

## 14. Mortuary service and handling of the dead

This chapter is concerned primarily with situations where there are large numbers of deaths following a disaster, requiring organized services for handling the dead. Dead or decayed human bodies do not generally create a serious health hazard, unless they are polluting sources of drinking-water with faecal matter, or are infected with plague or typhus, in which case they may be infested with the fleas or lice that spread these diseases. In most smaller or less acute emergency situations therefore, families may carry out all the necessary activities following a death, where this is customary practice.

### 14.1 Recovery of the dead

A call for volunteers to carry out search and rescue work can be communicated via the mass media and through contacts with existing community organizations. In addition to providing much-needed assistance, search and rescue activities can also give survivors a sense of purpose and of solidarity, which can later be directed to other relief activities.

Volunteers for search and rescue activities and for removing the dead should ideally be members of an existing community organization; if one does not exist, community members should form an ad hoc organization. This will help representatives of the organization to establish a disciplined system that relies on group cohesion, which will facilitate communications. Professional rescue workers should liaise with the elected representatives of such volunteer groups.

Proximity to the dead is deeply disturbing, as are the odours eventually produced by bodies. Dead bodies should therefore be buried or cremated without delay according to custom, or placed as soon as possible in mortuaries, to which the general population should not have access; here they are exposed solely for purposes of identification by family or friends, and, eventually, for the determination of the cause of death by medical experts. It must be carried out carefully to help families and loved ones deal with their loss.

In the search for survivors following a disaster, it is usually inevitable that search and rescue team members will handle corpses, which can be traumatic. Anyone charged with managing a body recovery team must be aware that high levels of distress are likely in members of such teams, and that the need to recover the bodies must be balanced against this likelihood (Thompson, 1991).

### 14.2 Organization of the mortuary

The mortuary should be a secure building and should have the following four sections:

- reception room;
- viewing room;
- storage chamber for bodies (not suitable for viewing);
- room for records and for storing personal effects.

The number of deaths in a major disaster may well exceed the normal capacities of the local mortuaries. Many disaster-management plans provide an indication of the number

of bodies that local mortuaries can handle, but overlook the fact that these mortuaries are in constant use and will already contain bodies (Clark, Nicholls & Gillespie, 1992). It is therefore better to designate a temporary mortuary site.

Strict sanitary supervision should be maintained at all stages of handling the dead: mortuary personnel should wear gloves and protective working clothes; ideally, bodies should be stored at 4°C (not frozen); and at the end of a day's work personnel should wash themselves thoroughly with a disinfectant soap. These sanitary provisions are extremely important in epidemics, or in areas where the prevalence of HIV is high and the dead have open wounds.

As a minimum, mortuary equipment should include: stretchers, leather gloves, rubber gloves, overalls, boots, caps, soap and disinfectants, and cotton cloth. A more complete list suited to the needs of mass disasters is given in Box 14.1. A mortuary hoist, picks and shovels or earth-moving machines, and trucks may also be required for transportation and burial purposes.

### 14.3 Identification of the dead

Early identification of corpses helps to preserve the mental health of the bereaved. Anxiety and uncertainty are replaced by grief, and the process of acceptance of death begins. Prompt identification and disposal ensure that families and friends are not exposed to the offensive by-products of bodily decay.

The identification of dead bodies can be difficult when there are many of them: 1000 unidentified bodies require over 2000 square metres of space to display adequately, and a person walking between the rows of bodies may have to walk some 800 metres. When bodies decay rapidly, handling and identification become very unpleasant, so that it is sometimes preferable to bury the bodies quickly, and to carry out identification later, after disinterment, using forensic anthropological techniques. Rapid burial is not recommended, however, if facilities for conserving bodies, e.g. ice, electricity and embalming fluids, are readily available.

The identification of bodies by people other than family or friends can be a very lengthy process. If the disaster has taken place in an area where people usually carry some form of identification (i.e. credit cards, identity cards, driving licences), a professional team can process 100 bodies per hour. In parts of the world where such items are not carried, the process can obviously take much longer, and rapid burial should therefore be considered.

If it is possible to identify the deceased, a medical examiner should issue a death certificate. An official record of death should be prepared and an identification tag affixed to the body. Personal effects should be returned to the next of kin.

In conflict situations, many deaths may be the result of human rights abuses by one or more of the warring parties. In such situations, it is important to accurately record the cause of death and identify the body, or label the body for later identification, and record the place of burial. This information may be important in an investigation of possible human rights abuses.

### 14.4 Handling the dead

Burial in individual graves is the method of choice, unless the number of dead is excessively large, or climatic or other constraints make this impossible. Individual graves can be dug manually, providing work, a sense of purpose, and a ritual element for the community affected by the disaster. If the number is too large, or circumstances demand it, trenches can be dug by mechanical means and bodies placed in them head to foot to save space. If it is expected that the bodies will be disinterred, they should be buried 50 centimetres from the surface.

**Box 14.1 Equipment for mortuary services in major disasters<sup>1</sup>**

Platform ladder for the police photographer.  
Stainless steel postmortem tables or heavy-duty trestle tables covered with plastic sheeting.  
Wheeled trolleys for transporting bodies within the mortuary.  
Accident and emergency trolleys that incorporate an X-ray grid.  
Mortuary hoist or small fork-lift truck.  
Trestle tables and chairs for administrative areas.  
Wall charts to record progress, or large poster boards if there are no walls.  
Tarpaulin or plastic sheeting for the floor, if it is not made of concrete.  
Heavy-gauge black plastic sheeting for temporary screens.  
Refuse bins and bags.  
Cleaning materials—mops, buckets, cloths, soap, towels.  
Disinfectant and deodorizer.  
Protective clothing and heavy-duty rubber gloves.  
Office equipment, including fax, typewriter, computer.  
Property bags and labels.  
Body bags and labels.  
Specialized equipment to be furnished by the pathologist, odontologist, radiographer, etc., as required.

<sup>1</sup>Source: Clark, Nicholls & Gillespie (1992).

Coffins will often be unavailable or of poor quality. It is then advisable to wrap the corpses in plastic sheets; these are resistant to decay, and thus can help to keep the remains separate from the soil.

When locating and planning long-term emergency settlements, an area should be identified for burial. This should be large enough to accommodate the expected number of graves over the life of the settlement, and separate areas for people of different religions. The area should be chosen in consultation with the community concerned, and with attention to ground conditions, groundwater conditions, and distance from water sources.

Although burial is a quick and economical method of body disposal, alternatives can be used if they are more acceptable culturally, and if resources (including time) are available. Such alternatives include cremation, embalming, and certain types of ritual display of the dead. It may be useful to take tissue samples from the deceased for identification purposes. The samples can later be compared with samples from surviving relatives.

## 14.5 Ceremonial aspects

Disasters have a deeply disruptive effect on communities. Even if their more easily observable consequences are death, wounds, disease, loss of property, etc., the psychological consequences can be equally important and may be longer-lasting. Unfortunately, the techniques for dealing with people suffering from psychological trauma are not as clear-cut as those for dealing with material injuries and a great deal of improvisation will have to be accepted. The community's solidarity networks, rituals and codes are very important in dealing with the psychological impact of disasters and death, and they should be encouraged.

In a disaster, ritualized behaviours normally available to deal with death may be swept aside. The large number of deaths occurring together, the lack of advance warning, the previous good health of so many of the victims, and the clustering of deaths within households can overwhelm normal coping mechanisms, and leave survivors with profound

and possibly lifelong trauma. For this reason, the ceremonies of burial or other forms of disposing of the dead should be as formal and as well planned as possible. Many such ceremonies will be religious and involve the entire community or all the family members. Whatever their nature, these ceremonies are essential aspects of the grieving process. Unfortunately, popular beliefs about the health risks of human corpses have sometimes led to the hasty and undignified use of lime or burning to dispose of human remains. Authorities should resist this: ceremonial grieving for the dead is the beginning of recovery in the disaster-recovery cycle.

Relief organizations should cooperate with the authorities in the disaster area to facilitate ceremonial burials. If desired, individual ceremonies can be carried out by families, but collective burial ceremonies may better help society as a whole to deal with the disaster.

## 14.6 Further information

For further information on:

- mortuary services, see: Clark, Nicholls & Gillespie (1992);
- handling of the dead, see: Thompson (1991), Davis & Lambert (2002), Harvey, Baghri & Reed (2002);
- cultural and social aspects of death in emergencies, see: Wilson & Harrell-Bond (1990).