinds of injuries to result in disablement:

a) if open injuries with compound fractures are not attended to within 6-8 hours, a permanent disability may result;

b) if damaged limbs become infected, they may have to be severed;

c) if a hematoma in the brain is not attended to in a hospital, mental disability for life may result;

d) if bleeding occurs at knee level and a tourniquet at the thigh remains in place for 3-4 hours, the person may lose his leg;

e) if a severe head fracture occurs and is not attended to immediately in a hospital, blindness may ensue due to a severed optic nerve;

f) if aseptic bodies in the cornea of the eye are not removed skilfully and rapidly, loss of sight or permanent cornea damage will result;

g) if blood exudes from the ear, the base of the skull is fractured: if this is not diagnosed correctly, the patient will become deaf;

h) if blood exudes from under the eyelids, immediate specialized treatment of the eyes is required to avoid blindness;

i) if the spinal cord is damaged, and the person is being moved about more than absolutely necessary, the patient will be permanently paralysed;

j) if simple fractures are not set quickly and skilfully, permanent damage and disability will almost certainly occur.

Although this list is by no means exhaustive, it provides striking examples of how injuries can become life-long disabilities, with all their implications for the individuals concerned. 15/ It underlines the need for medical and para-medical personnel to receive special instructions regarding the prevention of disabilities. Senior medical staff with actual or potential responsibilities for disaster health care should wherever possible take the initiative and hold training courses for those likely to be called upon in emergencies. Similar action might well be considered by national Red Cross or Red Crescent Societies, and other voluntary organizations providing health care or assistance in hospitals. (To reduce the load on medical staff, and to free them from their proper tasks, volunteers may be asked to assume duties such as

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15/ In Guatemala, in a sample of 100 victims, 33% had leg injuries (amputations, fractures, other impairments), 22% spinal cord injuries and 10% paraplegic.

making beds, folding blankets, administering food, and so on. However here, as in other areas, volunteers must have education and information regarding the care of those disabled).

A good example of the importance of this comes from an incident which occurred in one of the four countries included in the UNDRO survey. A large number of patients with spinal cord injuries were, shortly after the earthquake, admitted to an already overcrowded hospital. These patients were placed in the corridors of the hospital and could not be treated immediately because more patients were being continually brought in. Volunteers were found fairly quickly to attend to these unfortunate victims and were instructed to wash and feed them. Not one of the medical staff gave instructions about the importance of turning these patients every two hours in order to avoid skin lesions and subsequent decubitus. Those who volunteered to render the service evidently did not know that they should turn the patients and only did so when asked. These patients remained in temporary quarters along the corridor for some time and of the para- and tetra-plegics 80% died of infected decubitus lesions.

But preparedness in disaster-prone countries should extend its information campaign down to the community level. In an article entitled: "Medical Care and Natural Disasters", Professor Lechat observed "if anything should be considered primary health care at the community level, it is disaster care. Hence it is all the more surprising that in many countries and even in those frequently affected by floods, typhoons,

earthquakes or other calamities, health personnel receive no training whatsoever for the immediate responsibilities they could assume in case of disaster". 16/

MATERIAL PLANNING

The provision of transport is of great importance. Even the best hospital facilities and the most comprehensive plans will be useless if no transport can be found to bring the patients for treatment. The injured will be lying somewhere in temporary quarters or in a field hospital where the required services cannot be provided. In one of the countries visited in the course of UNDRO's survey, a very high proportion of the medical personnel who worked at the disaster site commented adversely about the lack of transport: some patients had to wait as long as three days to reach the hospital, because roads had become impassable and not enough helicopters were available. Needless to say that among those unfortunate patients who had to wait so long, some are disabled today.

Any delay in the arrival of medical staff at the site of disaster may have similar adverse effects. Cases have been recorded in which as long as 14 hours elapsed before doctors could arrive at places where the need for their services was greatest, because roads were impassable to ordinary traffic.

16/ "Medical Care and Natural Disasters" Professor Michel F. Lechat, International Centre for Disaster Epidemiology, Louvain University, Brussels.

Disaster preparedness plans must envisage the provision of suitable and sufficient transport. If ambulances are used, they can often provide life-saving functions for patients on the way to a hospital, such as the maintenance of respiration by means of equipment installed in the vehicle itself. Studies have amply demonstrated that, where ambulance services have been at hand, post-disaster mortality rates have dropped dramatically.

Associated with the transport factor is the availability and adequacy of first-aid equipment. In the case just mentioned, a significant number of medical personnel said they had neither enough, nor the right kind of, equipment and instruments at hand, but they made do. This shortcoming was compounded by a lack of electricity: mobile generator trucks at field hospitals and indeed in city hospitals, if the disaster has affected power supplies, are an essential element.

RECOMMENDATIONS

To conclude, it is recommended that:

a) specific information regarding the prevention of disability should be made public, through whatever means of communication are available. This should be a normal part of the instructions given to doctors, nurses, Red Cross workers and others who will administer first-aid emergency care. An awareness campaign entitled "Disasters and the Disabled" should be started by Governments and local voluntary organizations citing specific examples which may lead to disability;

b) measures should be taken to promote a better understanding in the community that speed for urgent treatment is an important factor. This will encourage community members to help organize transport for some of the injured to the hospital, if sophisticated means are not available. Helicopters and ambulances should be planned for as part of disaster preparedness in order to ensure that casualties who require immediate treatment reach the hospitals as fast as possible; 17/

c) hospitals, especially those in disaster-prone areas, should have an advanced and comprehensive plan detailing the optimum facilities, in terms of bed space and materials as well as personnel, required to meet emergency needs, i.e. to expand surgical capacity and handle large numbers of incoming injuries. Hospitals should have reserves of water, fuel and a stand-by electricity supply (provided by independent generators) to be used in emergencies;

d) medical and para-medical personnel should have, as part of disaster preparedness plans, a pre-packed emergency bag with the most essential equipment to administer first-aid. A standardized list detailing all necessary

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17/ In the Dominican Republic, 40% of the 60 medical personnel questioned said that the injured were not taken quickly enough to hospital, because transport was insufficient.

items should be distributed to those who are likely to be called to a disaster site;

e) emergency / auxiliary treatment centres (in addition to hospitals and clinics) should be identified and included in the advanced and comprehensive plan. These would include rehabilitation centres, community centres, schools, and other suitable public buildings provided they are themselves unlikely to be affected by the events expected.

CHAPTER III

DISABLED SURVIVORS OF DISASTERS - CAN THEY BE REHABILITATED?

Despite all measures which may be taken, some people injured in disasters will in fact become permanently disabled. They therefore stand in need of rehabilitation: not in the sense of fully restoring them to their former condition, for that would be impossible, but so that through care, treatment and training they may come to live as near normal a life as the disability allows, and not, except in the most extreme cases, become a charge upon the society in which they live.

Most if not all of the steps which need to be taken to this end in the case of disaster victims must also be taken in respect of everyone who becomes disabled as a result of an accident or other "normal" cause. It might therefore be thought that there need be no special mention in a brief document of this kind of the rehabilitation problem: the recommended courses of action are clearly laid down in other publications.

The subject is however relevant to "Disasters and the Disabled" because, like any other activity, the process of rehabilitation can only

proceed in an orderly fashion if proper plans have been laid down and subsequently followed.

It is manifest that no proper planning can be undertaken without knowledge of the size and scope of the problem to be tackled. It is therefore incumbent upon those who are responsible for rehabilitation services to work in close association with the medical and hospital services, and related welfare organizations, so that a reasonably rapid and accurate assessment may be made, as soon as practicable after the emergency phase has ended, of the size and nature of the additional case load which will have to be accepted.

THE ROLE OF THE COMMUNITY

In many countries, the bulk of the work of caring for and rehabilitating the disabled is in the hands of voluntary organizations, and these may not be able to raise sufficient public support to enable them to carry on even their ordinary work to the extent to which it is needed. When faced with a sudden and massive (absolute or proportionate) increase in the call for their services, the voluntary bodies ought to be able to seek and obtain additional government funding. Voluntary bodies themselves should be prepared to assist unstructured community or even individual effort, particularly for the less severely disabled. As the draft "World Programme of Action Concerning Disabled Persons" puts it:

"Important resources for rehabilitation exist in the families of disabled people in their communities. Every effort should be made to help disabled people to keep their families together, to enable them to live in their own communities, and to support family and community groups who are working with this objective. In planning rehabilitation and supportive programmes, it is essential to take into account the customs and structures of the family and community and to promote their abilities to respond to the needs of the disabled individual".

Thus, whether the appropriate path be that of individual family rehabilitation, or retraining in an institute with the intention of ultimate absorption into the open labour market, or training for work in a sheltered workshop for those unfortunate people who will never again be able to live anything approaching a normal life, Governments and voluntary associations alike should include in their preparedness planning the procedures and the financial provisions necessary to deal with post-disaster disabled persons.

It is all too easy for this matter to be overlooked or forgotten. One quotation will serve to illustrate that among the variety of apsects related to disasters and their aftermath, restoration to health by means of rehabilitation is not given the prominence it deserves. "In all its duties the Office of Emergency Preparedness is primarily concerned with the disaster

victim, seeking to restore shaken morale and advise what government programmes are available and where to apply for such help as removal of debris, disaster unemployment claims, restoration of homes and how to obtain loans for reopening a business". 18/

THE ROLE OF THE MEDIA

When the initial shock and confusion of a disaster has subsided, the media can be very helpful in drawing public attention to the needs of the disabled disaster victims, and in enlisting public sympathy with them.

People often tend to forget that there are those who, in addition perhaps to losing their homes and belongings, have also lost their health. In contrast to the injured who in the long run, after adequate treatment, recover their health and continue with their usual activities, disabled victims suffer permanent physical and/or mental disability and will therefore have to come to terms with a totally different life. The

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18/ "Let them know they are not alone - Establishing Communication with the Disaster Victims" John R. Coleman, Information Director, United States Office of Emergency Preparedness. Paper presented at Flood Experts Meeting, NATO Committee on the Challenges of Modern Society, Venice, Italy, October 1970.

human tragedies brought about by the disaster will sooner or later recede into the background and so will the disabled victims. In many countries which have experienced major disasters during the last ten years, some at least of the people who became physically and/or mentally disabled are still waiting for rehabilitation services and the necessary technical aids and equipment. They have thus become a heavy burden on the national economy as well as on their families. Not infrequently, they have had to resort to begging on the street in order to maintain a bare livelihood.

There are both humanitarian and economic motives for re-integrating disabled persons into society, and the media should be used to make them known to, and understood by, the general public. "The dignity and the right to security of the disabled person is no less than that of a normal individual and... everything possible must be done to rehabilitate the disabled in order to restore them to as normal a life as possible in the society in which they live". 19/

19/ WHO, Twenty-ninth World Health Assembly, Report on Specific Technical Matters, Document WHA 29/24, p. 28.

As to the economic motives, disability prevention and rehabilitation are not only goals in themselves, but are means to achieve economic benefits for society in general "... to provide society with a means of regaining the disabled person's economic contribution and/or reducing the cost of institutional care, sickness benefits, disability pensions, etc." 20/

Disabled people are often not able to fulfil what society defines as useful tasks, and even if they can, they are not able to compete on equal terms on the open labour market. Thus, they become the object of discrimination. This discrimination is reinforced by negative attitudes and behaviour, leading in turn to the exclusion of disabled from many social and cultural activities. Features in the design and construction of public and private buildings often prevent participation by the disabled in ordinary daily activities, and so contribute to further social isolation.

The press, radio and television can play an active role in conveying the message that the disabled have the same needs and aspirations as anyone else, but face difficulties in realising them. The public should be led to understand that disability must be viewed as a relationship between the individual and the environment, for it is the latter which determines the effects of a disability on an individual's daily life.

20/ Ibid.

"Awareness", in short, is the objective - awareness of the steps which can be taken to protect the already disabled, awareness of the need for care in preventing new disabilities, awareness of the contributions which individuals, families, communities and society in general can make to rehabilitation, and awareness of the (sometimes special) contributions which the disabled themselves can make to family, community or society.

The promotion of "awareness" is in general terms a chief aim and function of the media. Methods to achieve it range from the simplest pamphlet or poster to the most sophisticated audio-visual techniques. These skills exist in the media: this is an opportunity to use them for constructive purposes.