Disaster Mental Health Response

Handbook

An educational resource
for mental health professionals
involved in disaster management

This handbook has been coordinated and prepared by the Centre for Mental Health and the NSW Institute of Psychiatry in collaboration with health services across NSW.

Disaster Mental Health Response Handbook
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Foreword

Mental health services have a vital role to play in the coordinated response to disaster in the community. Effective responses to disaster situations involve the whole of government, non-government organisations and community members, making the designation of roles and responsibilities a challenge for all those involved.

A considerable body of scientific research is now available to guide the formulation of appropriate mental health responses and help in the identification of those who may require ongoing support. The majority of individuals and communities show considerable resilience and strength in the face of disaster and there is much to learn from those who adapt to such difficult and stressful circumstances. This manual aims to provide up-to-date knowledge and guidance about how to assist these normal recovery processes as well as assisting those in need of specific mental health interventions. It also identifies mental health consultation, advice and expertise as it may assist and inform the disaster response generally.

The NSW Institute of Psychiatry and the Centre for Mental Health have collaborated in the production of this handbook. This handbook provides a concise review of the field and guidelines for appropriate response planning.

This handbook should be used in conjunction with structured resources that are provided for systematic response in disaster emergencies, for instance Mental Health Standing Operating Procedures (MHSOPS) from NSW Health. It is intended to form a basis for training programs, and should also assist in formulating mental health service response in the recovery period. Disasters by their very nature are often chaotic, thus at all times, while being informed by the information and evidence available, responses should be guided by coordination of effort, common sense and compassion.

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Contents

APPENDICES

Index of Figures

Index of Tables

Introduction to the Handbook

The NSW Institute of Psychiatry and the Centre for Mental Health have collaborated in the production of this educational handbook. The project steering committee has overseen this process.

The main aim of these training materials is to assist Area Health Services with the education and training of staff responsible for disaster management in NSW. This handbook should be used as a background resource to the Mental Health Standing Operating Procedures.

This handbook provides reviews of the current literature on disaster mental health response and management. Each chapter highlights important issues for those involved in disaster mental health response and aims to provide comprehensive background material, recommended readings and practical suggestions where appropriate. Topics covered include:

- definitions, classification systems and phases of disasters
- reactions to disasters seen in individuals, families, communities and populations - adaptive reactions and adverse mental health outcomes
- special groups, eg. children, older adults, refugees
- mental health response to disaster, including prevention, psychological first aid, triage, assessment, interventions and follow-up
- roles of disaster workers and rescuers
- issues for disaster mental health services, eg. policies and procedures, liaison with other agencies, professional roles and responsibilities

A one-day workshop was conducted to introduce and disseminate these materials to Area Mental Health Directors and their nominated staff involved in disaster management. It is recommended that workshop participants circulate these materials within their service and among colleagues.

CHAPTER 1: **Introduction to Disasters**

Summary of Key Points

- Disasters are not rare events. They can have widespread and devastating impact on individuals, families, communities and nations.

DEFINITIONS:

- There are many definitions of disaster in the literature. Common to most definitions is that a disaster is a severe destruction that greatly exceeds the coping capacity of the affected community.

- There are also many ways to classify disasters: the two main classifications used throughout this handbook are **natural** and **human-made** disasters. Other terms include, industrial, technological, complex emergencies etc.

- It is often difficult to define just who is most affected by a disaster. Included are those at the centre as well as the periphery, those who experience actual or threatened harm or injury, bystanders, the bereaved, workers, the wider community etc.

- Various authors have attempted to classify those affected by disaster. One example of a classification system is described in this section.

PHASES OF DISASTERS:

- It is useful to consider the phases of disasters and the common reactions of individuals and communities. The model used in this chapter is commonly described in the literature and comprises the following phases:

Preparation and Planning
Education about possible disaster experiences and how to deal with them, training through disaster exercises, and awareness of likely psychological reactions are all helpful.

Threat and warning
Threat and warning refer to the time before a disaster when there may be either a general recognition that such a disaster could occur (threat) or a specific warning that a disaster is approaching (warning).

Impact
The impact of a disaster is the time when its greatest force and disruption occur. With natural disasters there may be extraordinary wind or water forces, great heat from fires, fracturing forces of earthquakes and so forth.

Immediate post-disaster period
This is the phase where there is recoil from the impact and the initial rescue activities commence. During this phase there is also an attempt to build up a picture of what has occurred and to re-establish contact with family and community. The primary helping response by all workers at this stage should be **psychological first aid**. This aims, like other first aid, to sustain life, promote safety and survival, comfort and reassure, and provide protection.

Recovery phase
The recovery phase is the prolonged period of return to community and individual adjustment and commences once rescue is completed. Much will depend on the extent of devastation and destruction that has occurred as well as injuries and lives lost. Mental health support services should be available in readily accessible places in the community, or through outreach programs working in collaboration with other community recovery programs. The primary helping response at this time should be supportive counselling and if necessary specialised referral and treatment.

Chapter 1 Introduction to Disasters

Epidemiological studies show that disaster is not a rare event. Disasters can have widespread and devastating impact on health and on national and community stability even if only a few individuals are primarily affected. Less developed countries have greater morbidity and mortality from disasters than do more developed countries even when population density is controlled.

Between 1967 and 1991, disasters around the world killed 7 million people and affected 3 billion (Cater, Revel, Sapir & Walker, 1993). During this period, an average 117 million people living in developing countries were affected by disasters each year, as compared to about 700,000 in developed countries (a striking ratio of 166:1). In recognition of the human cost of disasters, the United Nations General Assembly designated the 1990's as the decade of natural disaster reduction (World Health Organisation, 1988).

Defining disaster

A disaster is a very complex, multi-dimensional phenomenon. In common daily usage, the term 'disaster' refers to a great misfortune causing widespread damage and suffering. There is however, no consensus on a scientific definition of the term: there are in fact more than 40 different definitions of disaster in the literature (Korver, 1987). Common to most definitions and those of medicine, psychology and sociology, is that they stress that a disaster is a severe destruction which greatly exceeds the coping capacity of the affected community. Thus, the coping capacity and the psychosocial resources of a community are essential in defining when a destructive event is to be seen as a disaster (Weisæth, 1995).

Furthermore, the definition may be dependent upon the event itself, or solely on the consequences of the event. The term disaster ordinarily emphasises a fast destructive change (eg. a major rail accident), however may also be used to describe 'slower' catastrophes that develop over time and have longer-lasting effects (eg. floods and droughts). This may seem to exclude permanent problems from the disaster definition, for instance famine in many parts of the world, even when the consequences of starvation are disastrous. Nevertheless such situations meet the definition of exceeding the coping capacity of the affected community.

Current interpretations of disasters can be summarised in terms of:

- death rates
- number of people injured or affected
- destruction / dislocation from home, family, neighbourhood or community
- effects of disaster on the community – economic and social
- whether the community is destroyed or irreversibly damaged

(Raphael, 1993).

Common elements to be considered in the conceptualisation of disasters include:

1. A disaster disrupts the existing social structure and makes it very difficult for the usual social mechanisms to manage the consequences. Difficulties resulting from disasters are many and are not limited just to those of a physical nature.

2. Variables that may moderate the impact of disasters, include, the ability of survivors to adjust psychologically, the capacity of the community structures to adapt to the crisis and the amount of help available.

3. The concept of disaster changes over time and among different cultures. Within some populations, for example, areas in Australia which are subject to repeated droughts or bush fires, the prolonged experience of coping with these disasters may create a specific disaster 'sub-culture', and this is likely to affect patterns of psychosocial reactions to the disaster situation.

4. Since catastrophic events are frequent in many developing countries, this may raise the threshold to be considered a disaster. Nevertheless this should not lead to a failure to recognise and respond to the adverse effects that may occur even with repeated disasters.

There will also be definitions that fit with national, state, community or local political, legal and administrative requirements. These are important because they reflect the formal mechanisms of recognition, eg. the severity of an incident/occurrence and the mobilisation of extra resources, authority and systems to deal with the disaster at a population level. They are also a signal to outside agencies. Whether or not a 'disaster' is declared or formally identified may have both symbolic meanings of recognition and practical application of mobilising response. It will thus be relevant to a community and its recovery. This includes both positive aspects and potentially negative, although far more problems appear to be associated with a failure to recognise communities', and individuals' "disastrous" experiences.

Organisational Response

The mental health organisational response to disaster comes from a number of different systems and primarily comprises two broad roles. These are:

1. **Emergency response role**: immediate response and of relatively short duration.
2. **Recovery response role**: longer-term and integrative process.

The mental health organisational response involves collaboration and liaison between many different agencies and organisations.

Classification of disasters

From a general perspective, researchers are in agreement that there are many ways of classifying disasters. Classifications vary depending on the criteria used. These may include, a disaster's effect, cause, number of deaths and injuries, degree of personal impact, nature of illnesses generated in the aftermath and other epidemiological data (Figley et al, 1995).

Classification of disaster may have important consequences on the way people react and the types of help required. For example, the type and rapidity of impact (radiation, chemical, flood, fire, earthquake etc) because the lack of time to prepare has important indirect and long-term consequences for among other things:

a) the magnitude of loss (deaths, number of injured)

b) the known or unknown hazard, in the latter case with more lasting anxiety

c) recurring risk, and degree of warning and preparedness at the community and individual level

d) the severity of the impact and its effect on community functioning

e) life threat - eg. the degree to which escape was or was not possible during or immediately following the disaster

f) destruction of property and material losses

g) damage to community structure

(Figley et al, 1995).

Table 1 shows a comprehensive and dynamic classification of disasters displaying the primary causes of disasters in combination with primary elements. The primary focus of this handbook will be on natural and human-made disasters.

Table 1: Disaster classification

	NATURAL	HUMAN-MADE
EARTH	Avalanches Earthquakes Erosions Eruptions Toxic mineral deposits	Ecological irresponsibility Road and train accidents Ecological neglect Outerspace debris fallout Radioactive pollution Toxic waste disposal
AIR	Blizzards Cyclones Dust storms Hurricanes Meteorite / planetary activity Thermal shifts Tornadoes	Aircraft accidents Hijackings Spacecraft accidents Acid rain Radioactive cloud and soot Urban smog
FIRE	Lightning Bushfires	Fire-setting
WATER	Drought Floods Storms Tsunamis	Maritime accidents
PEOPLE	Endemic disease Epidemics Famine Overpopulation Plague	Civil strife Criminal extortion by chemical and biological contaminants Guerrilla warfare Hostage-taking Sports crowd violence Terrorism Torture Plant accidents

Natural Disasters

Natural disasters are of many types and have diverse characteristics. Their onset and duration can be rapid or slow, and the intensity of disruptions caused to people, property and human need vary greatly and are, in part, a product of the degree to which people are prepared, as well as the extent and severity of the event.

Natural disasters include flood, tidal wave, storm, cyclone, hurricane, tornado, tsunami, earthquake, volcanic eruption, landslide, avalanche, drought, forest and bush fires. Natural disasters are often familiar to the survivors, and the affected communities may have developed a lot of experience with these particular hazards. Traditionally these disasters are seen as unavoidable. Although early warning systems are developed to various degrees, the impact can be extremely powerful and may cause substantial

destruction, social disruption and many secondary stressors, such as loss of both home and income (Weisæth, 1995).

Human-Made Disasters

Technological disasters: include toxic chemical and nuclear accidents, dam collapse, transport accidents, explosions, hostage-taking, mass gathering incidents.

Complex emergencies: include war and conflicts or one of these mixed with a natural disaster agent.

Human-made disasters are caused by **human failures or accidents**, or are due to **human malevolence, violence or war**. They may include fire in large buildings and cities, collapse of man-made structures (bridges, mines, dams, buildings, roads), transport system accidents (ship, railway, airplane, motor transport), technological disasters (explosions, toxic, chemical, nuclear), and specific acts of human malevolence (mass shootings, bombings). Because such human-made disasters are rarely preceded by warnings they may have a sudden onset, producing shock. While the impact is extremely powerful, the destruction is often concentrated and causes less social disintegration. These disasters may result in a sense of loss of control, for which someone or some agency may be seen as responsible. The feeling that someone is to blame may make it more difficult for survivors to cope with the situation.

Chemical, biological and radiological (or nuclear) **terrorism** adds a new dimension to such human-made disasters. Threat may be sudden, focussed or unfocussed. The intent of such terrorism is of course to evoke terror, and the uncertainty and anxiety generated may lead to panic. Physical or physiological responses may be of 'epidemic' proportions, leading to further impact even in otherwise unaffected populations (Di Giovanni, 1999; Holloway et al, 1997).

Many authors have argued that human-made disasters are phenomenologically and etiologically different from natural disasters. Human-made disasters seem to be more traumatic to mental health (Weisæth, 1994). Their higher **unpredictability**, **uncontrollability** and culpability may partly account for this. The majority of features which they argue distinguish the two broad types of disasters are related to distinct qualities of the stressor (eg. its **suddenness** and **severity**). For example, the leak of poisonous gas from a Union Carbide Corporation plant in Bhopal, India, killed 3,800 people and injured over 300,000 more (Ursano, Fullerton & Norwood, 1995). Others pertain to **mediating factors** such as **sense of control** perceived by the victims, or **modifying characteristics**, such as effect on **social support**. Each of these characteristics may theoretically have a differential effect on outcome (Havenaar & van der Brink, 1997).

However, a clear distinction between what is human-made and what is natural is sometimes impossible. For example, in an earthquake, the poor construction of buildings

can contribute significantly to damage and loss of life. The 1988 earthquake in Armenia claimed 30,000 lives. The majority died because their homes were poorly constructed (Ursano et al, 1995). From such a perspective, this disaster is both natural and human-made. Also, the failure of authorities to provide adequate warning of a 'natural' danger can contribute to the loss of life and damage.

However, it is important to recognise that some human-made disasters may have more insidious onset – for instance recognition of toxic waste contamination, or nuclear leakage. The psychological impact of such 'disasters' may relate to perceptions of hidden dangers, uncertainty about threats to health, family, property, community, and loss of trust in community institutions. Furthermore, lack of recognition, controversy about the realities of the threat, and who is to blame, may lead to prolonged stressor experiences for individuals and communities.

Personal disasters versus community disasters

Disasters may impact on a wide range of individuals, groups and communities. Nevertheless, research shows that the majority of people cope and move on with their lives, and do not become psychologically traumatised.

'Personal disaster' is a term often used to describe an individual's experience of horror, traumatic death etc, eg. in a traffic accident or assault (Raphael, 1981). 'Community disaster' is used to refer to an event that may impact a wider group, or community. For example, in a community disaster with a high death toll, grief affects many: close family members, extended family, friends, and co-workers. Others may suffer the loss of businesses, jobs and property. Moreover, with increased media coverage of national and international events, a larger global disaster community may also exist (Tucker, Pfefferbaum, Nixon & Foy, 1999).

As noted by Wright et al (1990) rapid communication, shared values, and group attachments serve to enlarge the consequences of destruction 'across nations and oceans'. For example, after the 1995 Oklahoma City bombing, federal and other government workers, parents leaving children in daycare centres, school children worrying about their parents' safety, diverse rescue workers and medical personnel, members of the media, and survivors of other disasters, were touched in geographically distant locations.

Who are affected by disasters

It is often difficult to define just who is most affected by a disaster. Disasters in essence affect populations and thus call for a population approach to mental health and health

response. ie. linking public health and personal health cases in the response to achieve optimal effect (Fairbank, 2000). In any given population included are those at the centre as well as the periphery; those whose lives were directly threatened, as well as those who were a 'near miss'; those who have lost loved ones and who may or may not have been present in the disaster themselves; the wider community, and so forth (Raphael, 1993).

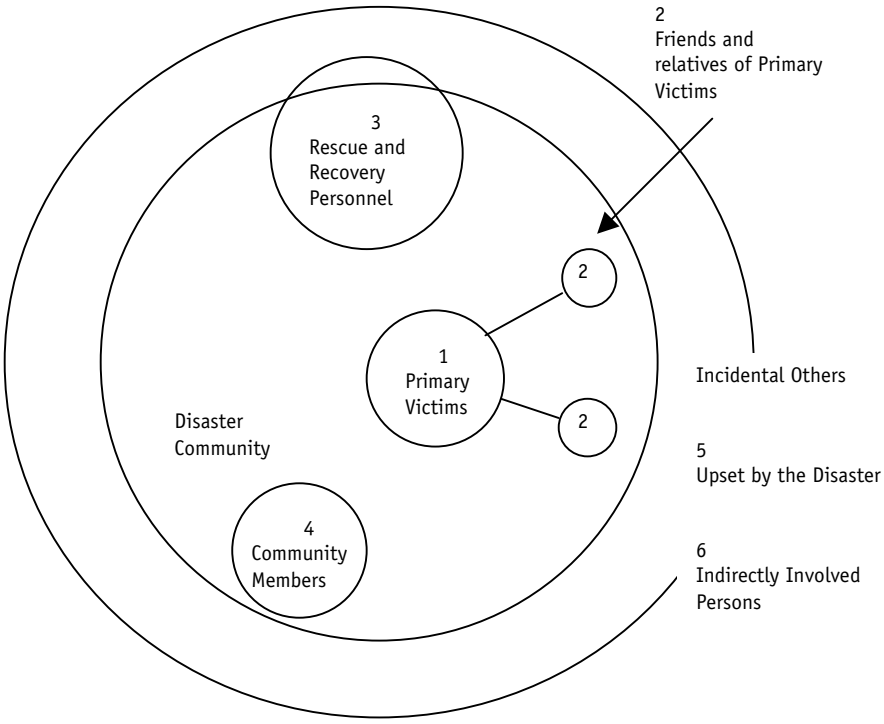
Workers responding to disaster include formally trained professionals used to emergency work, such as police, ambulance, fire and other care-giving service workers, medical and health care professionals, and in some instances other counter disaster teams such as the military. Volunteers may also be a significant group, and may be willing but ill prepared to help as they converge on the disaster site. While they may assist greatly they may also require care themselves if overwhelmed by the disaster stress. Community leaders are another group that is often forgotten yet may be affected in a major way (Raphael, 1993).

One way of classifying those affected by disaster has been proposed by Taylor & Frazer (1981). This has been summarised below:

- *Primary victims*: Those in the front line who have experienced maximum exposure to the catastrophic event.
- *Secondary victims:* Grieving relatives and friends of the primary victims.
- *Third-level victims:* Rescue and recovery personnel who might 'need help to maintain their functional efficiency during any operation and to cope with traumatic psychological effects afterwards'.
- *Fourth-level victims:* The community involved in the disaster, including those who converge, who altruistically offer help, who share the grief and loss, or who are in some way responsible.
- *Fifth-level victims:* People who even though not directly involved with the disaster, may still experience states of distress or disturbance.
- *Sixth-level victims:* Those who, but for chance, would have been primary victims themselves, who persuaded others to the course that made them victims, or who are in some way indirectly or vicariously involved.

This classification is somewhat complex and perhaps the different aspects may be best represented by a diagram (see figure 1).

Figure 1: The various disaster victims



Adapted from Taylor & Frazer (1981).

Survivor versus Victim

In this handbook the terms 'survivor' and 'disaster-affected person' will be used interchangeably and will refer to individuals and families who have suffered from a disaster and its consequences. Disaster survivors include all ages, socioeconomic classes, and racial or ethnic groups.

The word 'victim' is used with caution as this has negative implications towards outcome. In fact, even though disaster survivors may experience symptoms of physical or psychological stress, these reactions are not viewed as psychopathology but as part of the normative coping response to disaster.

Phases of disaster

The stages of disaster begin before the actual impact. For groups that are often mobilised for disasters (eg. police, firefighters, disaster workers), as well as those exposed to disasters for which there may be substantial warning (eg. storm disasters,

toxic spills) there is the anticipatory stage of disaster exposure and possible stressor effects. This is followed by the impact of the disaster and its aftermath. Each stage has its characteristic stressors, responses and potential interventions (Ursano, Grieger & McCarroll, 1996). Stages may not however, be clear-cut.

From a mental health disaster viewpoint it is important to recognise the various psychological phases which both at-risk populations and the survivors in the aftermath may experience. This model, which is summarised in Table 2 and described in detail below, is useful for acute events, eg. a cyclone or flood, and their aftermath, but is not so appropriate for longer term slow disasters, which affect communities in different ways and may be insidious in terms of their disastrous impact (Raphael, 1993).

Table 2: Summary of disaster phases

Phases of Disaster
Preparation and Planning
Threat and Warning
Impact
Immediate post-disaster period
Recovery phase

Preparation and planning

Disasters can be anticipated with varying degrees of accuracy. Disaster plans embody the collective knowledge and risk assessment for any particular region. Therefore one dimension of the stress response to disaster involves anticipation and a willingness to contemplate the possibility of disaster and to see that the provision of resources in the development of disaster plans is an adaptive strategy. This reflects an attitude of risk appraisal and management that can decrease the possibility of exposure in the event of a disaster. Studies have examined the effect of this preparation on outcome and have shown that training is a predictor of post-disaster adjustment (McFarlane, 1995).

Education about possible disaster experiences and how to deal with them, training through disaster exercises, and awareness of likely psychological reactions in the self and others are all helpful. This will increase the individual's and the community's capacity to respond appropriately, to recognise and deal with stress effects and will lessen the likelihood for adverse outcomes from these. Including the mental health response in disaster training is relevant for all workers (Emergency Management Australia, 1999).

Threat and warning

Threat and warning refer to the time before a disaster when there may be either a general recognition that such a disaster could occur (threat) or a specific warning that a disaster is approaching (warning). Some communities may expect certain disasters because they know they are vulnerable, or have experienced them before – for instance areas that have been repeatedly flooded, or where there have been previous bushfires, or cyclones. In such communities a **disaster sub-culture** may develop, with a set of beliefs about the likelihood of an episode and what should be done, or what may be effective. Several points are important with respect to the phase of threat and warning (Raphael, 1993).

- Understanding the **background of a community** and its disaster sub-culture helps to identify likely responses to disaster threat.

- Reactions amongst those at risk of disaster may **range from active planning to prevent and mitigate** any possible catastrophe, to a **denial of the reality of threat** for this individual and this community.

- **Responses to warning** that a particular disaster is imminent may be ignored, or not responded to adequately. It may depend on who provides warning and if this source is seen as trustworthy, believable and known to give 'true' or accurate information. Technical descriptions of natural forces may not help those threatened to work out the likely effects for them, and what they should do. Further, if there have been false alarms, or inaccurate warnings, especially in the recent past, this may diminish the likelihood that a new warning will be responded to.

- Most Australian communities have little pre-disaster **training and preparation** in what to do should a disaster occur. Cyclone affected communities, or those that regularly experience floods or bushfires may be better prepared for impact than others. As training and preparation can mitigate both impact and after-effects, it is increasingly important that vulnerability to disaster is addressed and people and communities become involved in relevant planning and training.

- **Specific warnings** should be provided at the time of an emergency by recognised reliable and trusted authorities. They should be simple and comprehensible, and should specify appropriate actions to be followed. Television and radio are appropriate media, but also local networks of people can for instance, warn others in their neighbourhood. Bearing in mind the multicultural nature of Australian society, warnings must also access ethnic groups, be provided in community languages, and address the needs of those who may not have access to mainstream sources, eg. Aboriginal communities.

- **Accurate information** is helpful to people. It should cover what to expect and what to do. Authorities often fail to provide warnings for fear that panic will occur and lead, of itself, to adverse consequences. Panic is rare and usually occurs only in

specific circumstances. For example, if an escape route is blocked in a smoke filled building. Calm direction, accurate information and appropriate leadership can help people to take effective action in response to a disaster threat and lessen the severity of consequences.

- Naturally people are **anxious** when a disaster threatens, especially if they have had no previous experience with one. The above actions help to diminish anxiety. It is true to say that under-response, ie. inadequate anxiety and failure to protect the self, is more often a problem than over-response.

  Common sources of anxiety include the **threat to one's own life and the safety and well-being of others**, such as partners and children for example. Wherever possible it is important to keep families together, especially children with parents, or to identify where they may meet after the impact is over.

- Some disasters have **little or no warning**. The impact is virtually immediate. Those affected may not realise what has happened, and the shock and confusion may be greater in such circumstances.

Impact

The impact phase of disasters is extremely variable according to the type of event. There is also great variability within events. One house can be destroyed while the one next door is left unscathed. There is a need to compare the different types of disaster and identify the differing role of the components of threat, exposure, loss and dislocation in the patterns of adjustment (McFarlane, 1995).

Damage and destruction of homes and community are likely in any major disaster affecting areas of human habitation, and there may also be severe threat to human life. People's actions are usually geared to protection of the self and others, especially children, family members and those who are in any way weak and helpless. Several important issues arise with respect to impact (Raphael, 1993):

- People often experience the **'illusion of centrality'**, especially if they are isolated from others. They may feel as though the disaster is happening just to them and may not realise that others have also been affected.

- **Altruism** is frequent and people often place their own lives at risk to help or save others, sometimes even people who are strangers to them.

- The **shock of impact** especially if very sudden and unexpected may temporarily paralyze the individual's response. It may also add feelings of helplessness and powerlessness, and the individual may need to come to terms with these after it has passed.

- Some people respond in a way that is **disorganised, stunned** and may not be able to respond appropriately to protect themselves. Such disorganised or alternatively apathetic behaviour may be transient or may extend into the post-disaster period, so that people are found wandering helpless in the devastation afterwards. Other people may be slightly disorganised, or lose a sense of time, but most will act purposely and appropriately.

  These reactions may reflect cognitive distortions in responses to the severe disaster stressors and may for some indicate a level of dissociation.

- **Survival behaviours**: most people respond appropriately during the impact of a disaster and react to protect their own lives and the lives of others. This is a natural and basic reaction. A range of such behaviours can occur, and these may also need to be dealt with and understood in the post-disaster period. People may see these as not having fulfilled their own or others expectations of themselves.

- Several **stressors** may occur during impact which may have consequences for the person subsequently. These are summarised here and described in more detail in Chapter 2.

  - threat to life and encounter with death
  - feelings of helplessness and powerlessness
  - loss (eg. loved ones, home, possessions)
  - dislocation (ie. separation from loved ones, home, familiar settings, neighbourhood, community)
  - feeling responsible (eg. feeling as though could have 'done more')
  - 'inescapable horror' (eg. being trapped, being tortured)
  - human malevolence (particularly difficult to cope with disaster if seen as the result of deliberate human actions)

- Emergency responses may start to appear during the impact and in the immediate post-impact period. These reflect the community's and individual's initial reactions and will merge into rescue activities. Natural leaders may arise in the affected community assisting through impact, recoil, and rescue or community leadership. When this response is spontaneously organised as it often is, this is referred to as the "emergency organisation". It is self-limiting and should be distinguished from the formal emergency organisations that respond.

Immediate post-disaster period: recoil and rescue

This is the phase where there is recoil from the impact and the initial rescue activities commence. Initial mental health effects may appear eg. people show confusion, are stunned or demonstrate high anxiety levels. During this phase there is also an attempt to build up a picture of what has occurred and to re-establish contact with family and community. The effectiveness of the provision of basic services such as shelter, food and

water by a range of authorities is another factor that can determine the stressfulness of a disaster. These activities are obviously essential for survival but also have a powerful symbolic value in that they are critical to re-establishing the individual's sense of safety with the containment of threat. This is a period when many survivors will have contact with a range of disaster rescue workers and authorities. These encounters can play an important role in containing the distress of those affected by disaster and should be documented (McFarlane, 1995).

It is also a time to assess the likely short and longer-term effects and to start to make provision for these. For instance, assessment of the numbers of deaths, injuries and destruction of the community will provide an indication of the degree to which the population affected has experienced personal life threat, injury, the gruesome and mutilating deaths of others; the loss of loved ones; the loss of home and other valued possessions; the disruption of and dislocation from family, community life, neighbourhood and even work. These events constitute the main stressors that will contribute to adverse mental health impact and indicate those at risk and likely to be in need of specific mental health support (Emergency Management Australia, 1999).

Mental health support services should be available in readily accessible places in the community, or through outreach programs. The primary helping response at this time for **all workers** should be **psychological first aid**. This aims, like other first aid, to sustain life, promote safety and survival, comfort and reassure, and provide protection. It does not involve probing those affected for their reaction but rather provides a calm, caring and supportive environment to set the scene for psychological recovery (Raphael, 1993).

Other issues important to this phase include (Raphael, 1993):

- **Rescue activities:** early rescue activities in any community affected by a major disaster are usually carried out by members of that community – who may themselves be to varying degrees directly affected by what has happened.

- People may **start to gather in shelters or other neighbourhood or central places**, as they come together to assist, to talk and to make meaning of what has happened. The usual social barriers may cease to exist, as people share their relief at having survived and their differing experiences.

- This coming together and affiliative or attachment behaviour and helping of others constitute the **therapeutic community** effect which may commence during this phase and continue into the early part of recovery. This natural gathering together, sharing and mutual concern, and talking through what has happened may be helpful to some people in working through their own experiences.

- Spontaneous **groups** that form after disaster often replace traditional groups at this time because of the powerful bonds of the shared experience, the crisis, and the increased affiliative behaviours. Traditional groupings re-establish themselves in time but the 'special' experience of having gone through the disaster together is likely to remain important, as are friendships formed at the time and the sense of achievement.

- In these contexts it is important to recognise that **evacuation** may further disrupt important social groupings that would otherwise facilitate recovery. The stereotype of evacuating women and children is unhelpful, in many instances resulting in family disruption and subsequent vulnerability.

- This phase is also characterised by the arrival or **convergence** of a large number of people external to the community who enter the disaster area for a number of reasons, both official and unofficial. There may be the wish to help, concern for those affected or anxiety for family members who may be at the site. As well there is the natural curiosity about death and destruction. While people converging intend to be helpful, they may create further problems, for instance, they may congest the site; disrupt communication; or develop problems themselves; or they may respond in an overly dramatic way, exaggerating problems or become angry that their help is not needed. Managing or preventing this convergence is important in overall response at this time.

- **Emotional reactions** to the stressors of the disaster impact and aftermath may now start to appear, although these will be variable and depend on the individual's perceptions and experience of the different stressor elements noted earlier. Necessary activities of the rescue phase may mean these reactions are delayed, appearing more as recovery processes get under way. Reactions may include, numbness, denial or shock; traumatic stress reactions such as flashbacks and nightmares; grief reactions to loss; anger, despair, sadness and hopelessness. Conversely, relief and survival may lead to feelings of elation, which may be difficult to accept in the face of the destruction the disaster has wrought.

- **Active roles** are very important for those affected during the disaster, as playing a part in rescue and later recovery may help to undo the feelings of powerlessness and helplessness that may have occurred during impact.

(Raphael, 1993).

Recovery phase

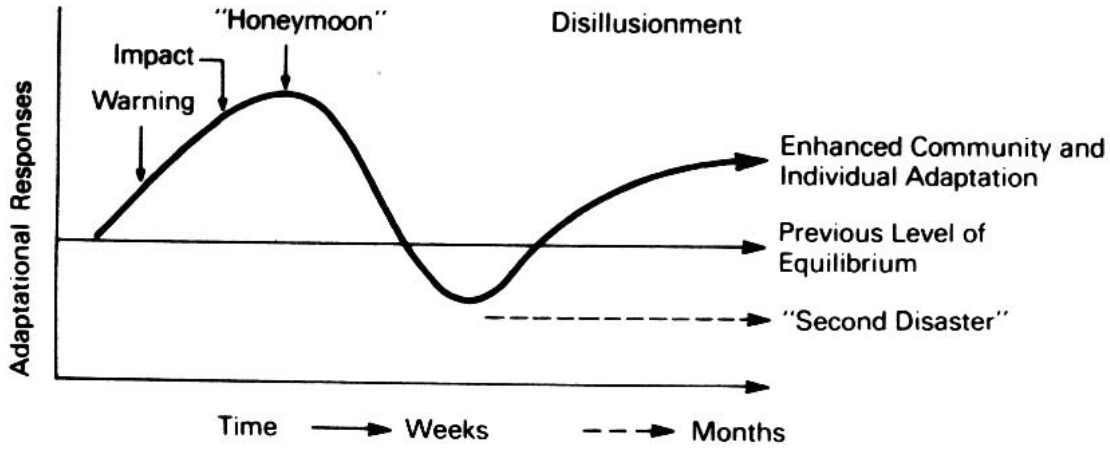
The recovery phase is the prolonged period of return to community and individual adjustment or equilibrium. It commences as rescue is completed and individuals and communities face the task of bringing their lives and activities back to normal. Much will depend on the extent of devastation and destruction that has occurred as well as injuries and lives lost (Raphael, 1993).

This period usually begins in the weeks post-impact. It may be associated with a honeymoon phase deriving from the altruistic and 'therapeutic community' response in the period immediately following the disaster. A disillusionment phase may soon follow when a disaster is off the front pages, organised support starts to be withdrawn, and the realities of losses, bureaucratic constraints, and the changes wrought by the disaster must now be faced and resolved (Raphael, 1986).

During the emergency the surrounding community responds, everyone is supportive, the '**honeymoon phase**' follows and many promises are made. It is as though everyone wants to make up for what has happened and return things to the way they were before the disaster. Of course this is not possible.

The extent of costs, the problem of who will pay, the time that will be required, the ongoing problems that will continue, all start to impact on those affected, bringing chronic stress which is often more difficult to deal with than the original acute experience. This period is often called the phase of **disillusionment**, or if it becomes entrenched and severe, the **second disaster.** These phasic components are represented in Figure 2.

Figure 2: Phases of Response to Disaster



Source: Raphael (1986).

Recovery will inevitably take time and it is true to say things will never be quite the same again because this disaster has occurred. Several important themes emerge and continue during the recovery phase (Raphael, 1993):

- **Active involvement** in and ownership of the recovery process is essential for members of the affected community, both as individuals and as a group. When others take over, control funds, or seem to demand ongoing helplessness and gratitude, it is likely that disorganisation and helplessness will predominate – continuing into a 'second disaster'.

- **Community organisation** passes from the emergency phase back to regular systems. These may need new groups and structures to cope with the additional tasks of recovery and reconstruction. Just as a spontaneous "emergency organisation" may arise in a community in response to the impact, "recovery organisation and organisations" may arise as specific social systems in the community. These may include self-help, advocacy, and other groups. They may contribute in very positive ways. Support for community development is essential in the recovery phase, to strengthen positive outcomes, to prevent scapegoating and splitting, and to ensure ongoing community growth in the face of the challenge.

- **Practical issues** including resource needs may predominate. These must be dealt with, but do not by themselves meet emotional needs although their provision in supportive ways may help to facilitate recovery. People often find it difficult to ask for practical and financial assistance, especially if they have previously been very independent.

- It is particularly important to remember that **emotional needs** may be very significant, especially for those who have been severely affected. They may only start to appear at this time. Delivering emotional and psychological support alongside practical assistance may increase its relevance and perceived helpfulness.

  Mental health services will also need to be readily available during this phase of disaster. All workers need to be trained and aware of particular emotional reactions, so that they can behave supportively. People may also be hesitant to express distress or concern or dissatisfaction, feeling they should be grateful for the aid given, or because they have suffered less than others have. It should be noted that sometimes emotional reactions may present as physical health symptoms, eg. sleep disturbance, indigestion, fatigue, as well as social effects such as relationship or work difficulties. Supportive and specialised counselling may be required if reactions are persistent and severe.

- Maintaining **social networks** is also important in the recovery process. Social support plays a vital role in the recovery from adversity, and acts as a buffer against negative outcomes. Every effort needs to be made to continue networks of neighbourhood, friends and confidants so that stresses may be dealt with through such social networks and support.

- **Communication and information systems** are central at every stage of the disaster, and continue to be so during the recovery process. They help counterbalance myths, provide feedback and promote recognition of individual and community achievements. Newsletters, television and radio are all useful, as are public meetings and forums.

- **Community rituals** may evolve as symbolic and important steps in the recovery process. Memorial services and renewal projects, testimony of suffering and courage in art and literature all constitute ways of externalising and making meaning of the disaster. They help individuals and communities come to terms with what has happened, memorialise and pay tribute to the living and the dead, and set the experience in the past so that it may be integrated and all may move on from it.

CHAPTER 2: **Reactions to Disasters**

Summary of Key Points

- The developing disaster research literature suggests that mild to moderate stress reactions in the acute phases of disaster are **highly prevalent**. For the majority of survivors reactions are transient, meaning a normal response to an abnormal event.

NORMAL REACTIVE PROCESSES:

- Studies have shown that the **majority of people recover fully** within six to sixteen months (eg. Baum & Fleming, 1993; Green & Lindy, 1994; Steinglass & Gerrity, 1990).

- Typical responses often seen in individuals include **emotional** effects such as shock, anger, irritability, helplessness and loss of control; **physical** effects such as fatigue, sleep disturbances, hyperarousal, and somatic complaints; **cognitive** effects such as concentration and memory difficulties, worry and intrusive thoughts; and interpersonal effects such as social withdrawal and relationship difficulties.

- In addition to these somewhat negative responses, a number of more positive reactions have been evidenced post-disaster. **Resilience** is probably the most common observation after all disasters. In addition, the effects of traumatic events are not always bad. Disaster may bring a community closer together or reorient an individual to new priorities, goals and values. For example, a community of tornado survivors felt that one positive aspect of the disaster was that they '*learned that they could handle crises effectively*' (Quarantelli, 1985).

- **Altruism** is frequent and people often place their lives at risk to help or save others, sometimes even people who are strangers to them. Sense of **personal worth** and a sense of **excitement** about surviving the disaster and helping others are also commonly seen.

- **Families** have particular significance in disaster. The stress of the threat or impact can intensify the bonds between members and often the family will respond as a unit – a system. Factors influencing the recovery of families include bereavement, material losses, dislocation and extended stresses on mental health impact.

- Disaster can also change a community by altering, at least temporarily, the way individuals relate, the roles and rules governing behaviour, the social organisation, and the utilisation of resources.

DISASTER STRESSORS:

- Disasters usually include multiple stressors that can have differential effects on survivors. Examples of stressors include, threat to life, exposure to death and the dead, bereavement, loss of property, dislocation and relocation, stigmatisation, injury, fatigue and physiological disruption (sleep, food and water deprivation).

RISK & PROTECTIVE FACTORS:

- The most frequently studied risk factor for negative outcomes following disaster events is the **severity of the exposure** to the event (ie. extent of life threat, loss, injury). The literature examining the role of exposure is definitive. The greater the perceived life threat, and the greater the sensory exposure, ie. the more one sees, smells or hears distressing things, the more likely posttraumatic stress will manifest.

- Other **risk factors** include, death of a loved one; loss of home or community; female gender; **prior disaster exposure** (note: this may be positive or negative), and previous exposure to traumatic events; age, ie. children and older adults; relationship status; post-disaster stresses and pre-existing psychopathology or other vulnerability.

- **Protective factors** that may mitigate negative effects include, limitation or reduction of exposure; social support; provision of information and availability of recovery services; care and understanding on the part of the recovery services personnel; and provision of regular and appropriate information concerning the emergency and reasons for action. Other protective factors include higher income and education, and successful mastery of past disasters.

MENTAL HEALTH OUTCOMES:

- There is a very large body of literature on the relationship between disasters and other traumatic events, and mental health outcomes. Whilst it is acknowledged that research in the disaster area can be difficult to conduct, many of the existing findings are limited by a shortage of psychometrically sound studies. Methodological limitations include, small sample sizes, biased convenience samples, treatment seekers or compensation seekers and great variability in the use of measures and assessment time points. Furthermore, the vast majority of studies have focused chiefly on assessing PTSD and have ignored other more prevalent outcomes such as depression and other anxiety disorders.

- **Thus, it is important to bear in mind that the findings described in these sections of the handbook may be limited by methodological concerns.**

- It is necessary to state here that **more than 90% of adults will not experience a major mental health disorder** after exposure to a disaster, and of those that do, most experience full recovery in 12 to 24 months (Freedy & Kilpatrick, 1994).

- Of those people who go on to develop a disorder, these may include, acute stress disorder, posttraumatic stress disorder, major depression, generalised anxiety disorder, substance abuse, somatisation disorders, adjustment disorder, complications of bereavement, family violence and child or spouse abuse.

SPECIAL POPULATIONS:

Children & adolescents

- The responses of infants, children and adolescents to disaster is a relatively neglected area and many of the studies that have been conducted are limited by their focus on prevalence of posttraumatic stress syndromes.

- More general findings indicate that the effects of disaster will vary according to the developmental stage of the infant or child, in addition to the particular characteristics of the event, the stressors to which the child is exposed, the responses of parents or other carer, and the capacity of the social environment to support the child.

Older adults

- Older adults are often seen by our society as people who have lived their lives, managed 'all-right' and therefore able to 'handle' disasters better than the rest of society. In fact, clinical experience and some limited research have shown that older adults are among the top three high-risk populations for disaster interventions.

- The impact of disaster-related losses has shown that a higher incidence of personal loss, injury and death are experienced by older adults. In addition, existing problems with sight, hearing and mobility all place older adults at higher risk for physical injury. Research has also shown that older adults are less likely to evacuate, less likely to heed warnings, less likely to acknowledge hazards and dangerous situations, and are much slower to respond to the full impact of losses.

Indigenous peoples

- Indigenous peoples may be adversely affected by disasters because their communities are often suffering with marginal status, poor physical health and housing, problems of cultural loss and ongoing trauma and grief.

Refugee and migrant populations

- The few studies conducted in this area seem to suggest that a catastrophic event such as a natural disaster may have a more pronounced effect on the mental health of refugees and asylum seekers who have experienced previous traumatic events. Some of the factors which may exacerbate this effect include limited social support, limited English language skills, inadequate information about disaster response, anxiety about loss of treasured mementos from the old country, and anxiety about loss of documentation about their status in Australia.

People of diverse cultural backgrounds

- Cultural factors may also be powerful in determining the reaction of the affected person and the response of others. There may be cultural rituals that deal with the aftermath of disaster and are healing. Specific rituals and social traditions associated with grief need to be understood and supported.

Chapter 2 Reactions to disasters

In recent years disaster research has seen dramatic increases in the study of psychological and social effects of disaster. In general, this developing literature suggests that mild to moderate stress reactions in the emergency and acute phases of disaster are highly prevalent, and that the majority of people recover fully within six to sixteen months (Baum & Fleming, 1993; Green & Lindy, 1994; Steinglass & Gerrity, 1990).

Normal reactive processes

Both communities and individuals are by definition affected by a disaster, but to both recovery is the norm. After a disaster most survivors will show some signs of emotional distress as an immediate or acute-phase reaction. However, for the great majority of survivors, reactions will be transient, meaning a normal response to an abnormal event, and will be managed through people's use of existing coping strategies, support networks and material resources (Burkle, 1996; Young et al, 1998).

It is important to help survivors recognise the normalcy of most stress reactions to disaster. Mild to moderate stress reactions in the emergency and early post-impact phases of disaster are highly prevalent because survivors (and their families, community members and rescue workers) accurately recognise the grave danger in disaster (Young et al, 1998). Although stress reactions may seem 'extreme', and cause distress, they generally do not become chronic problems. Most people recover fully from even moderate stress reactions within 6 to 16 months (Baum and Fleming, 1993; Green et al, 1994; La Greca et al, 1996; Steinglass and Gerrity, 1990).

In fact, resilience is probably the most common observation after all disasters. In addition, the effects of traumatic events are not always bad. Although many survivors of the 1974 tornado in Xenia, Ohio, experienced psychological distress, the majority described positive outcomes: they learned that they could handle crises effectively, and felt that they were better off for having met this type of challenge (Quarantelli, 1985). Disaster may also bring a community closer together or reorient an individual to new priorities, goals or values. This concept has been referred to as 'posttraumatic growth' by some authors (eg. Calhoun, 2000), and is similar to the 'benefited response' reported in the combat trauma literature (Ursano et al, 1996).

Individuals

The psychosocial stress of disaster will often result in specific responses in survivors and those affected by the event. These stress reactions seem to follow common patterns that are defined by complex feelings, thoughts and behaviours. As previously described, the majority of these are transient and people recover with time.

Table 3 summarises the common stress reactions seen in individuals after disaster. The symptoms most often seen include emotional effects such as shock, anger, irritability, helplessness and loss of control; physical effects such as fatigue, sleep disturbances, hyperarousal, and somatic complaints; cognitive effects such as concentration difficulties, confusion, intrusive thoughts and worry; and interpersonal effects such as social withdrawal, relationship difficulties and impairment in functioning eg. work.

Table 3: Common stress reactions to disaster

Stress reactions	
Emotional Effects Shock Anger Anxiety, fear Despair Emotional numbing Terror Guilt (about living when others have died) Grief or sadness Irritability Helplessness and loss of control Feelings of insignificance Loss of derived pleasure from regular activities	**Cognitive Effects** Impaired concentration Impaired decision-making ability Memory impairment Disbelief Confusion Distortion of sense of time Decreased self-esteem Decreased self-efficacy Self-blame Intrusive thoughts and memories Worry Dissociation (eg. person feels they are in 'dreamlike' state, 'spacey' or on 'automatic pilot')
Physical Effects Fatigue Insomnia Sleep disturbance Hyperarousal Somatic complaints Headaches Gastrointestinal 'problems' Decreased appetite Decreased or increased libido Startle response	**Interpersonal Effects** Alienation Social withdrawal Increased conflict within relationships Impairment in capacity to work School impairment Increased affiliative behaviours

Modified from Young et al (1998).

Although many of the above reactions seem negative, it must be emphasised here however, that people also show a number of **positive responses in the aftermath of disaster**. These include, resilience and coping, altruism, eg. helping save or comfort others, relief and elation at surviving disaster, sense of excitement and greater self-worth, changes in the way they view the future, and feelings of '**learning about ones strengths**' and '**growing**' from the experience.

Families

Families have particular significance in disaster. The stress of the threat or impact can intensify the bonds between members and often the family will respond as one unit – a system.

At the time of threat, families attempt to come together and confront the disaster as a unit with mutual protection and planned course of action. During impact the family behaves as a unit primarily directed toward its own survival. In the immediate post-disaster phase, families as units will be primarily concerned with the rescue and safety of members, but will then help friends and even strangers. Desperate searching for trapped or absent members is likely, and it may be virtually impossible to keep members away from the disaster site if they fear someone is still trapped or injured there, or if they are dead. Protection of the youngest and most vulnerable members seems foremost. For the longer-term aspects of recovery, family units tend to turn to one another and extended kin for shelter and support, aid, and other resources. Formal organisations such as the Red Cross, the Salvation Army and religious groups may also provide support (Raphael, 1986).

Factors influencing the recovery of families include bereavement, material losses and extended stresses (Bolin, 1982; cited in Raphael, 1986). In Bolin's research, larger families were more vulnerable to stress aspects of the experience, but the older and better educated seemed less vulnerable. Support networks helped mitigate these stresses. Higher income also seemed to make things easier for affected families, as has been noted in other studies and is hardly surprising as such families usually have many more resources to call upon in the face of crisis.

The impact of the distress of some members on the functioning of others may have considerable implications for family dynamics and stability. The distress of parents is likely to be a source of upset for children, as is the disturbance of children for parents (Raphael, 1986). Parents are likely to be overprotective and children testing. Children's capacity to deal with disaster is affected by the ability of parents/carers to cope with their own distress and ability to support the child. Marital relationships may be strained and intimacy threatened because of a need to avoid the topic of the disaster or as a result of numbing and distancing reactions. Self-medication, alcohol, and acting out are likely to be further detrimental to family functioning. Stresses of dislocation and relocation are also likely to further affect the recovery of the individual members and the family as a unit (Raphael, 1986).

Communities and populations

Disaster changes a community by altering, at least temporarily, the way individuals relate, the roles and rules governing behaviour, the social organisation, and the utilisation of resources. A disaster threatens 'the very existence and functioning of the community' (Eränen & Liebkind, cited in Pfefferbaum, 1998).

In the aftermath of disaster, individuals, families and communities reorganise as they integrate the event into their individual and collective lives and self-perceptions. The new structure commonly includes a maze of disaster relief efforts and programs established to aid survivors. These programs can themselves create obstacles and stress associated with maneuvering through a complex bureaucracy that may feel 'impersonal, inefficient and inept', this process has been referred to as *second disaster* (Raphael, 1986). Shaw et al (1995) make the distinction between *event trauma* associated with a sudden unexpected event and *process trauma* related to the multitude of secondary adversities associated with the event. Process trauma occurs with the displacement, relocation, property loss, and unemployment that may follow a traumatic event; with the family and social dysfunction evidenced in increased divorce rates, child abuse, disruptive behaviour, and school absenteeism; and with the depletion of resources, the erosion of support, and the emergence of conflict between survivors and responders (Pfefferbaum, 1998).

Communities may successfully overcome a disaster and are strengthened by the ways in which they have 'pulled together' to deal with the impact and aftermath. Community rituals, networks of support, post-disaster organisation and leadership from within may contribute to such outcomes. In other instances splits, scapegoating, the search for blame, the extent of devastation and destruction, conflict over funds or rebuilding, lack of post-disaster organisation and leadership in the community may be associated with more negative outcomes. Fortunately the latter is usually less common, and may be short-term, as positive adaptations tend to predominate.

The Media

The media are intensively involved in any disaster and their roles may be positive or negative. Although the media have an important role in warning, preparing, and protecting communities during disasters, media warnings and disaster preparation have also been implicated in stress responses.

A number of studies have implicated the media in the emotional distress of children and their families (Pfefferbaum, 1998). For example, Gurwitch and colleagues (2000) found significant correlations between television exposure and posttraumatic stress symptoms in a sample of middle- and high-school students following the 1995 Oklahoma City bombing.

Similarly in radiological disasters, the media coverage and behaviour of public officials can contribute to the stress and precipitate panic or demoralisation, particularly if inaccurate, confusing, or contradictory information is provided to the public. Rumours must be anticipated, monitored and corrected with accurate information. Any damage to public trust at the beginning of the crisis ensures that distrust will continue throughout the crisis. There are psychological and physiological costs attendant to the loss of trust (Holloway et al, 1997). For example, the handling of information by officials and the media during the release of nuclear radiation at Three Mile Island became a major source of anxiety and stress for people living in the vicinity of the nuclear facility. At Three Mile Island there were no casualties or severely injured individuals. The stress was fear and uncertainty about exposure to excess radioactivity, loss of faith in local authorities and those managing operations of the reactor, and financial uncertainties (Baum, 1990).

On the other hand, presentations about what has occurred and the experience of different people can help people see their own experience in context, and furthermore give testimony and information to the wider community. The media can also provide a very positive contribution in informing those affected, the wider community and others, both in the acute phase and over time, and may be the only channel for such communications in some instances (Raphael, 1993).

It should be noted that members of the media may themselves be traumatised and stressed by their work in disasters and may need mental health support programs to be available for them also (Raphael, 1993).

Disaster stressors

Stressors are defined as events or conditions that elicit physical or psychosocial reactions in a particular individual under specific conditions (Cohen, 1998).

Disasters usually include multiple stressors that can have differential effects on survivors (Ursano et al, 1996). Examples include threat to life, exposure to death and the dead, bereavement, loss of property, stigmatisation, injury, fatigue, physiological disruption (sleep, food, and water deprivation), dislocation, separation, loss of community, work etc (Ignacio & Perlas, 1994).

- **Encounter with death and destruction** (either the personal threat to life or massive shocking mutilating and gruesome deaths of others), is likely to be associated with posttraumatic stress reactions.

    - The higher one's perceived risk of death or injury, the more likely one is to suffer an adverse psychological response.
    - Exposure to the dead or mutilated, especially the deaths of children, increases the risk of adverse psychological outcomes in the general population, as well as

in trained rescue personnel and hospital workers, although these professional groups may be somewhat protected through training and preparation.
- This particular dimension is also of importance when one is treating hospital personnel, rescue workers, police officers, and mortuary volunteers.

- **Loss of loved ones**

  - The death of a family member or friend is a powerful stressor that gives rise to bereavement issues. Other deaths and bereavements may also have a significant impact eg. leaders, other attachment figures, mass deaths. Although such deaths are a normal part of life, unexpected, violent death is especially difficult to deal with. The bereaved individual may experience a combination of traumatic stress and bereavement reactions.

- **Other personal losses** (eg. loss of personal and valued items or loss of related items such as home, community, social network and work).

- **Dislocation and relocation** following evacuation and loss of community, home or family.

  - Individuals' responses to a disaster are also affected by the degree to which the disaster disrupts their community. The community serves as the person's physical and emotional support system. The larger the scale of the disaster, the greater the potential disruption to the community (Ursano et al, 1995).
  - It is useful to contrast different types of disasters to illustrate this point. For example, one could compare a survivor of a plane crash with someone confronted with a larger-scale disaster such as a flash flood. If family members were not on the same aircraft, the plane crash survivor can return home to family, friends, and co-workers. By contrast, a flood involves additional factors that may amplify the impact. Although the flood survivor may experience and witness comparably fewer gruesome sights, the recovery environment is markedly different: home and work site may have been destroyed, and relatives, friends and co-workers may be dead, injured, or displaced.

- **Physical harm or injury** (eg. crush injuries, burns, illnesses in the aftermath of disaster).

- **Receipt of intentional harm or injury**

  - As evidenced in the Oklahoma City bombing, perpetrating deliberate injury or death is seen as especially heinous and provokes strong emotions.

- **Causing death or severe harm to another**

  - Technological disasters (eg. plane crash, Chernobyl) are often caused by human error. The effects of natural disasters may be worsened by people as well – for example, the builder who used substandard building practices 20 years prior to

a devastating earthquake or hurricane may 'cause' substantial loss of life. Stress is caused by the belief that the disaster could have been prevented.
- Two key terms typically used to describe this type of harm are **omission**, which refers to negligence on the part of those causing harm; and **commission**, which refers to malevolence and violence.

- **Exposure to acute or subtle threat to life and health as in toxic or noxious exposure**

  - Exposure may be acute, as in terrorism where these agents and their capacity to damage are used to provoke terror; or sudden, as with industrial accidents or transport disasters; or more subtle, as with the discovery of industrial activities past and/or present which lead to risk of exposure (eg. toxic dumps).
  - Exposure to toxins (eg. chemical or radiological) often goes undetected, sometimes for decades. Revelation of the exposure is perceived as carrying the threat of death, illness, injury, or property loss (Green, Lindy & Grace, 1994). The knowledge itself is the stressor, both in what information is provided and what is uncertain or unknown. Typical reactions comprise both acute and longer-term responses. For example, acute terror and panic, as well as longer-term fear and uncertainty.
  - The potential for information and, similarly, news reports to create distress in the listener or viewer needs further study in our media-intensive age, as does the capacity of the media to enhance positive outcomes.

- **Witnessing or learning of violence to a loved one.**

  - Observing or hearing of violence to a loved one can cause traumatic stress reactions. One example of this phenomenon occurs in the aftermath of a violent crime such as murder or rape. It is not uncommon for the victim's partner to develop intrusive thoughts about the crime, creating a mental image based on reports and perceptions about what has happened.

- **'Responsibility' stressors**

  - This is where the person or persons may feel that their actions or inactions contributed to the disaster. For instance, as a leader who made particular decisions or whose function was inadequate.

Risk and Protective factors

Most studies in the disaster literature have attempted to determine which subgroups of individuals are most at risk for developing disaster-related symptoms, diagnoses or other outcomes. Such information suggests the processes by which these events may lead to

the various outcomes, and may be useful in targeting interventions to those most in need (Green, 1995).

The most often studied risk factor for negative outcomes following disaster events is the **severity of the exposure** to the event (ie. extent of life threat, loss, injury). The literature examining the role of traumatic exposure, ie. exposure to severe life threat or the death of others, is definitive. Regardless of the traumatic stressor, be it combat, physical abuse, sexual assault, or natural disaster, 'dose-response' is a strong predictor of who will likely be most affected. The greater the perceived life threat, and the greater the sensory exposure, ie. the more one sees distressing sights, smells distressing odours, hear distressing sounds, or is physically injured, the more likely posttraumatic stress will manifest (Holloway & Fullerton, 1994; Jones, 1985; Ursano & McCarroll, 1990; Young et al, 1998). For example, the number of dead and injured and the sight and smell of dead bodies were among the most stressful aspects of the Granville, Australia rail disaster (Raphael, 1986). Often those exposed to death and the dead, experience an aversion to meat or a need to wash frequently. Usually these **symptoms abate** over several weeks or months.

Certain **types of exposure** place survivors at high risk for **a range of post-disaster problems**:

- exposure to mass destruction or death (Goenjian et al, 1994; Ursano, Fullerton, Kao & Bhartiya, 1995),
- toxic contamination (Baum & Fleming, 1993; Di Giovanni, 1999),
- sudden or violent death of a loved one (Livingston et al, 1992; Joseph, Yule & Williams, 1994), and
- loss of home or community (Bland et al, 1996; Keane et al, 1994).

Other risk factors described in the literature include:

- **Gender**
  Studies on the relationship between gender and outcome following disaster have been mixed, although when differences are found, more symptoms are usually reported in women and girls. However, this bias towards a female gender may be a function of the symptoms and disorders studied by researchers. For example, PTSD, anxiety or depression, which are most commonly researched after disaster, are generally more prevalent in women in the general population (Kessler et al, 1994).

- **Prior disaster exposure and previous exposure to other traumatic events**
  Disaster workers are one group that this factor is particularly relevant to. For example, McFarlane (1989) conducted a long-term study of psychiatric morbidity in firefighters exposed to the Ash Wednesday bushfires in South Australia in 1983. Twenty-nine months after the bushfires, 21% of the 459 firefighters were still experiencing recurrent imagery that interfered with their lives. Repeated exposure to disaster trauma may put first responders such as firefighters and police officers at a

particular increased risk of developing psychiatric morbidity (Breslau et al, 1991; McFarlane, 1989).

However, while increased vulnerability may be one outcome of previous exposure to traumatic events, several studies have also reported on the 'stress inoculation' effect of prior exposure and a strengthening of protective factors through successful mastery of previous traumatic events (Ursano et al, 1996).

- **Age**
  The most thorough study of **age** differences following disaster was conducted by Thompson and colleagues (1993). These investigators studied the effects of a hurricane in the US on an adult population and found that younger adults exhibited the most distress in the absence of disaster, but middle-aged people did so in its presence. The variable most associated with this differential age-related risk was 'burden', meaning the additional stresses that are associated with this life stage. These authors found that burden peaked in middle age, ie. that parental stress, filial stress, financial stress, occupational stress, and ecological stress were all higher for the middle-aged participants. Middle-aged persons also provided support to others in amounts greater than received.

  Children are at particular risk during times of disaster (Ursano et al, 1995). Often community leaders and teachers notice how wonderfully quiet children are being and are thankful, given their own level of distress. However, the inhibition of children's normal activity is an indicator of their degree of stress. Sometimes children's distress may be more evident. For example, following the earthquake in Armenia in 1988, primary school children jumped out of first floor windows whenever a large truck rolled by and shook the ground (Gordon & Wraith, 1993).

- **Relationship status**
  Research on factors associated with the recovery environment indicate that relationship status is important in understanding recovery (Green & Lindy, 1994). Married women or single parents may be more vulnerable to disaster effects, possibly because they are relied upon to support others, creating additional burden. Single parents are at higher risk for losing access to emotional support following disaster, and access to such support at a moderate level seems to mediate distress.

- **Post-disaster stresses**
  Exposure to post-disaster major life stressors such as community and personal disruptions, marital stress or divorce, job loss and financial losses (Bland et al, 1996; Joseph et al, 1994; Koopman et al, 1994) has also been associated with adjustment problems.

- **Pre-existing psychopathology**
  Pre-existing psychological problems have been shown to predict disaster-related distress in a number of studies (North et al, 1999).

Several factors present in the acute-phase recovery environment have been found to aggravate stress reactions and therefore increase survivors' risk of developing negative outcomes (Emergency Management Australia, 1999). These include:

- lack of emotional and social support
- presence of other stressors such as fatigue, cold, hunger, fear, uncertainty, loss, dislocation, and other psychologically stressful experiences
- difficulties at the scene
- lack of information about the nature and reasons for the event
- lack of, or interference with, self-determination and self-management
- treatment in an authoritarian or impersonal manner
- lack of follow-up support in the weeks following the exposure

Protective factors that may mitigate negative effects include:

- social support
- higher income and education
- successful mastery of past disasters and traumatic events
- limitation or reduction of exposure to any of the aggravating factors listed above
- provision of information about expectations and availability of recovery services
- care, concern and understanding on the part of the recovery services personnel
- provision of regular and appropriate information concerning the emergency and reasons for action

(Emergency Management Australia, 1999).

Finally, community-related mediators that may help alleviate distress are rapid disaster relief and a positive community response that does not single out certain survivors as 'victims' (Solomon et al, 1993).

Mental Health Outcomes

There is an emerging body of research on mental health outcomes following disasters. However, the methodologies used by these studies have varied widely as have the samples assessed and measures taken. Reports of high rates of post-disaster morbidity may thus reflect selected samples, poor or unreliable measures, very severe stressor effects, or in fact a higher rate of mental health problems. Because of the chaos of disaster, the disruption and dispersement of the populations, and the overriding need to respond to human distress, research is frequently opportunistic. Thus the generalisability of its findings are limited. Epidemiological studies of affected communities are few (eg. Shore et al, 1989), but extremely useful in judging the wide range of outcomes and their

potential occurrence in relation to specific stressors. This field however, is growing and many studies, even with diverse methodologies are showing consistent patterns, many of which are outlined below.

Much of the study of emotional reactions to disasters began with observations of the oldest human-made disaster, war. During the American Civil War, combat psychiatric casualties were thought to be suffering from 'nostalgia', which was considered to be a type of melancholy, or mild type of insanity caused by disappointment and longing for home (Glass, 1966; cited in Ursano et al, 1995). In World Wars I and II, terms such as 'shell-shock', 'battle-fatigue' and 'war-neuroses' were more common descriptors of the emotional responses to trauma (Ursano & Holloway, 1985; cited in Ursano et al, 1995). From these observations and some small reports on disaster impact, the study of other disasters began to develop further.

Most of the initial reactions of shock, surprise, anger, helplessness and confusion that characterise feelings and behaviours will subside over time. More than 90% of adults do not experience a major mental health disorder after exposure to a disaster, and of those that do, most experience full psychological recovery in 12 to 24 months (Freedy & Kilpatrick, 1994; Freedy, Saladin & Kilpatrick et al, 1994). For a small number of survivors however, stress reactions will be more enduring. There is as noted above a higher likelihood of elevated stress levels after human-made disasters. They may persist long after the disaster impact, and this may lead to various forms of mental illnesses, behavioural changes or alterations in physical health (Burkle, 1996).

Reactions to disaster will depend on a number of variables. These include pre-existing personality characteristics and genetic predisposition, life experiences, age, and previous disaster experiences. Also, the type, length, intensity, and impact of the disaster as well as community, cultural and family expectations of behaviour will all influence mental health outcomes (Norris, 1992). The degree of ongoing disruption and other recent life events, as well as use of avoidance coping in the post-disaster period are also significant predictors of morbidity (Carr, Lewin, Webster & Kenardy, 1997).

An important advance in the scientific study of responses to disasters was the recognition of posttraumatic stress disorder (PTSD) in the third edition of the Diagnostic and Statistical Manual (DSM-III; APA, 1980).

The prevention of psychiatric disorders often focuses on PTSD, however this is not the only psychiatric disorder associated with disasters. In fact, PTSD may not even be the most common. Posttraumatic stress disorder, major depression, substance abuse, generalised anxiety disorder, and adjustment disorder have all been noted following disasters (Rundell, Ursano, Holloway & Silberman, 1989; Shore et al, 1989; Ursano et al, 1996), and psychological reactions to physical injury and illness are also important post-disaster responses. Table 4 shows a list of possible responses.

Numerous long-term community studies also support findings of elevated rates of symptoms of depression, posttraumatic stress and other anxiety disorders in exposed communities (eg. Bromet et al, 1982; Drew et al, 1987; Shore et al, 1989). Furthermore, these studies show that symptom patterns are consistent with a **dose-response**

relationship to disaster stress and may be associated with major property loss or death of a family member or close relative due to the disaster (Shore et al, 1986).

Table 4: Psychiatric Responses to Disaster

Possible Responses
• Acute stress disorder • Posttraumatic stress disorder • Major depression • Generalised anxiety disorder • Substance abuse • Psychological factors affecting physical disease (in the injured) • Organic disorders secondary to head injury, toxic exposure, infection and dehydration • Adjustment disorder • Bereavement complications • Family violence • Child and spouse abuse

Source: Ursano, Grieger & McCarroll (1996).

A few of the most commonly researched disorders will be discussed briefly using examples from the literature.

Acute stress disorder

A growing body of evidence suggests that there are specific stress symptoms that may occur almost immediately following a traumatic event and that may predict the development of PTSD (see review by Koopman, Classen, Cardeña & Spiegel, 1995). The observation of acute stress reactions, in these and other studies of natural and human-made disasters led to the formation of the Acute Stress Disorder (ASD) diagnosis in the *Diagnostic and Statistical Manual*, fourth edition (DSM-IV; APA, 1994).

Acute Stress Disorder is conceptually similar to PTSD and shares many of the same symptoms. Diagnostic criteria include dissociative, intrusive, avoidance and arousal symptoms. For a diagnosis of ASD to be met, symptoms must occur within 2 days and 4 weeks of a traumatic experience, after which time a PTSD diagnosis should be considered (Bryant & Harvey, 1997).

ASD, which is applicable soon after a disaster strikes, has only been studied recently (Gore-Felton et al, 1999). Studies support the idea that ASD (perhaps particularly dissociative symptoms) predicts poorer outcome and later PTSD (Cardeña & Spiegel, 1993; Koopman et al, 1995; Koopman et al, 1994). Thus, prevention of ASD is an important focus.

A small number of studies have measured ASD following traumatic events. These studies vary in their estimates of ASD as they have used variable procedures and assessment tools. The rate of ASD reported ranged from 7% in a sample of typhoon survivors (Stabb et al, 1996), to 33% in bystanders to a mass shooting (Classen et al, 1998). Overall the incidence of ASD is lower than previously reported rates of PTSD in the acute posttrauma phase. The lower frequency of ASD probably can be attributed to the more stringent criteria described in the diagnosis of ASD (APA, 1994).

Posttraumatic stress disorder

It is important to note that PTSD is **not the normal response** to a threatening experience. Most people recover from such an event without formal intervention.

Moreover, prospective studies indicate that most people who display PTSD symptoms in the immediate aftermath of an event recover in the following few months. For example, Riggs, Rothbaum & Foa (1995) reported that 70% of women and 50% of men who were assaulted were diagnosed with PTSD an average of 19 days posttrauma. However, at 4-months posttrauma the rate of PTSD had dropped to 21% for women and zero for men.

Similarly, Rothbaum, Foa, Riggs, Murdock & Walsh (1992) reported that 94% of rape victims interviewed an average of two weeks posttrauma met criteria for PTSD and that three weeks later this proportion dropped to 64%, and then to 47% at eleven weeks post-assessment. Similarly, half of a sample meeting criteria for PTSD following a motor vehicle accident had remitted by 6-months and two-thirds had remitted by one year posttrauma (Blanchard, Hickling, Barton et al, 1996).

PTSD is probably the most commonly studied diagnosis after disaster. It requires that symptoms be present for at least one month posttrauma, and may have its onset of symptoms immediately, soon after the event, or it may be delayed. The clinical picture can be a dramatic one, with mental confusion, massive anxiety, and repetitive intrusive memories and dreams of the disaster event (Burkle, 1996). The intrusive thoughts are the most frequent symptoms, followed by exaggerated startle responses. Hyperarousal reactions with acute PTSD have been linked to the severity of stress exposure in 80% of adults, reactions appear immediately or within hours (DSM-IV, APA, 1994).

PTSD, in its fully developed form, may be comorbid with many other problems, including addictive and self-destructive behaviours, psychotic breaks, extreme self-doubt, paranoia and paranoid fears, excessive obedience, fear of intimacy, severe depression, and a pervading sense of helplessness, hopelessness and despair.

Although there has been a great number of studies reporting PTSD after disasters, prevalence rates have been so variable that they range from 0% to 100%. This variability may be attributed to type of trauma, sample selection and use of different assessment tools; which typically range from clinical interviews to standardised assessment instruments, and self-report measures (Bryant & Harvey, 2000). This point is highlighted

by a number of disaster studies listed below. The reader is cautioned to be aware of methodological limitations that may be present in studies, particularly as many deal with specific populations of survivors and not the total population exposed.

A study conducted by North and colleagues (1999) found that nearly half of their sample of 182 survivors assessed six months after the Oklahoma City bombing, had an active post-disaster psychiatric disorder and full criteria for PTSD were met by one third of the sample (34%). Indeed, PTSD symptoms were nearly universal, especially symptoms of intrusive reexperience and hyperarousal.

High rates of PTSD have been reported by other studies, including, 44% after the Buffalo Creek dam break and floods (Grace et al, 1993); 53% after the Ash Wednesday bushfires (McFarlane, 1986); 54% after an air-plane crash landing (Sloan, 1988); 28% after a mass shooting episode at a cafeteria in Texas USA (North et al, 1994); and 29% after a plane crash into a hotel (Smith et al, 1990).

A study by Carlier & Gersons (1997) assessed 126 victims of the Bijlmermeer plane crash; where a Boeing 747 cargo jet crashed into two high rise apartment buildings in the suburb of Bijlmermeer, Amsterdam in 1992. The authors found that six months following the plane crash 26% of the respondents were suffering from PTSD. The enormous psychological impact of the plane crash is evident from the fact that some tenants of the neighbouring buildings with a view of the disaster area (eyewitnesses) were also suffering from PTSD.

Depression

Depression can also be a significant problem after a disaster, especially when the individual has suffered marked losses. It is worth noting that the incidence of depression following disaster can be very high (17%-45%; Palinkas et al, 1993). Comorbidity of PTSD and depression is also very common (35%-68%; Blanchard et al, 1998), and acute depression is a strong predictor of severity of subsequent impairment (Blanchard et al, 1998; Freedman et al, 1999). It should also be noted that there is prospective evidence that acute depression can follow a distinct course following disaster that is independent of PTSD (Shalev et al, 1998).

The management of loss and death by a community may further affect the presence of depression after the disaster (Lundin, 1987; Raphael, 1986). The traumatic nature of the deaths and losses experienced may contribute to the difficulty in recovery.

Studies have found that those who have:

i) high levels of intrusion and avoidance in the first week after a community disaster,
ii) are closest to the dead,
iii) have lower levels of social support, and / or

iv) have been community members the longest, may be at higher risk of depression.

(Fullerton et al, 1992).

Those with pre-existing depression and vulnerability to it may be at greater risk (eg. Shore et al, 1986). Shore and colleagues found that among women with prior depression or generalised anxiety, the recurrence of symptoms of depression, anxiety or posttraumatic stress after the 1980 Mt St Helen's volcanic eruption was significantly greater than among the control subjects taken from a nearby unaffected community. In addition, a history of depression and/or generalised anxiety disorder in the 18 months following the 1979 Three Mile Island nuclear accident led to subsequent higher symptom levels before the restart of the reactor in 1985 (Dew et al, 1987). This study also included a control group.

North and colleagues (1999) assessed a sample of survivors 6 months after the Oklahoma City Bombing and found that after PTSD, major depression was the most commonly associated disorder (22%), and most pre-existing depression recurred or persisted in the period after the bombing. They also found that 11% met criteria for anxiety disorders (eg. panic disorder, generalised anxiety disorder). Similarly, Smith et al (1990) found that depression was the most common post-disaster diagnosis after the 1987 plane crash into the Ramada Hotel in Indianapolis, with more than 40% of study participants meeting diagnostic criteria.

Bereavement and bereavement complications

Bereavement – the response to loss – has long been seen as one of the most stressful of life's experiences, leading to distress and the complex effects referred to as grief. Recovery from, or adjustment to, this common experience is usual for most people, however some are at risk for pathological outcomes. In situations of traumatic or catastrophic loss the bereaved person may demonstrate both traumatic stress reaction phenomena and bereavement phenomena, with either predominating or appearing intermittently (Raphael, 1997).

Reactions of loss, mourning, and grieving are concepts of particular use in disaster work. Although a discussion of loss usually focuses upon death, loss that results from post-disaster experience may thus include (Cohen, 1998):

- loss by death of loved one, family or friend
- property destruction
- sudden unemployment
- impaired physical, social, or psychological capacities and processes

The reaction to the loss of a loved one by death is the paradigm of bereavement. The phenomena that follow have been widely described and researched (Jacobs, 1993; Middleton et al, 1998; Parkes, 1972). It is generally agreed that there may be an initial and usually brief period of shock, numbness and disbelief, and to a degree, denial. While this period may be more prolonged if there is the additional impact of psychological trauma (see below), it is usually brief. This initial period usually gives way to intense separation distress or anxiety. The bereaved person is highly aroused, seeking for or scanning the environment for the lost person on higher alert. There may be searching behaviours, particularly if it is not certain that the person is dead, or the body has not been identified. In a disaster setting the bereaved person may place himself or herself at further risk through agitated searching behaviours. There is also likely to be a sense of anger, protest and abandonment – anger that may be recognised as irrational by the bereaved person but nevertheless amounts to anger towards the deceased for not being there and for being amongst those who died. Anger is also directed towards those who may be seen as having caused or been associated with the death, who are alive when the deceased is not.

These reactions progressively abate and give way to a mourning dimension where the bereaved person is focused more on the psychological bonds with the dead person, the memories of the relationship, painful reminders of the absence of the person, and progressively accepting the death, although with ongoing feelings of sadness or loss. These latter reactions are more likely to appear during the recovery phase with progressive attenuation as the bereaved person adapts to life without the person who has died.

These **complex emotions** of anxiety, protest, distress, sadness and anger are usually referred to as **grief**. The acute distress phase usually settles in the early few weeks or months after the loss, but emotions and preoccupations may occur over the first year or years that follow.

Normal bereavement shows both attenuation of psychological distress and progressive functional adaptation during the first few months. Complications may include adverse mental health outcomes such as impact on immune function (Bartrop et al, 1977), development of depressive or anxiety disorders, and adverse social or health effects (Byrne & Raphael, 1994; Middleton et al, 1998). In addition, it has been shown that about 9% of a normal community sample of bereaved people may develop 'chronic grief'. This is a form of abnormal grief where the initial acute distress continues with other manifestations for six months or more, and often for many years. 'Traumatic grief' and complicated grief disorder are similar forms (Raphael & Minkov, 1999).

Risk factors for complications of bereavement have been identified by a number of researchers (Parkes & Weiss, 1983; Raphael, 1977; Raphael & Minkov, 1999; Vachon et al, 1980). These include:

- perceived lack of social support
- other concurrent crises or stressors
- high levels of ambivalence in relation to the deceased

- an extremely dependent relationship
- circumstances of death which are unexpected, untimely, sudden or shocking

Personality vulnerabilities and a past history of losses may also contribute. Thus it is clear that many circumstances of disaster deaths may be likely to lead to higher risk of bereavement complications. It has also been shown that inability to see the body of the dead person may further contribute to risk of adverse outcomes (Singh & Raphael, 1981), perhaps disrupting opportunities for farewell (Schut et al, 1991). In this context the concept of traumatic bereavement is highly relevant.

Studies of traumatic bereavement have identified traumatic circumstances of the death as a risk factor for adverse mental health outcome (Raphael, 1977; Parkes & Weiss, 1983). Lundin's (1984) studies of sudden and unexpected bereavement found increased morbidity compared with those where bereavement was expected. Unexpected loss resulted in more pronounced psychiatric symptoms especially anxiety, which was more difficult to resolve. The phenomena identified at long-term follow-up included high levels of numbing and avoidance and could be interpreted as reflecting traumatic stress effects. Lehman et al (1987) studied bereavement after motor vehicle accidents, likely to involve traumatic and unexpected losses, especially when the bereaved had been an occupant of the vehicle and thus involved in and potentially traumatised by the accident. Even 4 to 7 years later, spouses showed significantly higher levels of phobic anxiety, general anxiety, somatisation, interpersonal sensitivity, obsessive-compulsive symptoms and poorer well-being. For more than 90% of participants, memories, thoughts or mental pictures of the deceased intruded into the mind frequently, and for more than half of these they were 'hurt or pained' by these memories. These phenomena did not appear to be the sad, nostalgic memories of someone who has recovered from a loss, but were more like the intrusive re-experiencing of posttraumatic memories.

Other psychiatric morbidity

In addition to depression, posttraumatic stress disorders and bereavement complications, other disorders that may be seen post-disaster include, generalised anxiety disorder, substance abuse and adjustment disorders. These may be relatively common in the 6-12 months following a disaster and may reflect survivors' reactions to their injuries, ongoing stressors, and attributions of the cause of disaster (Ursano et al, 1995).

Other problems that may be seen include, somatisation disorders, chronic sleep disturbances, anger and hostility, and possible family violence or spouse abuse. Some of these problems have been highlighted in the previous sections.

Health outcomes

The importance of examining health behaviours and other health outcomes in disaster studies cannot be overemphasised. Behavioural responses to disasters include changes in sleep, eating patterns, and use of addictive substances, including smoking, as well as changes in exercise patterns. Sleep can be an important mediator of many biological variables which are often studied after a disaster. The effects of injury during the disaster and after, and exposure to infections and communicable diseases can also subtly affect biological measures (Ursano, 1997).

Furthermore, findings such as those of Clayer et al (1990) show higher self-reported problems with cardiovascular conditions, diabetes and cancer. Replication of these findings in methodologically sound studies is needed. Mortality in the post-disaster period may also be heightened, in most cases related to the direct effects of injury. However, studies have shown an increased risk of death from heart attack in the immediate post-disaster period after earthquakes (Dobson et al, 1991). For most people such adverse outcomes do not occur, although there may be a heightened vulnerability to infection, accidents and so on. Physiological effects at the hormonal level have been suggested along with reports of increased visits to medical and mental health facilities. The disaster survivor may evidence a range of symptoms and complaints and may present in places other than mental health services for help (Green & Lindy, 1994). Thus it is important that general practitioners (GPs) and other health care workers are aware of and respond to the range of somatic complaints and health behaviours that may appear in the post-disaster period. Assessments need to include the possibility of stressor effects on physical health as well as underlying psychological reactions. GPs and other generalist workers need to recognise these patterns post-disaster and ensure appropriate management. Recognising and responding to both health and mental health needs, and dealing with them appropriately can be critical to achieving optimal health outcomes post-disaster.

A preventive approach will emphasise the importance of careful attention to nutrition and exercise, avoidance of smoking and excessive alcohol intake, plus medical check-ups (Raphael, 1993).

Natural versus human-made disaster responses

Studies show that while there is no singular pattern of psychological consequences to disasters, typically the very early responses following disaster impact will be similar for both natural and human-made disasters (Burkle, 1996). However, the persistence of responses may differentiate the two. The effects of natural disasters seem no longer detectable in comparison to control populations, after about two years, whereas several studies have shown that the effects of human-made events may be much more prolonged (Green & Lindy, 1994).

Examples from natural disaster studies

Studies of natural disasters tend to show decreases in all types of symptoms over the first two years (North, Smith & Spitznagel, 1997).

For example, Steinglass and Gerrity (1990) examined 39 tornado survivors and 76 flood survivors at 4 and 16 months after the disasters. Rates of active PTSD ascertained by structured interview in the flood sample dropped from 15% at baseline to 5% at follow-up. Among high-exposure subjects, the Impact of Event Scale (IES; Horowitz et al, 1979) identified significant difficulties in 49% of the flood sample at baseline and in 24% at follow-up. The tornado victims had higher rates: 76% at index and 41% at follow-up. Similarly, more than half (58%) of 67 evacuees from cyclone Tracy in Darwin studied by Parker (1977) were identified as trauma-associated 'cases' (rating of 5 or greater on the General Health Questionnaire) immediately after the disaster; rates dropped to 41% at 10 weeks and 22% at 4 months.

Examples from human-made disaster studies

Although human-made disasters also show decreases in symptoms, these decreases seem to take much longer to occur and levels may never return to 'normal' (Green & Lindy, 1994).

The longest follow-up study of disaster was conducted after the 1972 Buffalo Creek Dam collapse, which caused a devastating flood. Grace et al (1993) conducted a 14-year follow-up of the survivors which included 121 (32%) of the original sample participating in the study. They found that while symptoms and diagnoses had decreased significantly over time, many individuals were still affected; for example, 28% met criteria for PTSD (Grace et al, 1993). Davidson, Fleming & Baum (1986) showed mental and physical health effects of exposure to the Three Mile Island nuclear leak for up to 5 years, and Holen (1993) showed the impact of an oil rig collapse in the North Sea, which killed many co-workers of the survivors, on medical and psychiatric visits for 8 years, the period of the study.

Thus it can be seen that the outcomes of human-made disasters may be more severe and prolonged. The degree of death, destruction, horror, inescapability, shock, loss and dislocation will still be influencing factors in determining pathological outcomes for both types of disasters, but these may be more marked in many human-made disasters. Furthermore, the element of human contribution to the disaster, particularly human malevolence, is likely to add to the complexities and difficulties of psychological adjustment, thus leading to more adverse mental health effects.

Exposure to toxic substances – specific issues

The exposure of large numbers of people to hazardous substances, whether caused by chemical accidents, deliberate dumping or other events, is an ever-more common occurrence both in developed and developing countries. The list of sources of exposure

seems inexhaustible; warfare (Hiroshima), industrial accidents (eg. Bhopal), occupational exposure (asbestos), and contamination of food (mercury poisoned fish in Minimata, Japan). While the physical consequences of such events most often take priority, increasingly the importance of psychological consequences is being recognised (Havenaar & van der Brink, 1997).

Unlike natural disasters such as storms of floods, chemical disasters can occur with little or no warning and are accompanied by continuing fears of ongoing illness and premature death, as well as worries about possible genetic or congenital birth defects in subsequent offspring (Di Giovanni, 1999).

In the case of **terrorism**, particularly when the aggressor is not known, a potentially beneficial expression of anger cannot be directed at the appropriate source, producing a futile sense of helplessness, depression, demoralisation, and hopelessness (Di Giovanni, 1999).

Whether from a biological or chemical agent attack, many people, exposed or not, who seek treatment will exhibit tension, tachycardia, increased respiratory rate, tremors, and other non-specific signs and symptoms that could result from the agent or from anxiety associated with the incident.

Chemical agents:

- Nerve agents: have the greatest potential among chemical weapons for causing confusion in diagnosis. The principal nerve agents are **sarin, tabun, soman** and **VX.** These can cause intellectual impairment, anxiety, depression, psychomotor retardation, disturbed sleep patterns.

- Organophosphate pesticides
  Problems include impaired vigilance and concentration, memory deficits, slowing of information processing, depression, irritability and anxiety.

- Blister agents (eg. nitrogen, sulfur mustards)
  These can produce delirium and psychological distress from their physical and disfiguring effects.

Biological agents:

- Anthrax, borulinum, tularemia, plague, brucellosis, Q fever, smallpox, the viral encephalitides, viral haemmorrhagic fevers, and staphylococcal B enterotoxin.
  These may produce delirium, depression, irritability and cognitive changes in the longer term.

Stressors

The uncertainty about exposure means that few incidents are viewed as a 'hoax'. Initially, at least protective segregation, vaccination, treatments, programs for handling mass exposure, washing away toxic substances, epidemic containment, response to nuclear incidents, may all have secondary psychological impact (Di Giovanni, 1999). The

protective clothing or masks may increase risk of fatigue, heat and isolation stress, as well as creating communication difficulties. Holloway et al (1997) have suggested that the process of seeking and receiving immunisation is in and of itself potentially stressful, even before any incubation period of a biological agent has been passed. Provision of accurate information from respected sources is critical to reassuring those affected and a well-organised response will decrease arousal.

Psychosocial Impact

A chemical or biological incident poses a sudden, unanticipated, and unfamiliar threat to health that may lack sensory cues, is prolonged or recurrent, perhaps is contagious, and produces casualties that are observed by others. Such incidents are more likely to be associated with fear, panic and 'contagious somatisation' (Di Giovanni, 1999). This refers to the anxious focus on, and even search for, any physical reactions that may suggest exposure. A chemical or biological attack is psychological warfare, whether that attack is real or a cleverly designed hoax and whether it is initiated by a lone sociopath, or by a group of domestic or foreign terrorists, or by a nation.

Psychological effects may appear in individuals, families, communities, and indeed disaster workers. For example, of the 5,510 people that sought medical treatment from the 1995 sarin attack in Tokyo, 12 died, 17 were critically injured, 1,370 had mild to moderate injuries and the other 4,000 had no or minimal injuries. Similar reactions follow toxic spills and even rumours of 'something bad' in the air (Holloway et al, 1997).

Accidental or other environmental exposures will also impact on mental health but in a less obvious way. Perceived exposure correlates here as in many other settings with general psychological symptoms and somatic complaints (Dunne et al,).

Examples of common psychosocial responses are noted in Table 5.

Table 5: Psychosocial responses following a chemical agent attack

Common psychosocial responses
Horror
Anger
Anxiety / arousal
Panic
Uncertainty
Magical thinking about microbes and viruses
Fear of invisible agents
Fear of contagion
Anger at terrorists, government, or both
Attribution of arousal symptoms to infection
Paranoia
Social isolation
Demoralisation
Loss of faith in social institutions

Adapted from Holloway et al (1997).

Other psychological reactions may include:
- acute stress disorder
- grief
- scapegoating (anger directed at people perceived to have contributed to, or profited from, the disaster)
- guilt at having done too little to have helped others

Longer-term effects may include:
- phobias
- sleep disorders
- somatisation disorders
- PTSD
- substance abuse
- major depression

Some survivors may need prolonged care. Of 111 patients hospitalised at one Tokyo hospital after their exposure to sarin during the subway attack, one-third reported anxiety, fear, nightmares, insomnia, and irritability to their physicians. At one month after the incident, 32% of their patients treated at that hospital after the incident reported a fear of subways, 29% noted continuing sleep disturbances, and 16% reported flashbacks and depression. These symptoms persisted at 3- and 6-month visits to their physicians (Di Giovanni, 1999).

Special populations

People in communities subject to disaster may experience the stressors of the disaster differentially as well, and may perceive even a shared stress quite differentially. Thus in identifying who might be in particular need of help or support afterwards, ie. who may be most affected, several different factors need to be taken into account (Raphael, 1993).

Children and Adolescents

When children and their families are involved in natural or human-made disasters they may be exposed to diverse stressors including separation, loss, dislocation and trauma. Even within one event, children's experiences may be different and these may shape their reactions. For example, following a sniper attack and siege at an elementary school, Pynoos et al (1987a and 1987b) found that posttraumatic stress and grief occurred both separately and concurrently. In that primary-school sample, exposure to life threat was most strongly correlated with posttraumatic stress; close relationships with a deceased student were correlated with grief and with subsequent onset of a depressive episode or

adjustment reaction; and worry about a sibling or other significant figure or sudden separation from them were associated with persistent separation anxiety. High levels of depression were reported by adolescents 18 months following the Armenian earthquake (Goenjian et al, 1995) and by adolescent girl survivors of the 'Jupiter' cruise ship sinking five months later (Yule et al, 1990). In both these incidents there was loss and also extreme life threat. A focus solely on posttraumatic stress disorder may therefore overlook other symptoms of distress, such as other anxiety disorders, depression, grief reactions and disruptive behaviour.

Prevalence of symptoms following disaster type have varied widely. For example, hurricanes (eg. 5% - Shannon et al, 1994); bushfires (eg. 13% - McFarlane, 1987a); shipping accidents (eg. 40% - Yule, 1992); earthquakes (eg. 95% near the epicentre – Goenjian et al, 1995); and human malevolence (eg. 90% - Nader et al, 1990). Event-related factors such as the level of exposure and the type of experience, including loss and perceived threat, and study factors such as measures used and the timing of the sample have also been reported with great variability (American Academy of Child and Adolescent Psychiatry, 1998). For example, Terr (1979, 1987) studied child kidnap victims; Newman (1976) and Green et al (1991) described symptoms in children who had experienced the 1972 Buffalo Creek dam collapse; and Pynoos et al (1987a, 1987b) described symptoms in children exposed to a schoolyard gun sniper. Bradburn (1991) demonstrated a post-trauma syndrome in children experiencing earthquake, and Pfefferbaum et al (1999) found posttraumatic stress symptoms in children affected by the Oklahoma bombing with significant rates in bereaved children.

McDermott and Palmer (1999) have suggested that reliance on parental reports of children's distress may not be valid as parents typically under-report internalising symptoms compared with child and adolescent self-report in mental health surveys. Those authors suggested that the disaster context may compound this phenomenon. Children may try to hide their distress so as not to upset parents and parents who are themselves dissociated or otherwise numbed may not be able to identify their children's distress. This rationale formed the basis for their argument for pro-active school-based screening.

Increasing awareness of post-disaster responses in children has encouraged research at the level of risk and protective factors in this age group.

Responses to Disaster

Children react to disaster with a variety of psychological, emotional, behavioural and physiological responses. The effects will vary according to the developmental stage of the child, features of the events and responses of parents or other carers and the capacity of the social environment to support the child (Pynoos, 1995).

The response to disaster has been correlated with degree of physical and emotional proximity (including bereavement). Threat to life, parental adjustment and family atmosphere contributed to prediction of outcome in the Buffalo Creek dam collapse (Green et al, 1993) and children may be adversely affected by media coverage of disaster

(Nader et al, 1993; Najarian et al, 1996; Shaw et al, 1995). Displacement, relocation, disruptions to attachment relationships and economic adversity following disaster may also contribute to symptom development (Laor et al, 1996; Najarian et al, 1996). Community violence itself has been found to be associated with PTSD symptoms (Berman et al, 1996). McDermott and Palmer (1999) found that emotional distress six months after the 1994 Sutherland bushfires was associated with trait anxiety, evacuation experience, perceived threat to parents and depressive symptoms. The perception that a parent may have died was more strongly associated with emotional distress at this stage than perceived threat to the child's own life.

The clinical presentation of PTSD approaches the adult pattern with increasing age. Adolescents may meet DSM-IV criteria and may also demonstrate predominantly dissociative features with depersonalisation, self-injurious behaviour, substance abuse and angry outbursts (Goodwin, 1988; Hornstein, 1996; Terr, 1991). DSM-IV criteria have less clear application to very young children who may present with generalised anxiety fears such as fear of separation and strangers, sleep disturbance and unusual preoccupations (Drell et al, 1993). Assessment of play content by experienced clinicians appears to be most valuable in young children with careful attention to posttraumatic stress features (Scheeringa et al, 1995).

Posttraumatic stress disorder is not the only mental health problem associated with disasters, and depression and anxiety may follow a different time course from intrusive thoughts and avoidance (Yule, 1994). The objective behaviour of distressed children and their subjective difficulties in concentrating may also be misdiagnosed as attention deficit hyperactivity or other disorders. Stress levels related to Hurricane Andrew in Florida were a significant predictor of post-hurricane minor deviant behaviour in a longitudinal study (Khoury et al, 1997). Goenjian et al (1999) observed that adolescents most exposed to an earthquake had more advanced moral development than those further from the epicentre, however this may have been at the expense of other developmental processes. The authors suggested that advanced moral development may have been mediated by exposure of the more affected group to more challenging situations and assuming greater responsibility.

Trauma

Trauma in early infancy may be significant in sensitising the child to effects of any subsequent traumatic events and associated with ongoing maladaptive neurophysiological responses to stress (Perry et al, 1994, 1995). De Bellis (1994, 1999) and colleagues have demonstrated changes in the hypothalamic-pituitary-adrenal axis and catecholamine metabolism in sexually abused girls and reduced brain development on MRI scan in maltreated children with a diagnosis of PTSD. There are several existing hypotheses about the mechanisms involved (Perry, 1996). Although the functional implications are not clear, available evidence suggests that maltreatment in infancy and childhood may adversely affect brain development.

Terr (1991) distinguishes between Type I and Type II trauma. In her model, type I refers to sudden, external negative events that may be associated with features such as

repetition of traumatic themes in play, hyperalertness and full and detailed memories of the episode. Type II traumas are ongoing, multiple stressors such as chronic physical and sexual abuse. The effects may include denial and psychic numbing, 'forgetting' segments of early life, self-hypnosis and use of dissociation as defensive mechanisms, feelings of rage, and mental changes (particularly in terms of interpersonal trust and relationships) that may disrupt ongoing personality development.

The implications for disaster response and planning are that some children who have experienced early adverse events may be more vulnerable than others to subsequent disasters and persistent disasters such as wars may have different impacts from single incidents. Some of these concepts would also be consistent with Rutter's (1985) work on the interactive developmental processes involved in risk and protective factors over time.

Predictors of Responses

A variety of factors will influence the child's response to disaster, symptom development, duration and recovery. Overall, girls may be more symptomatic than boys (Giaconia et al, 1995; Green et al, 1991), but this is confounded by differential responses of adults to girls and boys, pre-existing conditions and prior exposure to trauma. Younger children may be more vulnerable to parental distress and disruptions to family relationships following trauma and several studies document an association between child and parent symptomatology (Laor et al, 1996; McFarlane, 1987a; Sack et al, 1995; Sullivan et al, 1991). McFarlane (1987a) found that separation from parents immediately after a bushfire, ongoing maternal preoccupation with the event and altered family functioning were more predictive of symptom development in children than exposure or loss. Exclusion of children from family processes in well-intentioned attempts to 'protect' them from distress may therefore be counterproductive.

Older adults

Older adults are often seen by our society as people who have lived their lives, managed 'all right', and therefore are able to 'handle' disasters better than the rest of society. In fact, experience and some limited research has shown that older adults are among the top three high-risk special populations for disaster interventions. The Administration on Aging in its 1995 *Disaster Preparedness Manual for the Aging Network* states that the older adult 'will be the most likely to suffer from the first impact of nature's forces' (Kansas Department of Aging, 1995), owing to age-related slowing of both cognitive and motor activity, lower financial status, and decrease in sensory abilities (Massey, 1997).

Psychosocial Impact

The impact of disaster-related losses has shown that a higher incidence of personal loss, injury, and death are experienced by older adults. Norris and colleagues (1994) conducted a prospective longitudinal study of older adults' reactions to the Kentucky floods of 1982 and 1984. All participants were aged 55 or older, averaging 67 years. A

total of 222 older adults were interviewed. These findings showed that many participants suffered negative affect, sadness, anxiety, discouragement, worry and agitation in response to personal loss. They also experienced physical symptoms of fatigue, feeling worn out, having trouble sleeping, and having more aches and pains, but they did not develop major illnesses. Further, many of these reactions continued for many months and up to two years after the floods (Norris, Phifer & Kaniasty, 1994).

In addition, existing problems with sight, hearing and mobility all place older adults at higher risk for physical injury. For example, after one recent earthquake in California, the major injuries among the older adults were fractured hips resulting from attempts to 'run' outside. Sensitivity to age-related problems is a necessity in responding to the immediate needs of this target group (Massey, 1997).

Older adults may feel they are 'too old' to start over due to finances, friends, or other resources. Many older adults seen at Disaster Applications Centres (DAC) in the USA express strong feelings of inability to start over. Expressions of despair and depression were echoed time and time again following floods, wild fires, earthquakes and civil unrest (Massey, 1997).

Research has shown that older adults are less likely to evacuate, less likely to heed warnings, less likely to acknowledge hazards and dangerous situations. They are much slower to respond to the full impact of losses. Signs and symptoms of losses and trauma for the older population include (Peuler, 1988):

- Depression, withdrawal, apathy.
- Decline in physical health with an increase in physical complaints.
- Disorientation, confusion, and memory losses.
- Agitation, impatience, anger and irritability.
- Appetite and sleep disturbances.

Data from the Newcastle Earthquake in 1989 showed that older people were at greater risk of experiencing posttraumatic stress in spite of having less disaster-related experiences. They also appeared to under-utilise services. Older women in particular and elderly persons with avoidance coping styles appeared to be most vulnerable (Carr et al, 1997).

In addition, older adults may hide the full extent of their problems and delay seeking medical and other help for fear of losing their independence or being placed in a nursing home. Among the most subtle and painful of the losses may be the loss of a sense of control over their lives, loss of trust in their environment, in the systems that have supported them until the disaster, and the loss of familiar boundaries, both physical and emotional (Massey, 1997).

Indigenous peoples

Indigenous peoples may be adversely affected by disasters as may other groups. Because their communities are often suffering with marginal status, poor physical health and housing, problems of cultural loss and grief, disasters may bring immense further distress and trauma. They may also be dislocated from traditional places of importance to them. As well they are often scapegoated in the post-disaster period, reflecting ongoing community discrimination and too often racism. It is critical that where Aboriginal communities are affected by disaster that their leaders are involved in the development of culturally appropriate recovery and support processes (Raphael, 1993).

Of particular significance will be the support provided to these communities and the recognition that there may be ongoing effects of past or recent trauma and loss that may add to the difficulties of adaptation. In addition, the importance of family and community networks in both the reaction to disaster and particularly in recovery should be acknowledged. Needs of communities will vary depending on factors described above and also on current socio-economic disadvantage, demoralisation and adverse health circumstances. A community's role in its own response and recovery is particularly important as the situation of disaster may inadvertently add to both neglect and over-control of already marginalised groups. The added adversity of disaster may be a critical negative influence for those already experiencing the most adverse health outcomes in the Australian population.

Refugee and migrant populations

Many refugees and migrants in Australia have experienced social upheaval, war, and some are survivors of torture and trauma (Cunningham, Silove & Storm, 1990). However, recent research has shown that the majority of refugees are not permanently disabled psychologically by these experiences (Silove, 1999). Indeed, studies using sound epidemiological approaches suggest that prevalence rates of disorders such as posttraumatic stress disorder (PTSD) among refugees are relatively low even though exposure to multiple traumatic events is quite common (see Silove, 1999 for a review).

Indeed, the literature shows that with appropriate support the vast majority of refugees settle well into their adopted countries, making important contributions to the development of the host society (Silove, 1999; Silove et al, 1993). It seems that only a minority of refugees experience chronic trauma-related problems such as PTSD and depression, and it is these people who may be at particular risk of further difficulties following a subsequent disaster.

Risk and protective factors

Risk factors for this group of people will be similar to those described for the general population, although there may be some additional vulnerabilities. For example, female

gender and past psychiatric history (eg. Hauff & Vaglum, 1995). Religious faith, a sense of commitment to a political cause, and psychological preparation for traumatic events all appear to provide some protection against adverse psychological consequences (Basoglu et al, 1997). Loss of social networks and separation from family members are important factors that appear to perpetuate psychiatric symptoms, particularly of depression, but also of PTSD.

Other factors that may contribute to an increased risk of psychological morbidity include:

- socioeconomic status reduction
- inability to speak the host country's language
- separation from family and people of similar cultural background
- discrimination and prejudice within the host country
- traumatic experience prior to migration
- age at time of migration

(Webster et al, 1995).

Given that the majority of refugees and migrants do adjust well and cope with resettlement, the focus should be on those sub-groups who may be at particular risk or most vulnerable to subsequent traumatic events such as disasters.

Sub-groups at risk include:

- People who are symptomatic with PTSD or other trauma-related emotional disorders prior to the disaster.
  - Their reactions may be more difficult to interpret or deal with and they display more severe behaviours due to past persecution. For example, they may be more sensitive and may show more anger and frustration.

- Older adults
  - This sub-group of refugees or migrants may need particular attention due to possible social isolation, poor English language skills, depression and risk of suicidality.

- Asylum seekers
  - This sub-group of refugees may be at particular risk as they would already be living in deprived social situations, may be more likely to 'slip through' services as they do not appear on any registers, and experience fear about being returned to their country of origin if they interact with officials or health workers.

- Other sub-groups
  - Other groups at increased risk of post-disaster problems include women (especially single mothers), unaccompanied minors and the unemployed or those who are under-employed.

(Silove, 1994).

Impact of disaster

Although there have been a substantial number of studies on the comparative mental health status of refugee and migrant populations, few papers have compared the effects of a natural disaster or some other form of shared catastrophic stress on immigrant and host populations (Webster et al, 1995).

The literature seems to suggest that a catastrophic event such as a natural disaster may have a more pronounced effect on the mental health of those refugees and asylum seekers who have experienced previous traumatic events and have been psychologically 'traumatised' by them. Some of the factors which may exacerbate this effect include limited social support, limited English language skills, inadequate information about disaster response, anxiety about loss of treasured mementos from the old country, and anxiety about loss of documentation about their status in Australia. Possible ethnic differences in coping style, and perceptions of the stressful event may also be important factors in determining the relative impact of a disaster on the mental health of immigrants compared to the host population (Webster et al, 1995).

The Quake Impact Study (QIS) was conducted after an earthquake struck Newcastle on December 28, 1989. It was an earthquake of moderate intensity (5.6 on the Richter scale) that caused damage over an area of approximately 9000 km^2 and resulted in 13 deaths and over $A900 million in property damage. The QIS provided the opportunity to study the effects of a shared stressor on people of different ethnic backgrounds. The results showed greater psychological distress among NESB participants. Furthermore, women from non-English speaking backgrounds were more distressed following the earthquake, particularly if they had experienced disruptions and if they were older when they arrived in Australia. These findings may be related to greater difficulties with assimilation and language acquisition. One of the major factors that could account for increased levels of post-disaster distress is a history of traumatisation (Webster et al, 1995).

People of diverse cultural backgrounds

Cultural factors may also be powerful in determining the reaction of the affected person and the response of others. There may be cultural rituals that deal with the aftermath of trauma and are healing. Mourning rituals in particular are culture-specific. Specific religious, cultural and social traditions associated with grief need to be understood and supported (Raphael, 1996). Cultural processes may be more subtle and these may or may not be adaptive. Any intervention program must be sensitive to both positive and negative processes of this kind. Of particular significance are issues of disclosure and privacy; shame and 'face'; affect expression and restraint; gender role behaviours; and individual as opposed to interactive processes or solutions (Raphael et al, 1996).

Understanding and respecting the cultural values of the survivor are part of the knowledge needed in disaster assistance intervention programs. Characteristics of the families affected, such as ethnicity, socio-economic levels, acculturation, religion, and

traditional accepted approaches to deal with stressors will influence the recovery from a disaster. A particular universal value system is the relationship of human beings to nature, which can be critical in understanding differences in patterns of disaster response of diverse cultures. For example, the citizens of Managua, Nicaragua believed that the 1972 earthquake that destroyed part of their city was a punishment by Mother Nature for their "wild" behaviours (Cohen, 1998).

In disaster assistance settings, where it is difficult to personalise arrangements of living, the survivor's self esteem may be easily hurt as conflicts arise when the survivor's need to ask for help collides with the worker's own beliefs about the way help should be delivered. This conflict may be accentuated when survivors perceive themselves as dependent on the agency staff from a different culture. In catastrophic disaster the survivors who have lost most of their possessions may feel humiliated to ask for basic necessities unless the worker uses strategies to 'save face' of the survivors. Continuously the worker will need to become sensitive to the transculturally oriented configuration of the survivor-helper (dependency-authority/power) relationships. Cultural attitudes cut across all the situations, affecting the amount of help that can be accepted or offered (Cohen, 1998).

At the present time, no conclusions may be drawn about the impact of cultural factors in determining response to disasters.

Below are some issues for future consideration by disaster researchers (Green, 1996):

- Studying symptom expression and culture-specific disorders.

- The equivalence of symptoms and their meanings across cultures should be a focus of research. Certain symptoms may have an entirely different meaning in one culture than in another (eg. Kortmann, 1987, found the question '*Is your appetite poor?*' did not make sense to a group of Ethiopians who struggled daily to get enough food to stay alive). Thus, culturally sensitive instruments are vital, and merely translating an instrument does not ensure measurement of equivalent syndromes.

- It is also unclear whether the most likely and salient outcomes in one culture are necessarily the most salient outcomes in another culture. Therefore, learning for each setting what the most important issues, concerns, and outcomes are is crucial.

- What qualifies as traumatic also could vary by culture, perhaps for reasons of expectation or of the particular experiences of the individuals involved. It seems likely however, that certain types of experiences would be universally stressful, such as a severe life threat, violent loss of loved ones, being the victim of deliberate injury or violation (Green, 1990).

Nevertheless, it is essential that cultural issues are taken into account in understanding responses to disasters in different communities, and that culturally and linguistically appropriate post-disaster mental health services are provided.

CHAPTER 3: **Mental Health Response to Disasters**

Summary of Key Points

PREVENTION:

- The aim of all management should be the humane, competent and compassionate care of those affected, with the goal of preventing adverse outcomes for health and enhancing the well-being of individuals and communities.

- Factors that may help facilitate positive outcomes include: recognising and reinforcing people's strengths; provision of clear, accurate information and education; reinforcing supportive networks; supporting and developing community strengths and processes.

PREPARATION & TRAINING:

- Training can be used to limit exposure, alter the type of exposure, decrease surprise and the unexpected, and maximise the sense of mastery and hope.

- Training is more likely to be available for disaster workers than general community members. Nevertheless the more knowledge available to people beforehand about what to expect and what to do, the less likely it is they will be severely traumatised by their experience.

IMMEDIATE RESPONSES:

- In all settings of intervention the overriding requirement is **FIRST DO NO HARM.**

- In times of disaster, mental health professionals providing acute assessment and intervention may need to do so alongside emergency support and assistance in the recovery process.

- The provision of practical help may be seen as more helpful and positive than the specific psychological care offered. The initial interventions following disaster must focus on the establishment of safety, the provision of food and water, and protection from the environment.

Psychological first aid

- Psychological first aid involves approaching and offering support, reassuring and ensuring safety, comforting and communicating. If the person wishes to talk about their experience this can be supported but it is inappropriate to probe for psychological reactions at this early stage.

- Provision of information is critical both in practical terms and because it can help to diminish levels of stress. Links with families and significant others should be ensured whenever possible and support provided while there is separation.

- All disaster workers should be familiar with the principles of psychological or emotional first aid and these should be taught alongside other first aid.

TRIAGE:

- Triage is a critical process in disaster management. Triage is for those who are distressed, or otherwise acutely affected, or demonstrate a disturbed mental state, cognitive impairment or behavioural disturbance.

- The triage process can link people into either support or protection if still on site, or if appropriate to emergency / mental health care. This may involve supportive counselling, an opportunity to talk (if the disaster affected person needs to), reassurance, or specific treatment for acute disturbance or distress as indicated. It can also ensure that those likely to be at higher risk are provided with necessary intervention or care and linked to follow-up.

DEBRIEFING:

- Debriefing means different things to different people. Operational debriefing is a routine and formal part of review of the organisational response to the disaster and the lessons learnt. It is perceived as an appropriate practice and may also be accompanied by some overall sense of meaning and a degree of closure.

- Psychological or stress debriefing covers a variety of meanings and practices for which there is **little empirical evidence**, and it is strongly suggested that psychological debriefing is not an appropriate mental health intervention.

- Critical incident stress debriefing (CISD) is a formalised structured method of group review of the stressful experience of a disaster. It has been developed only for emergency and formal rescue workers and may be perceived as helpful and may have some contribution if integrated with previous training, briefing, and stress management programs in an occupational health and safety framework. There is **no evidence** it prevents PTSD or other psychological morbidity and it may make some people worse.

- There is no evidence that CISD is either appropriate or beneficial for broader disaster affected populations. Available evidence shows that it may in some instances add to the traumatic experiences, or possibly complicate recovery, so it should **not be used**. It is quite inappropriate for acutely bereaved persons.

ASSESSMENT:

- For the majority of disaster affected persons early assessment and intervention will be unnecessary as even those showing psychological symptoms may spontaneously recover. Most of this recovery takes place during the first 3 months.

- Mental health professionals involved in disaster management must be aware of issues such as the importance of timing of an assessment, and the impact that the assessment process may have on individuals. Documentation and registration are also important activities of disaster response.

Identification of strengths

- Many people show resilience and adaptation following disaster. The majority of disaster-affected individuals cope and get back to their lives quickly and usually make full psychosocial recovery.

Identification of risk factors

- It will be important to identify those who are at greater risk of developing post-disaster problems. Some of the risk factors include: life threat, loss of loved ones, severity of exposure to disaster eg. witnessing of grotesque forms of death, children, high intensity of initial response, dissociation etc.

Screening for psychopathology

- Various screening measures and assessment tools are described and reviewed in this section of the handbook. The mental health outcomes most commonly reported on by the existing literature are also reviewed. These include acute stress disorder, posttraumatic stress disorder, bereavement complications, depression and general health issues. Brief screening processes are recommended.

REFERRAL TO SPECIALIST SERVICES:

- Specialist referral may be necessary in some instances and should be carried out supportively. Any of the following will need particular attention and subsequent referral to professional services specialising in their management: extreme agitation, overt psychiatric disturbance, prolonged denial of reality, overwhelming bouts of anxiety, severe depression, suicidal tendencies, chronic bodily complaints, prolonged disturbances in interpersonal relationships, acute stress disorder, posttraumatic stress disorder, substance abuse, and any physical illness.

INTERVENTIONS:

- The interventions and treatment strategies described in these sections of the handbook are based on empirical findings from the current post-disaster literature. It must be emphasised however that these **findings are limited by the relatively small number of methodologically sound studies**.

Interventions for ASD and PTSD

- A number of therapeutic interventions for the traumatic stress syndromes (ASD and PTSD) are reviewed.

Interventions for Bereavement

- A number of preventive and therapeutic interventions in relation to bereavement are reviewed.

Interventions for special populations

- Interventions are outlined for survivors of CBR disasters; children & adolescents; older adults; and refugee and migrant populations.

COMMUNITY-BASED INTERVENTIONS:

- Community based interventions range from consultation with disaster and community leadership to encouragement of supportive post-disaster environments, networks of support, information and ceremonies to facilitate recovery. They may also be focussed in particular settings, eg. workplace, schools, local government areas, shelter and accommodation sites.

LONGER-TERM FOLLOW-UP:

- Disaster-specific pathology can be managed with specific programs linked to community mental health services in the early months. Ongoing problems should be integrated into the regular systems of mental health care provision.

A timeline of appropriate mental health interventions post-disaster is included in the Appendix section.

Chapter 3 Mental Health Response to Disasters

Prevention

The aim of all management should be the humane, competent and compassionate care of those affected, with the goal of preventing adverse outcomes for health, and enhancing the well-being of individuals and communities. In particular, it is vital to use all appropriate endeavours to prevent where possible the development of chronic and disabling problems such as PTSD, depression, alcohol abuse and relationship difficulties.

There is much evidence to suggest that a number of factors help to facilitate positive outcomes and prevention (Raphael, 1993). These include:

- It is crucial to **recognise people's strengths** as well as the suffering they have experienced. While survivors' suffering must be acknowledged, and compassion and empathy conveyed to them, it is also important that those who care for them believe in and support their capacity to master this experience.

- **Information and education** help people's understanding and should be an integral part of the support and care systems. Preparation prior to disaster, information about what has happened, education about normal responses to such events, training in what to do to help psychological recovery, information centers and ongoing information feedback to affected communities, all help people's mastery and recovery.

- **Sharing the experience**. Many people may display a need to tell the story of their experience, to give testimony, both to externalise it and obtain emotional release, and to gain understanding and support from others. This varies enormously. It may occur spontaneously as natural groups come together after the disaster. However, there will be others who may not feel ready or who may choose not to talk about their experience. Those involved in the mental health response should be aware of these variable needs and be supportive in what the survivor wants.

- **Supportive networks** are critical and should be retained, reinforced and rebuilt. These networks help people in the ongoing recovery process, both through the exchange of resources and practical assistance, and through to the emotional support they provide to deal with the disaster and its aftermath. Community groups may develop to facilitate support, and should be encouraged.

- **Community processes** as well as individuals, need to be recognised and supported. For instance leadership, rituals of memorial, and later renewal, as well as theatre, and art can contribute positively. Community splits, scapegoating, and political power-broking post-disaster may interfere with recovery. Interventions need to recognise, support and develop community strengths, while also recognising community suffering.

(Raphael, 1993).

Preparation and Training

Training can address many of the targets of prevention presented above. Training can be used to limit exposure, alter the type of exposure, decrease surprise and the unexpected, and maximise the sense of mastery and hope (as opposed to hopelessness and defeat). Training can be provided for individuals or groups (Ursano et al, 1996)

Training is more likely to be available for disaster workers than general community members. Nevertheless the more knowledge available to people beforehand about what to expect and what to do, the less likely it is that they will be severely traumatised by their experience (Raphael, 1993). Communities may also be involved in preparation and training. For instance, if there is high disaster risk and frequency as in some earthquake-prone countries.

Obviously some disasters will have no warning and there will be little that anyone can do to prepare for these. Nevertheless, preparation activities could focus on acquainting people with likely outcomes as well as actions, to identify sources of warning, and provide information on physical and psychological survival. Those affected by disaster should be educated in the expected stressors of disasters including the role of daily hassles and strain (Ursano et al, 1996). Knowledge that one's responses are normal can prevent a great deal of secondary distress and help one to get on with the business of dealing with the disaster and aftermath (Raphael, 1996).

Experience is also an important variable lending support for the 'inoculation hypothesis'. That is, having once survived an experience may protect an individual against the sequelae of subsequent exposures. It has been proposed that when disasters or hazards occur with some frequency, the threat is normalised and can be placed within a framework that makes it meaningful and understandable (Quarantelli, 1985). For example, Norris & Murrell (1988) interviewed 204 adults aged 55 and above who survived rural floods in Kentucky USA. They found that survival of prior floods and survival of other non-flood-related trauma moderated both trait anxiety and weather-related state anxiety symptoms. They also found that the 'stress inoculation' effect was greater in those individuals with similar prior trauma than in those with dissimilar trauma experiences. This has implications for disaster training, suggesting that training should be tailored as closely as possible to the anticipated disaster.

Immediate responses

Disaster sites can look remarkably calm shortly after the event, even when the destruction and loss have been intense. Individuals feel chaos around them and can experience dissociation and a pervasive sense of unreality (Horowitz, 1985; cited in Ursano et al, 1995). During this time, rest and respite are of utmost importance (Ursano, McCaughey & Fullerton, 1994).

In times of disaster, mental health professionals providing acute assessment and intervention may need to do so alongside emergency support and assistance in the recovery process and in the provision of other roles (Raphael, 1986). The provision of practical help may ultimately be seen as more helpful and positive than the specific psychological care offered (Singh & Raphael, 1981).

The initial interventions following a disaster must focus on the establishment of safety, the provision of food and water, and protection from the environment. As Kinston & Rosser (1974; cited in Raphael, 1986) noted, in times of disaster, 'the most important aspect of psychological care is the social provision of physical care, ie. physical care *is* psychological care, and this is the prime and essential function of relief organisations'. Fears of loss and separation should be addressed by establishing reliable communications and casualty identification and notification procedures.

Psychological first aid

Psychological first aid involves approaching and offering support, reassuring and ensuring safety, comforting and communicating. If the person wishes to talk about their experience this can be supported but it is inappropriate to probe for psychological reactions at this early stage. Information necessary for appropriate actions should be sought and provided. Links with families and significant others should be ensured whenever possible and support provided while there is separation (Raphael, 1993).

All disaster workers should be familiar with the principles of psychological or emotional first aid and these should be taught alongside other first aid, so that they can be applied by all those responding to traumatised individuals in an acute emergency period (Raphael et al, 1996).

Components of psychological first aid include the following:

- ***The basic human responses of comforting and consoling a distressed person.***

  Offering human comfort and support is the most important component of psychological first aid. Being with those affected, protecting them from further harm, ensuring basic needs are met, conveying compassion and recognition for what they have been through are all very important tasks (Raphael, 1993).

- ***Protecting the person from further threat or distress as far as is possible.***

  Providing a safe environment is critical. Many survivors may have experienced an overwhelming loss of safety and this needs to be restored. Reuniting individuals with family and friends is important to regaining feelings of safety. When reunion is not possible, information about family and friends should be made available, particularly if the family and friends were also in danger or affected by the trauma (Holloway & Fullerton, 1994; Osterman & Chemtob, 1999).

- ***Furnishing immediate care for physical necessities, including shelter.***

  Meeting the physical needs of the individual is extremely important and should be done immediately. This includes providing water and food, warmth and respite. Providing survivors with blankets and food helps reassure them that someone is concerned about them. Medical treatment should be given as needed. Other interventions may be experienced as an intrusion if the individual is exhausted, hungry, and cold. Care must be taken to assure physical needs have the first priority (Holloway & Fullerton, 1994; Osterman & Chemtob, 1999).

- ***Providing goal orientation and support for specific reality-based tasks.***

  Activity during the acute trauma stage can be productive or non-productive. Productive activity is oriented to the reality of the situation and involves the survivor taking an increasing and active role in his or her own return to functioning. As soon as possible disaster survivors should be encouraged to participate in simple but useful tasks (Di Giovanni, 1999).

- ***Facilitating reunion with loved ones from whom the individual has been separated.***

  Injured and frightened survivors should not be left alone, and parents should be reunited with their children (Di Giovanni, 1999). Ensuring the reunion of primary attachment figures may be essential to acute recovery and longer-term adaptation. It has been shown that separations of children from parents at this time may have unwanted long-term effects, even when such separations are ostensibly provided in the best interests of the children (McFarlane, 1987a).

- ***Sharing the experience.***

  Once survival and the safety of loved ones is assured, people may wish to share their experience with others, particularly those who have 'been through it' with them and also those responding. Such natural talking through of what has happened is often the beginning of a process of making meaning of the experience, a giving of testimony, and ventilation of feelings. If it occurs in such natural groups or settings, eg. a shelter, it should be supported. However, it should not be expected or forced. People vary enormously in the ways they adapt to disaster, both in the immediate aftermath and subsequently. Natural talking through may be part of an adaptive process for those who have the need to do so, but having to talk in groups may be

quite inappropriate for others: the timing may be wrong, or different coping styles may have greater validity.

It is important to expect recovery following disaster and to acknowledge a range of reactions that are a normal response to an abnormal life situation. Validation of feelings may be very important in the acute recovery phase following trauma (Holloway & Fullerton, 1994). This is the first stage of telling the story and if dealt with in a caring and supportive manner, may help set the person on the path of psychological recovery.

While many feelings may appear at this stage – there is now much to suggest that they will settle in the following days or weeks. Intervention should only be provided when there is evidence that these feelings are not subsiding and the person appears to be at risk as a consequence. Feelings of fear, guilt, hostility and so forth may or may not be ventilated at this time, but a more specific exploration of such issues should only occur if these reflect ongoing problems.

- ***Linking the person to systems of support and sources of help that will be ongoing.***

  It will be important to link survivors to support systems and services that will take over after the acute phase has passed and provide follow-up and assistance to those in need.

  One of the most important issues throughout all work conducted is human dignity. The loss of personal possessions, clothes and essential items such as glasses for example, the overwhelming dehumanisation of the disaster experience, the subsequent dependence on others for even the simple basics of everyday life may all be threats to the individual's personal dignity. Wherever possible those caring for survivors should be sensitive to these issues. Handouts of old clothes for which the survivors are expected to be grateful may be the sort of thing that highlights such vulnerability, making them feel ashamed, humiliated or even angry (Raphael, 1993).

- ***Facilitating the beginning of some sense of mastery.***

  Trauma survivors frequently experience a sense of helplessness and powerlessness. Survivors of human-made trauma may feel particularly valueless and debased. It is critical to provide an opportunity for the survivor to regain a sense of self-esteem and control over their life. Assumptions about personal invulnerability, the existence of a meaningful world, and positive self-perception may have been shattered (Holloway & Fullerton, 1994).

  The recovery environment should provide support, protection, containment, and structure and must avoid the further stigmatisation of converting disaster survivors into 'patients' or 'permanent' victims. Stigmatisation isolates survivors at the time when they most need social support (Holloway & Fullerton, 1994).

- ***Identifying needs for further counselling or intervention.***

  Identifying those who are particularly stressed or at risk and ensuring that they are followed up by counsellors or mental health outreach workers is another important part of psychological first aid.

Table 6: The ABC of psychological first aid

These issues can be summarised by the **ABC of psychological first aid**:

- **Arousal**
  This involves reducing very high arousal, comforting and consoling distressed survivors, facilitating reunion with loved ones, protecting from further threat, and ensuring physical necessities.

- **Behaviour**
  The person showing behavioural disturbances should be protected from harm resulting from these, and linked to systems of support. Facilitating some sense of mastery will be important.

- **Cognition**
  Cognitive disturbances such as dissociation should be dealt with through general support, information provision and good orientation to specific reality-based tasks, sharing the reality of the experience if the person wishes to talk. Mental state assessment should include potential organic factors such as head injury or toxic effects, and linking the person to ongoing systems of social support.

Provision of information

Provision of information is critical to recovery, both in practical terms and because it can diminish levels of stress. Information-giving is another critical aspect of psychological first aid.

Information needs to be simple, accurate, brief, and to the point, readily understandable and available in major community languages. It should assist with the registration of those affected, and provide information on the whereabouts of others as soon as this is available. It will also provide a structure within a period that often seems confusing and chaotic. It is particularly important for advising what to do, and for those separated from family members (Raphael, 1993). There should be one main source of information and those involved in gathering and providing it should be sensitive to its psychological as

well as practical significance. Information should be repeated at regular intervals and updated (Lundin, 1994). Communication of information should be clear at individual, group and community levels. It can significantly decrease anxiety, hyperarousal and panic and focus activity appropriately.

Information about when and where to get help, both practical assistance and general support such as access to welfare or social aid is also necessary. Newsletters and regular news updates can provide focussed information to assist survivors progressively through the recovery process.

An example of an educational handout for survivors and families of traumatic events has been referenced in the Appendix section.

Triage

As noted in previous sections, serious problems may arise for some people after a disaster, especially if there have been particularly horrific experiences. Human-made disasters may be more likely to lead to such difficulties, particularly if human malevolence has contributed (Raphael, 1993).

Triage is a critical event in disaster management. Triage is for those who are distressed, or otherwise acutely affected, or demonstrate a disturbed mental state. As with other first aid, ongoing heightened **arousal** which does not settle; ongoing disturbed or abnormal **behaviour**; and ongoing **cognitive** impairments, such as continuing dissociation, or impact on concentration or memory, would all call for triage. This process can link those affected into either support or protection if still on site, or if appropriate, to emergency medical/mental health care. It can also ensure that those likely to be at higher risk are provided with necessary intervention or care and linked to follow-up (Emergency Management Australia, 1999).

Triage needs to take into account psychological, psychiatric and neuropsychiatric effects, for instance anxiety, depression, organic brain effects, panic, delirium, cognitive impairments, and their potential sources. While this differentiation can be difficult, confusion about time or place, presence of hallucinations, extreme levels of fear and arousal all suggest potential acute organic effects (Di Giovanni, 1999).

The initial contact and assessment must encompass a compassionate and human response, the insuring of safety and survival, and the assessment and management of any physical injury or threat to life. Experience suggests that following most traumatic events, very few individuals require immediate treatment because of the severity of their behavioural decompensation. An individual may or may not be in a state in which he or she wishes, or is prepared, to discuss what has happened. Nevertheless, some gentle querying may, if appropriate by utilised for a 'therapeutic assessment' to identify whether a traumatised person who is showing arousal, cognitive or behavioural disturbance needs emergency mental health care.

The aim of this process is to ensure the person's psychological safety, link them to further care if necessary, or ensure a basis for identification and follow-up if they are thought to be at risk.

Debriefing

Debriefing means different things to different people. In its broadest sense it is the process of reporting or describing an event or activity. **Operational debriefing** is a routine process for emergency organisations after a disaster and can provide an effective mechanism for review of the experience, sharing meaning and learning.

The term debriefing is widely used in everyday life. It has become popularised as a psychological intervention after any stressful experience with the intent of 'unloading' or dealing with the negative impact. While there has been a very strong belief in the importance of 'talking through' what has happened with others, there is little empirical evidence that this form of intervention is helpful for general disaster affected populations. Indeed some research shows that it may add to the risk of adverse outcomes (eg. Kenardy & Carr, 2000), or at the least be seen as helpful by those who need it least and even then do not appear to benefit.

Thus debriefing per se **cannot be recommended** as a structured and formal intervention post-disaster (Raphael & Wilson, 2000). Indeed it is contraindicated for the broad disaster affected population. A supportive process of discussion for natural groups, if this occurs spontaneously as described above, may be helpful for some people. However, at all times it should be clear that individual needs vary and the majority recover spontaneously.

Critical Incident Stress Debriefing

Critical Incident Stress Debriefing (CISD; Mitchell, 1983) was developed in the late 1970's to provide early interventions in group settings for emergency service personnel providing education, ventilation, and support (Mitchell & Dyregrow, 1993). CISD is a formalised structured method of group review of the stressful experience of a disaster conducted in the first few days (up to 48-72 hours post-event). It has been developed only for emergency and formal rescue workers. While it has not been shown to prevent PTSD it is suggested that it may assist with sustaining function and general well-being, and returning operational workers to their roles (Bisson & Deahl, 1994).

It is suggested that debriefing is most likely to assist those who have been briefed for an operation. Experienced workers in the field (eg. Shalev, 2000; Weisæth, 2000), suggest that group review by team leaders which focuses on discussion of the experience and not an interpretation or provision of advice, may be most helpful for teams that have been briefed. While many emergency services continue debriefing it has frequently been modified to meet local support needs, for instance linking to peer support workers, chaplains and so forth.

Even organisations that have been strongly committed to CISD have now relinquished it in the face of evidence that it does not benefit those to whom it is provided (Avery & Ørner, 1998).

Symbolically, debriefing has been seen as important because it has reflected the organisation's recognition of the experiences and needs of workers. It is clear that such recognition should continue but must include appropriate training, briefing, support and opportunities for psychological assistance, while maintaining expectations of positive outcomes. It is also clear that overwhelming levels of highly stressful work such as dealing with repeated horrific and gruesome incidents or disasters will have an impact. Support, review and access to effective specialised and targeted counselling is appropriate in such circumstances. An integrated occupational health and safety framework to prevent adverse mental health outcomes is indicated.

Even though a variety of phase-appropriate interventions are employed by disaster mental health workers, CISD is commonly mistaken as synonymous with disaster mental health services. Experienced disaster mental health workers have estimated that debriefing may constitute only 6 percent of disaster mental health activities (Young et al, 1999). Despite widespread application of stress debriefing, there is little empirical evidence of its effectiveness for broader disaster affected populations (Rose & Bisson, 1998). Available evidence shows that it may in some instances add to the traumatic experience, or possibly complicate recovery, so it should not be used and is only appropriate, if at all, for operation emergency services. It is quite inappropriate and contraindicated for acutely bereaved persons.

A recent review of brief interventions conducted by Rose and Bisson (1998) identified only six randomised controlled trial studies. Of the six trials, two studies associated the intervention with a positive outcome (neither of which was acute debriefing), two demonstrated no difference on outcome between intervention and non-intervention groups, and two showed some negative outcomes in the intervention group. Rose and Bisson suggest that early optimism for brief early psychological interventions including debriefing was misplaced and there is an urgent need for randomised controlled studies of group debriefing. Further research has produced more negative findings, and further indications of potentially negative impact, for instance with police (Carlier et al, 1998) and after motor vehicle accidents (Mayou et al, 2000).

Psychological debriefing

By far the most popular early intervention technique for trauma survivors is psychological debriefing. Designed to be conducted in small groups within 3 days after the trauma, its purpose is to review the present reactions and impressions of those involved, without the use of psychiatric labels. Although various formats have been developed, including CISD, all forms of psychological debriefing (PD) are based on the assumption that re-telling of the event provides emotional release, which in turn prevents more serious long-term reactions (Solomon, 1999). This technique has been widely used with survivors of a wide range of traumatic events. However, even though many of the systematic studies of psychological debriefing suffer from serious methodological shortcomings, most of these

investigations have found that debriefing at best has no effect (eg. Kenardy et al, 1996), and some have found psychological debriefing to actually interfere with recovery (Bisson et al, 1997; Carlier et al, 1998).

Results of literature reviews reveal **no evidence** to support the notion that PD should be offered to everyone involved in a major traumatic event. The overall evidence suggests that outcome is no different to receiving no intervention at all, and in some cases may even be harmful. Indeed, some studies of individual PD have raised the possibility that the intense re-exposure involved in the PD can re-traumatise some people without allowing adequate time for habituation resulting in a negative outcome (Foa et al, 2000). In others it is suggested that it may be associated with excessive negative ruminations, perhaps increasing risk of depression (Solomon, 2000).

Supportive or natural debriefing

Supportive or natural debriefing is the utilisation of opportunities for naturally occurring groups to discuss and go through their experience with others who have had similar experiences in a disaster. Mutual support, relief, shared meaning, and opportunities to identify further needs can be provided in this type of context. This may be integrated with operational debriefing. This is suggested in situations where debriefing is expected and demand exists. Its intent and limitations should be clearly stated. Debriefing should **never be mandatory** in this or other formats. It does not assume psychological damage or trauma and does not probe or demand that members of the group discuss their experience or express their feelings. Care should be taken if this is offered to ensure the group is comprised of people who have had similar experiences, and that there is no suggestion that it stands in place of programs designed to meet individual need. Natural debriefing may also occur in teams as they talk through their experiences, in families, neighbourhoods, and communities. While it is perceived as helpful it is not helpful to everyone as there are many different coping styles. It should be recognised simply as one form of support (Emergency Management Australia, 1999).

Conclusions

The absence of rigorous research in this area is disappointing and it is essential that efforts are made to determine what formal intervention, if any, should be offered to individuals immediately following disasters and other potentially traumatic events. There is a strong argument for providing acute psychological first aid and if indicated forming a treatment alliance as early as practical following a traumatic event. Indeed, early contact with general offers for assistance, and offers for follow-up and outreach may provide a method of addressing the major problem of the general reluctance of people with post-disaster morbidity, including PTSD, to accept treatment. It would seem appropriate to focus on detecting individuals who are at risk of developing PTSD (perhaps through detecting acute stress disorder) or other disorders following disasters, and offering them interventions that have been shown to be effective. There is a clinical consensus suggesting that the earlier that such an intervention is provided the better

the long-term prognosis (Foa et al, 2000). However, the constraints and cautions discussed above should be taken into account.

Supportive counselling

Supportive counselling can be provided to anyone acutely distressed and involves comforting and reassurance, practical advice, allowing the person to discuss their experience but only if they feel the need to do so, linking them to support networks, and identifying those at risk who may need follow-up and specialised services.

Counselling aims to help people come to terms with the disaster, loss and other distressing events they have suffered in the disaster, with emphasis on enhancing positive coping and facilitating active mastery and involvement in the recovery process (Raphael, 1993). There is now evidence to suggest that more focussed or in depth counselling is not appropriate in the earliest stages, but should be available for those considered at higher risk of adverse mental health outcomes either through their high level of ongoing distress or other risk factors as identified above (Solomon, 1999). Such specialised counselling should be provided when it is clear that the post-disaster reactions, for instance to trauma or loss are not settling, or when other factors are present, and not until about 2 weeks or more after the event.

Counselling to deal with the traumatic encounter with death

This will involve encouraging the person to talk through the particular aspects of the experience, to tell their story, to deal with the feelings that were and are aroused, including fear and helplessness. There is often a great deal of release when the person is able to do this. However, sometimes the experience is still too frightening and painful, so this must be taken gradually and in amounts that are manageable for the individual. If the person is intensively preoccupied with reexperiencing the trauma, then they may need to be helped to lessen emotional distress, whereas if their response is essentially numbing, then they need help to get in touch with and express their feelings. The person may also need education about normal reactions and how to gradually come to terms with the feared experience, the importance of gradual exposure and cognitions about the event in line with the appropriate interventions as indicated in the sections below. They may also be helped by writing down their experience. There may be a need for several sessions. If high levels of arousal continue however, the person is likely to need specialist referral (Raphael, 1993).

If stress symptoms are persisting and have not started to ease after a couple of weeks post-disaster, assessment of psychiatric disorder (eg. ASD) should be conducted and specialist referral made if criteria are met.

Counselling using specialised cognitive-behavioural techniques focussing on decreasing symptoms through exposure to the stressor has been shown to be effective in both lessening distressing phenomena and decreasing risk of PTSD developing (Bryant et al, 1999).

Counselling for loss

The bereaved person initially needs comfort and support to accept the news and reality of death. Wherever possible the bereaved should be supported to see the body of the dead person and say their goodbye. If there is gross mutilation of the body or the body cannot be found then special support to talk through fears about the nature of the death and the possible suffering of the deceased may be critical. Thus the person needs to be gently encouraged to talk of the lost person, if this is a personal bereavement. Grief counselling involves reviewing the relationship with the person, talking over and sharing memories about it, both positive and negative, and expressing the complex feelings that are evoked, including anger, guilt, sadness etc. The bereaved person needs support to talk of the circumstances of the death for these may have been personally traumatic and this trauma component may have to be worked through as well. Memorial ceremonies may be especially helpful allowing public acknowledgment and support for those bereaved (Raphael, 1993).

Specialised bereavement counselling for those at higher risk through ongoing heightened distress, or other factors as noted above, has also been shown to decrease the risk of post-bereavement complications (Raphael, 1977; Raphael et al, 2000), although outcome may be more problematic with a combination of trauma and grief post-disaster.

General counselling

This is often needed to deal with stresses such as the effects of personal injury, dislocation, uncertainty, chronic problems of recovery, family friction, difficulties with children's behaviour and so on. General principles of establishing an empathic relationship, encouraging identification of problems, expression of feelings and positive coping and solutions will all be helpful, as well as identifying sources of ongoing support in the community (Raphael, 1993). Such counselling should have clearly identified goals, and should be focussed, with an agreed short-term 'contract' to achieve these goals as far as is possible. It is critical that those providing post-disaster interventions are not drawn into attributing longer-term problems to the disaster, but rather while taking these into account, identifying and dealing with disaster-related issues. Longer-term problems should fold into normal service delivery systems.

Support groups

Self-help and other support groups are often formed in communities affected by disaster. They provide valuable roles in practical assistance, information, lobbying and often considerable counselling in interpersonal interaction which assists the working through process.

Convergence

The phenomenon of *convergence* tends to occur in many disasters particularly in Western and relatively affluent societies. Masses of people may be expected to converge on the area or areas where the disaster did most damage and where activities of inventory and rescue may be taking place. Some seek to help or wish to assist, others seek loved ones, and many are simply the curious and investigatory – 'the media'. While those people converging on the site and at recovery centres intend to be helpful and are genuine in their wishes to assist, they may inadvertently create additional problems. For example, they may themselves become distressed and unable to function. It is vital that everyone is aware of this possibility and every effort is made to ensure their own safety as well as that of others so not to create additional casualties in the aftermath of the disaster – either physical or psychological.

Convergence does not just involve people. Usually there is also a rapid convergence of material goods – from food and supplies to money, from the essentials for survival to the old and sometimes useless items that some people may seek to donate - clothes, furniture. An additional form of convergence involves *information* with messages about the survivors and their well-being foremost in this (Raphael, 1986).

Assessment

Survivors are generally reluctant to seek mental health services in the aftermath of trauma. Although research is lacking in this area, current best mental health practice involves clinicians going to the survivors, rather than waiting for survivors to come to them. Relief efforts for disaster victims are based on the observation that individuals in need of any type of help typically do not contact formal service agencies, except as a last resort. Instead survivors prefer to turn to family and friends wherever possible (Solomon, 1999).

Indeed, for the majority of survivors, early assessment and intervention will be unnecessary as even those who have some PTSD symptoms frequently spontaneously recover. Most of this recovery takes place during the early weeks and by the first 3-4 months (Solomon & Davidson, 1997). Nevertheless, it is important to be aware of risk and vulnerability factors and provide assessment to those groups who may be at greater risk.

A number of issues need to be considered if someone has been identified as requiring assessment and follow-up.

Importance of timing

The time course of disaster- and grief-related reactive processes and when they merge into patterns or levels of phenomena that may be seen as pathological is an area that is relatively poorly studied. In terms of grief reactions, a number of studies seem to be indicating that the major decline in bereavement phenomenology occurs between weeks 4-6 and weeks 10-13; that is, like trauma reactions, intense grief persisting longer than 3-4 months is likely to be chronic (Raphael & Martinek, 1997).

Several issues need to be considered in determining the optimal time for assessment. First, there is evidence that many acute stress symptoms may subside in the initial week after a trauma (Solomon et al, 1996). Consequently, assessing a trauma survivor in the first few days after a stressor may result in diagnostic decisions that would not have been made if the assessment had been conducted a week later. Second, the clinician should determine that the traumatic event has ceased before deciding to assess for disorders such as acute stress disorder. Many disasters are prolonged, and it may be premature to attempt assessment before the stressor has terminated. For example, assessing a firefighter before all fire-fighting duties are completed may be unreliable because of the necessity for heightened arousal and coping skills to maintain adequate performance during the stressor. Third, many acutely traumatised people require some period of time to integrate the effects of a traumatic experience before they can adequately participate in an assessment. Although there are advantages in early assessment and intervention, it is inappropriate to believe that early assessment is necessary in every case. In many instances, more effective assessment can be conducted after a delay (Bryant & Harvey, 2000).

Impact of assessment

The clinician should be sensitive to the impact of the assessment on the acutely traumatised, bereaved or affected person. In the initial month after a trauma, many people are highly distressed, are functioning in a chaotic environment, and are attempting to deal with many changes. In this context, the client often presents as fragile and is striving to retain some control over their turbulent environment.

A poorly conducted assessment has the potential to place additional stress on a person if it is perceived as a continuation of the initial traumatic experience. In extreme cases, poorly conducted assessments may have contributed to suicidal attempts by fragile individuals. Accordingly, the assessment should commence with recognition by the clinician that material covered in the assessment may be distressing, and the client should be explicitly invited to communicate such distress to the person carrying out the assessment.

The concept of a 'therapeutic assessment' should be the basis for this process. This means ensuring the assessment process 'does no harm', and that as far as possible it is: helpful to the person, timed to their individual reactions and takes their needs into account. The process of history-taking about their experiences, and the various stressors

involved can commence the process of dealing with these in manageable ways. It can lead into and become the basis for therapy, if this is necessary.

The clinician should also inform the client that the opportunity for respite during the assessment is available. Clinicians should be sensitive to the client's responses to the assessment. Capacity to tolerate an assessment can be an important indicator of the client's subsequent response to therapy. It is often useful to inform clients that they may experience an exacerbation of reexperiencing symptoms after the assessment and that this is part of the process of resolving the traumatic experience (Bryant & Harvey, 2000).

Documentation / registration

Documentation of all disaster-related activity is an essential part of disaster response. The type of documentation which is used will depend on the number of those affected, the type of disaster or major incident and the type of mental health response. Various forms have been devised to record information, including details and expertise of members of mental health response teams, and records of survivors in need of assessment and intervention. All contact with clients, and the nature of any assessment and intervention should be recorded even if brief.

Other means of recording responses and interventions may be devised on an individual basis, depending on the nature of the disaster and the response. Where any ongoing care is intended or provided, more detailed documentation will be essential. A generic intake recording form is attached in the Appendix section.

Identification of strengths and positive coping styles

Studies have shown that even in extreme disasters, the majority of people do not become incapable of functioning, that they get back to their normal lives quickly and usually make full psychosocial recovery. Resilience and coping are probably the most common reactions seen following disaster (Ursano et al, 1996).

There are many different coping methods and styles used by people when under stress. Active or 'action' oriented coping is an adaptive coping response often utilised following a disaster. People cope by engaging in activities such as assisting others, engaging in practical tasks, setting up support groups, rallying community support etc.

Coping helps to accomplish the following:

- Containment of the distress within limits that are personally tolerable.
- Maintenance of self-esteem.
- Preservation of interpersonal relationships.
- Acceptance of the conditions of the new circumstances.

Coping is intertwined with one's social and emotional resources. It is made easier, or hampered and prevented, by the nature of the individual's social support system (Cohen, 1998). This system may include interpersonal relationships with family, friends, neighbours, co-workers, and small group associations. It is to this social system that the individual typically turns first when seeking support, understanding, or aid post-disaster (Raphael, 1993). Table 7 summarises positive and negative coping skills.

Table 7: Coping skills

Positive coping skills	Negative coping skills
• Orient one's self rapidly • Plan decisive action • Mobilise emergency problem-solving mechanisms • Use assistance resources appropriately • Deal simultaneously with the affective or emotional dimensions of the experience • Express painful emotions appropriately in manageable amounts • Acknowledge pain, but avoid obsession over troubled feelings • Develop strategies to convert uncertainty into manageable risk • Acknowledge increased dependency needs and seek, receive, and use assistance • Tolerate uncertainty without resorting to impulsive action • React to environmental challenges and recognise their positive value for growth • Use non-destructive defenses and modes of tension relief to cope with anxiety (eg. humour, exercise, eating habits, time management, relaxation techniques)	• Use of excessive denial, withdrawal, retreat, avoidance • High use of fantasy, poor reality testing • Impulsive behaviour • Venting rage on weaker individuals and creating scapegoats • Over-dependent, clinging, counter dependent behaviour • Inability to evoke caring feelings from others • Emotional suppression, leading to "hopeless-helpless-giving up" syndrome • Use of hyperritualistic behaviour with no purpose • Fatigue and poor regulation of rest-work cycle • Misuse of drugs and other substances (eg. alcohol, increasing intake of drugs by taking sleeping pills and other tranquilizing agents) • Inability to use support systems

Adapted from Cohen (1998).

Identification of risk and vulnerability factors

Following major disasters there may be insufficient resources to provide an intervention for all those exposed. This will necessitate the definition of groups or individuals at particular risk (Raphael et al, 1996).

Those individuals who face life threat, lose loved ones, witness grotesque forms of death, and experience community devastation are more likely to develop PTSD, depression and symptoms of other disorders than individuals not exposed to these elements (Green & Lindy, 1994). Further, there is typically a dose-response relationship between degree of exposure and outcome.

In terms of individual characteristics, women and men seem to be about equally at risk for symptoms following disaster, but they may present with different complaints. Women tend to report more PTSD, anxiety, and depression symptoms, whereas men are more likely to abuse alcohol, have physical or somatic complaints, or have symptoms associated with hostility / acting out (Green, 1993).

Further, there are a number of specific groups at increased risk of developing difficulties, and these should be actively followed up (Lundin, 1994):

- survivors who experienced or perceived a threat to their lives
- close relatives of suddenly or traumatically deceased persons
- children, especially when separated from parents
- persons especially dependent on psychosocial stability: people with physical handicaps or developmental disabilities, older persons
- traumatised survivors
- body handlers
- those lacking or losing social support networks
- those more socially, economically or educationally disadvantaged
- survivors with psychiatric disorders

Screening for risk of post-disaster problems

A number of risk factors have been identified by the literature as important indicators of possible adverse mental health outcomes following disasters. For recent reviews see Raphael (1996) and Bryant & Harvey (2000). The main mediating variables are grouped below according to pre-disaster factors, event-related factors and post-disaster factors. These should be noted when assessing people considered to be at high risk of post-disaster problems.

Pre-disaster factors

- childhood trauma / abuse
- depression / anxiety prior to traumatic event, or vulnerability to these
- previous losses or traumatic experiences that were poorly resolved
- family instability
- genetic vulnerability
- substance abuse
- behaviour disorders
- lack of preparation for traumatic event
- disadvantage (social, economic, educational)

Event-related factors

- level of life threat
- exposure to grotesque, horrible events
- loss of loved ones, friends, associates
- injury to loved ones, friends or others
- unpredictability / uncontrollability of event
- proximity of stressor
- duration of stressor
- property loss / relocation
- available relief
- subjective response (fear, helplessness, dissociation)
- individual's role in the disaster
- meaning of the disaster
- hopefulness (or lack of this)

Post-disaster factors

- social support
- coping style
- community reaction
- ongoing or additional stressors
- substance abuse
- secondary symptoms

Acutely distressed people or others considered to be at high risk because of the nature of their experiences or other factors identified above may be 'screened' in the acute post-impact phase. Such 'screening' may be through triage processes or early documentation of risk (see generic client contact form in Appendix section). It may be that the person is 'screened' to immediate mental health care or support if they are indicating severe disturbance in arousal, behaviour or cognition, or screened for follow-up subsequently because there is concern about heightened risk.

Formal screening by questionnaire or interview is not appropriate in this very acute response phase. This is because most measures of reactions relevant to the disaster experience would be likely to show high levels and progressively lessen over the early weeks. Their clinical significance is thus limited, and some could be misleading in inferring need for intervention when the person is in a natural phase of recovery. Obviously, if clinical contact indicates the person is acutely disturbed or distressed, then appropriate assessment and care should be provided.

Measures recommended for screening two weeks or more after an acute disaster experience include:

Posttraumatic phenomenology

- Acute Stress Disorder Interview (ASDI; Bryant et al, 1998)
- Acute Stress Disorder Scale (ASDS; Bryant et al, 1999)

  These measures explore posttraumatic symptomatology in the first month and may indicate premises of that disorder and beyond that time of PTSD. Other measures of posttraumatic symptomatology include:

- Impact of Event Scale (IES; Horowitz et al, 1979)

  This is a widely used measure of intrusive and avoidant phenomena.

Bereavement phenomenology

- Core Bereavement Items (CBI; Burnett et al, 1997)

  This is a measure developed in Australia and used extensively in Australian studies.

- Texas Inventory of Grief (TRIG; Faschingbauer et al, 1987)

  This has been widely used to assess bereavement.

General psychological distress

- General Health Questionnaire (GHQ-12; Goldberg, 1972)

  This has been used to screen for psychiatric caseness by many studies around the world.

- Kessler-10 (K-10: unpublished)

  The K-10 is a brief instrument that measures symptoms of general well-being as well as anxiety and depression. It has been used in both national and NSW community-based surveys in Australia. It is likely to be a useful measure post-disaster, however thresholds have not yet been defined for screening purposes.

There are many other measures that may be relevant depending on specific concerns for the individual or population.

Exposure – perceptions of experience

- There are no specific reliable and valued measures of exposure to different stresses. Nevertheless some simpler rating and recording of these is appropriate as a baseline (see mental health intake form in Appendix section).

More comprehensive lists of available measures for a wide range of symptoms and disorders are outlined in the next section and detailed in Appendix E. A critique of each of these measures (eg. psychometric properties, usefulness and utility) has also been included. **It is recommended that the use of such tools in the acute post-disaster period be kept to a minimum, and chosen on the basis of sound psychometric properties and research.**

Any research conducted during this period **must** have clear hypotheses, sound scientific methodology and full ethical clearance.

Assessment of post-disaster psychopathology

The following sections describe the assessment of a number of post-disaster disorders. The disorders presented below have been selected for inclusion because they are typically more commonly researched and described in the literature. This list is by no means comprehensive and should not restrict the reader from exploring other diagnoses during post-disaster assessment.

Acute stress disorder

Acute Stress disorder (ASD) was introduced in the latest edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV; APA, 1994). It appears as one of the anxiety disorders and is regarded as an acute form of PTSD. The structure of the ASD diagnosis follows that of PTSD in that it is described in terms of the stressor definition, reexperiencing, avoidance, arousal, duration and exclusion criteria.

Acute stress disorder is distinguished from PTSD by its inclusion of symptoms of dissociation. For the diagnosis of ASD to be met, an individual must experience at least three dissociative symptoms, at least one intrusive symptom, marked avoidance and marked arousal symptoms. Symptom duration must be 2 days and less than 4 weeks post-trauma and there must be significant impairment in functioning present (APA, 1994).

The ASD diagnosis is controversial. Many would argue that ASD should not be classified as a disorder, because its defining symptoms are commonplace in the immediate aftermath of traumatic events (eg. North, Smith & Spitznagel, 1994), and most of those who experience these symptoms recover without treatment (Bryant & Harvey, 1998).

On the other hand, proponents of the diagnosis assert that irrespective of how frequently these symptoms occur immediately after a traumatic event, ASD should be included in DSM-IV because of the extreme distress may individuals experience, and because ASD

may predict longer-term psychiatric difficulties (Solomon, 1999). For example, between 78% and 82% of motor vehicle accident survivors who satisfy criteria for ASD meet criteria for PTSD at 6 months posttrauma (Harvey & Bryant, 1998). It appears that the particular diagnostic criteria in ASD permit a more accurate identification of those individuals who will not naturally recover from the adverse effects of their traumatic experience (Bryant et al, 1999). It is also assumed that, like other mental and physical disorders, PTSD has a better prognosis if clinical intervention is implemented early in the course of the disorder.

Table 8 lists and compares the criteria for ASD and PTSD.

Table 8: Diagnostic criteria for ASD and PTSD

Criterion	ASD	PTSD
Stressor	*Both –* Threatening event Fear, helplessness, or horror	*Both –* Threatening event Fear, helplessness, or horror
Dissociation	*Minimum three of –* Numbing Reduced awareness Depersonalisation Derealisation Amnesia	N/A
Reexperiencing	*Minimum one of –* Recurrent images / thoughts / distress Consequent distress not prescribed Intrusive nature not prescribed	*Minimum one of –* Recurrent images / thoughts / distress Consequent distress prescribed Intrusive nature prescribed
Avoidance	*Marked avoidance of –* Thoughts, feelings, or places	*Minimum three of -* Avoid thoughts / conversations Avoid people / places Amnesia Diminished interest Estrangement from others Restricted affect Sense of shortened future
Arousal	*Marked arousal including –* Restlessness, insomnia, irritability, hypervigilance, and concentration difficulties	*Minimum two of –* Insomnia Irritability Concentration difficulties Hypervigilance Elevated startle response
Duration	At least 2 days and less than 1 month posttrauma	At least 1 month posttrauma

	Dissociative symptoms may be present only during trauma	
Impairment	Impairs functioning	Impairs functioning

Source: Bryant & Harvey (2000).

ASD Assessment Tools

There are a number of structured interviews and self-report measures that have been used in the assessment of ASD.

The Acute Stress Disorder Interview (ASDI; Bryant et al, 1998) is the only structured clinical interview that is validated against DSM-IV criteria. The Structured Clinical Interview for DSM-IV Dissociative Disorders (SCID-D; Steinberg, 1993) has also been used however there is no data to support its utility in identifying people who meet criteria for ASD.

There are only a small number of self-report measures that have been used to screen for ASD. These include the Stanford Acute Stress Reaction Questionnaire (SARCQ; Cardeña et al, 1991) and the Acute Stress Disorder Scale (ASDS; Bryant et al, 1999).

These measures are reviewed in the Appendix section (Appendix E).

Posttraumatic stress disorder

Posttraumatic stress disorder (PTSD) has been recognised in the literature for a long time, being described as 'combat fatigue', 'war neurosis', or 'shell shock'. Over recent years research into the nature of this disorder has grown and significant revisions have occurred in the diagnostic criteria. Table 7 lists the current criteria for PTSD.

PTSD is characterised by the development of a long-lasting anxiety response following a traumatic or catastrophic event. Typically the individual experiences or witnesses a traumatic event such as actual or threatened death, serious injury to oneself or another person, or a threat to the personal integrity of oneself or others. Alternatively, the individual may learn about a traumatic event that has occurred to a loved one.

The types of traumatic events that may cause PTSD are shown in Table 9.

Table 9: Types of extreme stressors that may cause PTSD

Type of stressor	**Examples**
Serious accident	Car, plane, boating or industrial accident
Natural disaster	Tornado, hurricane, flood or earthquake
Criminal assault	Being physically attacked, mugged, shot, stabbed, or held at gunpoint
Military	Serving in an active combat theater
Sexual assault	Rape or attempted rape
Child sexual abuse	Incest, rape, or sexual contact with an adult or much older child
Child physical abuse or severe neglect	Beatings, burning, restraints, starvation
Hostage / imprisonment / torture	Being kidnapped or taken hostage, terrorist attack, torture, incarceration as a prisoner of war or in a concentration camp, displacement as a refugee
Witnessing or learning about traumatic events	Witnessing a shooting or devastating accident, or learning of a sudden unexpected death of a loved one

Source: Foa, Davidson & Frances (1999).

To meet the stressor criteria of PTSD, the individual's response to the traumatic experience must involve helplessness, intense fear or horror. This is described in detail in Table 10. Symptoms range across three distinct clusters comprising reexperiencing symptoms (eg. flashbacks, intrusive recollections, nightmares); avoidance and numbing symptoms (eg. avoidance of reminders of the trauma, emotional detachment and withdrawal), and hyperarousal symptoms (eg. hypervigilance, concentration and memory problems). These were described in Table 8 (previous section). Symptom duration must be of at least one month posttrauma and symptoms must be severe enough to impair normal functioning (see Table 11).

Table 10: The impact of the stressor

The stressor must be extreme, not just severe	The event involved actual or threatened death, serious injury, rape, or childhood sexual abuse. Would not include many frequently encountered stressors that are severe but not extreme (eg. losing a job, divorce, failing in school, expected death of a loved one)
The stressor causes powerful subjective responses	The person experienced intense fear, helplessness, or horror

Source: Foa, Davidson & Frances (1999).

Table 11: Duration of PTSD symptoms

If the duration of symptoms is:	The diagnosis is:	Comments
Less than 1 month	Possible Acute Stress Disorder (not PTSD)	These are symptoms that occur in the immediate aftermath of the stressor and may be transient and self-limited. Although PTSD cannot be diagnosed at this stage, the presence of severe symptoms during this period is a risk factor for developing PTSD.
1 – 3 months	Acute PTSD	Active treatment during this acute phase of PTSD may help to reduce the otherwise high risk of developing chronic PTSD.
3 months or longer	Chronic PTSD	Long-term symptoms may need longer and more aggressive treatment and are likely to be associated with a higher incidence of comorbid disorders.

Source: Foa, Davidson & Frances (1999)

PTSD Assessment Tools

There are numerous measures that have been used in the assessment of PTSD. Some of the most commonly used measures will be briefly outlined here and reviewed in the Appendix section.

Some of the structured clinical interviews used in disaster-related research include the Structured Interview for DSM-IV (SCID-IV; Spitzer et al, 1996), the Clinician Administered PTSD Scale (CAPS; Blake et al, 1990), the PTSD Symptom Scale Interview (PSS-I; Foa et al, 1993), and the Diagnostic Interview Schedule (DIS; Robins et al, 1981).

Some of the most commonly used self-report measures for PTSD are the Posttraumatic Diagnostic Scale (PTDS; Foa et al, 1997), the Davidson Trauma Scale (DTS; Davidson et al, 1997), the Mississippi Scale for Combat-Related PTSD (Keane et al, 1998), and the Civilian Mississippi Scale (Vreven et al, 1995).

Comorbidity

Various authors have reported on high rates of comorbidity between PTSD and other disorders (see Bryant & Harvey, 2000). During the assessment it will therefore also be necessary to assess comorbidity as often it will be the other disorder(s) that will require intervention before PTSD can be targeted (Foa et al, 1999). The most common comorbid disorders are listed below:

- Substance abuse or dependence
- Major depressive disorder
- Panic disorder / agoraphobia
- Generalised anxiety disorder

- Obsessive compulsive disorder
- Social phobia
- Bipolar disorder

It must be emphasised however that these conditions may arise independently as a consequence of the disaster, may have been antecedent to the development of PTSD or indeed may have been present before the disaster occurred. They may not be secondary conditions.

Bereavement reactions and complications

Traumatic bereavements include those that encompass the additional element of sudden perhaps horrific, shocking encounters with death and trauma, with the death of a loved one. Descriptions of traumatic bereavements stand in stark contrast to the experiences of quiet death in the home, without mutilation, bodily distortion, shock, threat, horror and helplessness. Both bereaved and traumatised people are likely to experience similar symptoms in terms of intrusive recollections, persistent thoughts and images, avoidance reactions and high levels of arousal. However, even though significant overlap may occur, there are substantial differences in these two types of experiences (Raphael & Martinek, 1997).

The table below summarises and compares these experiences in terms of cognitive processes, avoidance phenomena and arousal symptoms.

Table 12: A comparison of posttraumatic and bereavement reactions

Posttraumatic reactions	**Bereavement reactions**
Cognitive processes	
• Intrusions of *scene of trauma* (eg. death) - not associated with yearning or longing - associated with distress, anxiety at image	• Image of *lost person* constantly comes to mind (unbidden or bidden) - associated with yearning or longing - distress that person is not there
• Preoccupation with the *traumatic event* and circumstances of it • *Memories* usually of the *traumatic* scene	• Preoccupation with the *lost person* and loved images of him or her • *Memories of person* associated with affect relevant to memory (often positive)
• Reexperiencing of threatening aspects of the event	• Reexperiencing of *person's presence*, as though he or she were still there (eg. hallucinations of sound, touch, sight)

Affective reactions	
Anxiety • Anxiety is the principal affect - and it is *general* and generated by threat - fearful of *threat/danger* - precipitated by *reminders, intrusions*	• Anxiety, when present, is *separation* anxiety - is specific and generated by separation from lost person - is generated by imagined future without lost person - is precipitated by his or her *failure to return* - may be associated with angry protest
Yearning / longing • These are not prominent features - not person oriented; if occurs, is for things to have been as they were before – for the return of 'innocence of death' and the sense of personal invulnerability	• Yearning for lost person: - is intense, painful, profound - is triggered by reminders of him or her - yearning for him or her to return, to be there
Sadness • Sadness not commonly described • Nostalgia for event not described	• Sadness frequent and profound • Feelings of nostalgia common and persistent
Avoidance phenomena	
• *Avoids* reminders of event, including places	• May search for and *seek out* places of familiarity, *treasured objects* (eg. photos, images) • May try to *avoid reminders of the absence* of the lost person
• Attempts to lessen affect; numbing, lessened feelings generally	• May try to *mitigate* pangs of grief but only temporarily, including distracting, but also seeks to express grief as normal
• May have great difficulty talking of event during avoidance times, although at other times may be powerfully driven to talk of experience (but not person)	• May be very driven to talk of lost relationship and lost person
• Withdrawal from others (protective of self)	• May seek others for support, or talk of deceased
Arousal phenomena	
• *Oriented to threat* and danger • General *scanning* and *alertness* to *danger,* fearfulness • Exaggerated *startle* response (ie. response to minimal threat) • Hyper-reactivity to cues of trauma	• *Oriented to lost person* • Generates *scanning* of *environment for lost one* or *cues* of them • Generates *searching* behaviour • Hyper-reactivity to cues of lost person

Source: Raphael & Martinek (1997).

Clinical assessments involve conducting a careful clinical history of the traumatic experience and/or loss; the surrounding events; previous and lifetime experiences of traumatic events and loss; the presence of other stressors (eg. dislocation) and life

events; and other factors that may influence the response to, and processing of, these experiences (Raphael & Martinek, 1997).

These include:
- stages of development
- relationships
- personal characteristics and qualities
- reactions of others to the event and the person experiencing it

A focus on the phenomenology, as described by the table above, can allow assessment of each of the relevant areas of reaction, their patterns, and time course.

- **Cognitive processes**
  It is important to determine the nature of the preoccupations and associated feelings, particularly those related to the scene of the death or its gruesomeness, as opposed to nostalgic images of the deceased, alive. The nature of reminders and the reactions they trigger, and the particular nature of dreams, will be relevant in his context.

- **Avoidant phenomena**
  It will be important to explore what is being avoided, and what feelings are triggered if avoidance fails; the nature of cutting off and numbing; as opposed to the yearning for return and searching; and the holding of reminders of the bereaved.

- **Arousal phenomena**
  Assessment of the sources of arousal and its focus, either on threat, or for the lost person can help to differentiate and identify these separate reactive processes.

The concept of **'therapeutic assessment'** must be emphasised here again. This is an integral component of the overall treatment process. It is repeatedly suggested that the bereaved and traumatized will benefit from 'getting it all out' without recognition of the many different ways in which both loss and trauma are resolved. There are potentially differing phenomena, time courses, and needs in acute, sub-acute, and longer-term phases. Although there is profound social belief in the value of catharsis, its timing and nature may be open to question (Raphael & Martinek, 1997).

A format for 'therapeutic' assessment was proposed by Raphael (1979-1980) following a rail disaster in which affected persons suffered traumatic bereavements. This assessment includes the following (Raphael & Martinek, 1997):

- Establishment of **rapport** and providing necessary reassurance and comfort.

- **Exploration of what has happened**, circumstances of the death and life threat, and the nature of the bereaved person's experience. This includes the details of the day, warning, shock, horror, separation from loved ones, helplessness, degree of uncertainty about the death, threat to the bereaved personally, damage, mutilation

or circumstances of particular suffering or horror. This is likely to take a substantial period of time, with the bereaved resting and dealing with emotions in 'doses', and with pressure for avoidance in terms of the traumatic intrusions and memories.

- Exploration of what has happened since and the **bereaved person's reactive processes**, emotions, cognitions, arousal, and reactions to the 'recovery' environment, both supportive and non-supportive.

- **Exploration of the lost relationship**, which means taking a history of the relationship with the lost person and providing a way of reviewing the lost relationship and possibly helping start some of the grieving processes. This may only be carried out very tentatively if the trauma and loss are still very acute.

Closure of the assessment process, for the occasion of assessment may require allowing the traumatically bereaved person to re-gather defenses and control, and move away from more traumatic and painful aspects. Options for further support, care and guidance are likely to be necessary for closure. It may be necessary to ensure the presence of active practical and emotional support and provision of relevant information.

Bereavement Assessment Tools
A number of grief and bereavement assessment measures are reviewed in the Appendix section. These include the Texas Revised Inventory of Grief (TRIG; Faschingbauer et al, 1987), the Grief Experience Inventory (GEI; Sanders, 1980), the Core Bereavement Items (CBI), and the Bereavement Phenomenology Measure (BPM; Middleton et al, 1998).

Other acute stress reactions

As described in Chapter 2, disaster survivors can display a wide range of symptoms and stress reactions following trauma. The most common problems include dissociative responses, depression, anxiety, somatic complaints and substance abuse. While it is beyond the scope of this handbook to provide detailed assessment and treatment information on all possible adverse outcomes, a list of commonly used assessment measures has been included in the Appendix section for reference.

The measures reviewed are:

- Dissociative Experiences Scale (DES; Bernstein & Putnam, 1986)
- Peritraumatic Dissociative Experiences Questionnaire (PDEQ; Marmar et al, 1994)
- Clinician-Administered Dissociative States Scale (CADSS; Bremner et al, 1997)
- Impact of Event Scale (IES; Horowitz et al, 1979)
- Beck Depression Inventory – 2 (BDI-2; Beck et al, 1996)
- Spielberger State-Trait Anxiety Inventory (STAI; Spielberger et al, 1993)
- Symptom Checklist-90-R (SCL-90-R; Derogatis, 1983)
- General Health Questionnaire (GHQ; Goldberg, 1972)

General practitioners

Many people present to their local primary care health provider in the post-disaster period (Ursano et al, 1996). This may be with acute distress related to their experience, or seeking support or counselling, or perhaps something to help them sleep or 'settle down'. It is important that these 'gatekeepers' be alert to the normal responses to disaster, in order not to 'pathologise' normal recovery. More generally and in the ensuing weeks however, there are commonly presentations with general somatic complaints such as headaches, tension, tiredness and stomach upsets. Unfortunately there are few systematic studies of general health effects or help-seeking behaviour, but those that have explored these issues have found higher self-reported rates of a number of conditions (Clayer et al, 1990).

General practitioners should be aware of the potential for people experiencing the psychosocial effects of disaster to present in primary care. A careful querying may reveal the onset of symptoms and their relationship to distressing disaster exposures. It should also be noted that there may be potential for effects on physical health through impact of immune function, health related behaviours and perhaps other mechanisms.

Mental health services should provide information to general practitioners about mental health issues post-disaster, as well as ensuring consultative processes are available and where appropriate, access to specialist mental health care.

Referral to specialist services

Specialist referral is necessary in some instances and should be carried out supportively. The problems outlined below need particular attention and referral to professional services specialising in these (Raphael, 1993).

- **Extreme agitation,** particularly if it leads to actions that are life-threatening to the self or others.

- **Overt psychiatric disturbance** requiring care in its own right, for example, 'psychotic' decompensation where the affected person appears out of touch with reality and perhaps even responding to hallucinations or delusions. This is rare but may occur.

- **Prolonged denial of reality**. Some shutting out of what has happened is natural initially but the person who continues, for example, to talk about somebody killed in a disaster as if he or she was still alive is likely to need specialist care.

- Persons distressed by **overwhelming bouts of anxiety**, dread, or panic when the danger has long since passed. Some panic is natural in the beginning but when this

does not gradually fade and lessen in intensity as the weeks and months progress, then specialised assistance is probably necessary.

- Although some **depression** is very likely in the aftermath of disaster a picture of severe depression, accompanied by hopelessness, unremitting despair and a loss of belief in any worthwhile future indicates a severe response. In addition, if self-esteem is low, sleep severely impaired, there is marked weight loss and loss of interest in the world, and a general slowing-down in all activities, then a depressive illness should be suspected and specialist assistance sought urgently.

- Although **suicide** is not that common after disaster, one should be alert to the possibility that feelings of hopelessness may be associated with this level of despair. Similarly a bereaved person preoccupied with thoughts of reunion with someone who has died in the disaster should be of concern.

- **Body complaints** particularly mild, ill-defined and chronic complaints such as listlessness and headaches, often accompanied by irritability and sleep disturbance, may reflect chronic, hidden and unresolved psychological distress that requires assessment, possible psychiatric illness, or a risk of developing physical ill-health.

- **Disturbed interpersonal relationships** appear as a severe and prolonged disturbance of the capacity for interpersonal relationships (for instance in family or marital breakdown, rejection or the formation of only transient relationships).

- **Posttraumatic stress disorder.** This is a serious and disabling condition and often becomes chronic unless treated early in its course and with the most effective forms of treatment. People with such indicators should be referred to specialist professionals and services for assessment and care. People with PTSD are also at increased risk of other psychiatric problems such as severe depression or alcohol and other drug problems and thus may develop a series of chronic conditions needing care.

- **Alcohol or medication abuse** may be another symptom of the person's attempts to deal with unresolved psychological distress related to the disaster experience. Many attempt to shut out or numb painful experiences in this way, but such coping devices usually only lead to further difficulties. If this cycle cannot be broken by the support being provided, specialist referral is suggested.

(Raphael, 1993).

Interventions for specific disorders

The interventions and treatment strategies described in this section will be based on empirical findings from the current literature on reactions following traumatic events.

Clinical researchers studying the efficacy of various interventions for posttraumatic reactions have recommended waiting at least 2 weeks to a month after a traumatic event before providing therapy of any kind (Foa et al, 1995). They note that survivors may be in a state of shock immediately after the traumatic experience. Depending on the nature of the event, survivors may also be initially overwhelmed with practical demands, such as the need for food, immediate and long-term shelter, transportation to work, medical attention etc. These immediate responses need to be addressed before any psychological intervention can be meaningfully undertaken. In some cases, attention to these basic needs may be the most effective preventive intervention for psychological health (Solomon, 1999).

Nevertheless when distress is extreme it may be essential to provide general supportive counselling that may link to later specific interventions. Medications, particularly anxiolytics, may be required or other appropriate interventions as indicated.

Therapeutic interventions for traumatic stress syndromes

The treatment of survivors with acute traumatic reactions presents a particular challenge to the field of traumatic stress. To date, most of the treatment literature has examined the use of a range of techniques in sufferers with established diagnoses of PTSD. There is very little empirical information from outcome studies as to how to best treat acute stress reactions. There is no single recognised method for the effective treatment of acute traumatic reactions (Foa et al, 1999). However, there are a number of interventions which have been shown to be effective in the treatment of ASD and PTSD. These are reviewed here.

Acute stress disorder

Pharmacotherapy

Pharmacological interventions for acute trauma responses have received particularly little research attention. Two uncontrolled pilot studies involving three and four patients, respectively, have found positive effects for tricyclic antidepressants (Blake, 1986) and hypnotic medication (Mellman et al, 1998), perhaps because of improved sleep patterns during the acute stage of traumatic response. Thus far only one controlled study of medication for the treatment of acute stress response has been conducted (Gelpin et al, 1996), and this study (using benzodiazepines) found no benefit to recipients after 6 months, relative to that for matched trauma survivors receiving no medication Solomon, 1999).

Cognitive-behavioural interventions

The most encouraging studies are those examining **cognitive behavioural therapy** (CBT) as a treatment for acute trauma responses. CBT involves the activation of the fear structure, and introduction of information that is incompatible with pathological elements of that structure (Solomon, 1999).

Support for cognitive-behavioural techniques has come from various studies which have looked at a wide variety of traumatic experiences, including, assault (Foa at al, 1995), and accident survivors (Bryant et al, 1998b). Bryant and colleagues (1998b) randomly allocated ASD sufferers to either of two treatment groups: brief cognitive-behavioural intervention (5 sessions), or supportive counselling. The CBT intervention involved prolonged imaginal exposure, cognitive therapy and anxiety management. Supportive counselling involved non-directive counselling and general problem-solving. These authors found that 17% of the CBT group, and 67% of the supportive counselling group met criteria for PTSD at 6 months posttrauma. This finding indicated that CBT was an effective technique for resolving acute trauma responses that would otherwise lead to chronic PTSD. In an effort to delineate the key therapeutic component(s) within the CBT package offered, Bryant and colleagues (1999) compared prolonged exposure and anxiety management. This recent study showed that **prolonged exposure** may be the most critical component in the treatment of ASD.

However, it must be emphasised that exposure is not suitable for everyone, for example, the bereaved and torture survivors. There are a number of potential barriers to conducting exposure therapy and also certain groups with which this technique is contraindicated (Bryant & Harvey, 2000).

Important notes about CBT following disaster

There are a number if important points to note about using CBT within individuals who have recently been through a very stressful experience.

Cognitive Therapy

- Modifying people's exaggerated interpretations needs to recognize that many of these thoughts are based on experiences that are *real* and *recent*. Accordingly, it is important to not communicate to individuals that the severity or reality of these experiences is being minimised.

- The post-disaster period often involves ongoing negative experiences. Accordingly, it is important for therapists to realise that cognitive therapy needs to be *realistic* and to recognize the likelihood of future negative experiences.

- It is useful to remember that it is unrealistic to think that the therapist can modify beliefs that are based on experiences that occurred in the recent past. The expectations of cognitive therapy are somewhat different for disaster survivors

because it is often very difficult for people to adjust their perceptions when the precipitating event is only recent.

- In the acute phase, it can be useful to focus on beliefs about future adjustment rather than beliefs about the experience itself. For example, it is commonly easier for a disaster survivor to try to modify beliefs that they will always feel the way they currently feel than to change perceptions about the disaster.

Potential obstacles to exposure therapy

- *Excessive avoidance*

  A common obstacle to treating ASD is the extent to which the person actively avoids confronting his or her traumatic memories or feared situations. Clients may engage in overt or covert avoidance strategies to minimise distress during exposure. For example, clients may think of less distressing aspects of the trauma to limit their distress. Rationale for exposure may need to be further discussed. Clients may feel more comfortable in doing exposure on less distressing aspects of the trauma before moving onto more distressing ones.

  NOTE: Exposure is based on the principle that avoidance is maladaptive. In the acute phase following a disaster, the therapist must be **cautious** in defining avoidance as maladaptive because avoidance can often be a **useful coping mechanism**. Research suggests that ***ongoing*** and *pervasive* avoidance tends to be **problematic**. Many avoidance tendencies observed in the acute phase will ease as time progresses.

- *Dissociation*

  Dissociation can impede activation of fear networks and preclude habituation because of limited emotional engagement. This may be overcome by directing attention to emotions that are accessible but be wary that the client may need this defense to avoid memories they are unable to currently manage.

- *Anger*

  Anger is a very common response after a traumatic experience. Anger responses are particularly prevalent in victims of violent crime. Research indicates that anger responses to trauma memories will not benefit markedly from exposure because these individuals do not experience elevated fear relative to their anger. Cognitive therapy may be a more beneficial approach in these cases.

- *Bereavement/grief*

  Grief is a very common condition after a traumatic event when a loss has occurred (Raphael & Martinek, 1997). Moreover, posttraumatic stress and grief interact to compound the clinical presentation (Goenjian et al, 1995). The use of exposure in the

acute trauma phase should be exercised cautiously, if at all, with people who present with grief issues. Acute grief reactions may also be characterised by intrusive symptoms, numbing, and a degree of avoidance as described above, but these phenomena differ from those of traumatic stress reactions. The bereavement process requires time, however, and it may not be appropriate to provide the acutely grieving client with exposure when she or he is coming to terms with loss. Recognising the need for people to proceed through the grieving process often involves not overburdening clients with exposure in the acute phase.

- *Catastrophic beliefs*

  Repeated exposure may not benefit clients who interpret their memories in a catastrophic or overly negative way. Issues of guilt, responsibility, and blame may be particularly prevalent in these cases. Cognitive therapy should be actively pursued in conjunction with exposure.

- *Ambivalence / low motivation*

  Clients may not participate in exposure because of poor motivation to cooperate in this approach. They may require the rationale for exposure to be revisited and the client's motivation for treatment to be reevaluated.

(Bryant & Harvey, 2000).

Possible contraindications for exposure therapy

Bryant & Harvey (2000) suggest that caution be exercised and the use of exposure be seriously questioned when the acutely traumatised client presents with one of the following problems:

- extreme anxiety
- panic attacks
- marked dissociation
- borderline personality disorder
- psychotic illness
- anger as a primary trauma response
- unresolved prior traumas (eg. refugees)
- severe depression or suicide risk
- complex comorbidity
- substance abuse
- marked ongoing stressors (eg. medical procedures)
- acute bereavement

In cases where exposure is contraindicated, other techniques, including anxiety management, cognitive therapy or pharmacological intervention may be effective (Bryant & Harvey, 2000).

Posttraumatic stress disorder

The recent publication of the *PTSD*: *Expert Consensus Treatment Guidelines* by the International Society for Traumatic Stress Studies (Foa et al, 1999) indicated that while there was a wide variety of interventions being used to treat PTSD, very few of them were empirically tested and evidence-based. Those techniques recommended by this 'expert' panel and supported by research outcome data are reviewed below.

Pharmacotherapy

Pharmacotherapy for PTSD is predicated on compelling findings that a number of key psychobiological systems are dysregulated in PTSD patients. The strongest evidence shows disruption of adrenergic and hypothalamic-pituitary-adrenocorticol (HPA) mechanisms, heightened physiological reactivity, and sleep disturbances. PTSD-related abnormalities have also been detected or inferred about the serotonin, opioid, dopamine, thyroid, corticotropin-realising-factor (CRF) and glutamatergic systems. Finally, the very frequent comorbidity with pharmacologically responsive disorders (eg. major depression, panic) makes pharmacotherapy an important treatment option to be considered in PTSD (Foa et al, 2000).

Because of so many different psychobiological abnormalities, almost every class of psychotropic agent has been prescribed for PTSD patients. Most studies involve antidepressants: selective serotonin reuptake inhibitors (SSRIs), monoamine oxidase inhibitors (MAOIs), tricyclic antidepressants (TCAs) and other serotonergic agents (eg. nefazodone). Antiadrenergic drugs tested include alpha-2 receptor agonists (clonidine and guanfacine) and the beta receptor antagonist (propanolol). Mood stabilising anticonvulsants have also been tested. Other drugs tested include benzodiazepine anxiolytics and antipsychotic agents.

The strength of the evidence is best for the different classes of antidepressant agents which have been tested in most of the randomised clinical trials on pharmacotherapy. Clinical trials without randomisation or control have been carried out on antidepressants, antiadrenergic agents, anticonvulsants and benzodiazepines. The only evidence for other drugs is based mostly on anecdotal observations and case reports.

The best evidence supports the use of SSRIs as first line drugs for PTSD. They not only reduce PTSD symptoms and produce global improvement but are also effective against comorbid disorders and associated symptoms They have relatively few side effects. However, it should be noted that they may be less effective for combat veterans than for other PTSD patients. There is also good evidence suggesting that MAOIs are moderately, and TCAs mildly effective agents, although both may produce adverse side effects. These drugs have been found to have greater efficacy than SSRIs for combat veterans with PTSD. Evidence supporting the use of antiadrenergic and anticonvulsants is not strong, not because of negative findings, but because there have been no randomized trials with either class of drugs. There is evidence to suggest that benzodiazepines are not useful for treating intrusion and avoidance symptoms of PTSD. Finally, antipsychotic agents

cannot be recommended as a first line therapy at this time because only a few case reports have appeared in the literature.

Cognitive-behavioural interventions

Extensive literature reviews conducted revealed that there was evidence demonstrating the utility of many cognitive-behavioural interventions for the reduction of PTSD (Foa et al, 2000). These included:

- systematic desensitisation
- exposure
- stress inoculation training
- cognitive therapy
- cognitive processing therapy
- assertiveness training
- relaxation therapy
- combination treatments

Comparing the numbers of studies and types of studies supporting each type of treatment, it was found that exposure has the greatest number of well controlled studies to support its use (Foa et al, 2000). Thus, the use of exposure therapy was strongly recommended in the treatment of PSTD, unless otherwise indicated (see contraindications listed in previous section).

Both stress inoculation training and cognitive processing therapy have been demonstrated to be effective in well-controlled studies of rape-related PTSD, and thus are also recommended for use. However, cognitive processing therapy focuses on rape-related issues and would therefore be inappropriate with other trauma-affected populations. Cognitive therapy has been found to be effective across a range of studies and target groups and is therefore recommended. Assertiveness training has shown utility in decreasing PTSD in only one study and therefore this is recommended with caution until other studies are conducted. Systematic desensitisation has generally been replaced by exposure and would not be recommended. One study found relaxation training to be useful but significantly less effective than exposure, cognitive therapy or the combination of the two. Another study found relaxation to be effective only on the arousal symptoms with recent trauma survivors.

Some of the most commonly used psychotherapeutic techniques are listed and described in Table 13. This has been provided for resource information only.

Table 13: The most commonly used psychotherapeutic techniques for PTSD

Anxiety management (stress inoculation training): teaching a set of skills that will help people cope with stress.

- **Relaxation training:** teaching clients to control fear and anxiety through the systematic relaxation of the major muscle groups.
- **Breathing retraining:** teaching slow, abdominal breathing to help the client relax and/or avoid hyperventilation with its unpleasant and often frightening physical sensations.
- **Positive thinking and self-talk:** Teaching the person how to replace negative thoughts (eg. I'm going to lose control), with positive thoughts (eg. I did it before and I can do it again), when anticipating or confronting stressors.
- **Assertiveness training:** teaching the person how to express wishes, opinions, and emotions appropriately and without alienating others.
- **Thought stopping:** distraction techniques to overcome distressing thoughts by inwardly 'shouting stop'.

Cognitive therapy: helping to modify unrealistic assumptions, beliefs, and automatic thoughts that lead to disturbing emotions and impaired functioning. For example, trauma victims often have unrealistic guilt related to the trauma: a rape victim may blame herself for the rape; a war veteran may feel it was his fault that his best friend was killed. The goal of cognitive therapy is to teach clients to identify their own particular dysfunctional cognitions, weigh the evidence for and against them, and adopt more realistic thoughts that will generate more balanced emotions.

Exposure therapy: helping the person to confront specific situations, people, objects, memories, or emotions that have become associated with the stressor and now evoke an unrealistically intense fear. This can be done in two ways:

- **Imaginal exposure:** the repeated emotional recounting of the traumatic memories until they no longer evoke high levels of distress.
- **In vivo exposure:** confrontation with situations that are now safe, but which the individual avoids because they have become associated with the trauma and trigger strong fear (eg. driving a car again after being involved in an accident; using elevators again after being assaulted in an elevator). Repeated exposures help the person realise that the feared situation is no longer dangerous and that the fear will dissipate if the person remains in the situation long enough rather than escaping it.

Play therapy: therapy for children employing games to allow the introduction of topics that cannot be effectively addressed more directly and to facilitate the exposure to, and the reprocessing of, the traumatic memories.

Psychoeducation: educating patients and their families about the symptoms of PTSD and the various treatments that are available for it. Reassurance is given that PTSD symptoms are normal and expectable shortly after a trauma and can be overcome with time and treatment. Also includes education about the symptoms and treatment of any comorbid disorders.

Source: Foa et al (1999).

EMDR and other Neoteric approaches to the treatment of PTSD

Eye Movement Desensitization and Reprocessing (EMDR), Thought Field Therapy (TFT), Traumatic Incident Reduction (TIR), Time-Limited Trauma Therapy (T-LTT), and Visual/Kinesthetic Dissociation (V/KD) are recent approaches that have been offered as treatments of PTSD. Each of these new methods is based on theoretical frameworks that lack any empirical support or sound scientific rationale (see Herbert et al, in press; Rosen et al, 1998 for comprehensive reviews).

Whereas there is a body of research on the utility of EMDR in treating PTSD, there are no controlled treatment outcome studies on these other techniques. That is, there is no scientific rationale for using these techniques with traumatized populations. The absence of empirical support and the use of unjustified rationales indicate that the use of these approaches is strongly contraindicated.

In terms of EMDR, there is increasing research that this intervention should not be considered the treatment of choice. Whereas initial studies demonstrated that it is more effective than wait-list controls (Wilson, Becker & Tinker, 1995), relaxation training and biofeedback (Carlson, Chemtob, Rusnak, Hedlund & Muraoka, 1998), more rigorous studies challenge its efficacy. Numerous studies now indicate that eye movements themselves are irrelevant to treatment outcome (see Lohr et al, 1998; McNally, 1999 for reviews). Long-term follow up studies of people treated with EMDR indicate that initial gains are lost over time (Macklin, Metzger, Lasko, Berry, Orr & Pitman, 2000). Further, there is evidence that EMDR is not as effective as CBT methods in reducing PTSD symptoms (Devilly & Spence, 1999).

In summary, EMDR is not a recommended treatment of PTSD. It lacks the empirical support to satisfy current standards of acceptable treatments for survivors of disaster or trauma. Practitioners should be wary of any of the neoteric approaches, including EMDR, in managing the psychological effects of trauma.

Interventions for bereavement

Interventions for the bereaved may range from population based approaches which incorporate social, cultural, psychological and biological processes; to prevention counselling and programs for those at high risk of bereavement-related pathology; to the specific psychotherapeutic interventions for bereavement specific morbidity; to the therapies relevant for bereavement precipitated psychiatric morbidity. Psychopharmacological interventions are relevant where indicated, for particular disorders that may arise either precipitated by bereavement or occur in bereaved populations. They should be specific for the conditions and based on best available evidence of what is effective (Raphael, Minkov & Dobson, 2000).

Preventive interventions for individuals at higher risk

Such interventions are targeted to individuals, who through screening or assessment, or because of what is known of their experience can be identified as more vulnerable. Risk factors have been described in previous sections, eg. nature of the relationship with the person who died; preexisting psychiatric vulnerability; traumatic circumstances of the death, ie. sudden, unexpected; and other adverse life experiences occurring in the time around and after the loss, lack of social support, high levels of initial grief-related reactions.

Preventive approaches are usually provided for individuals in what are psychotherapeutic type modalities, for instance as in crisis intervention. However, they are not actually treatments, for the bereaved person is not ill. Nevertheless, they may utilise counselling and psychotherapeutic / psychodynamic principles. Group interventions may also be appropriate, as may those targeted to families. Self help groups frequently provide social support, opportunities to express grief and may be a vehicle for intervention (Raphael et al, 2000).

Preventive interventions described and shown to be effective include **crisis intervention** for bereaved widows. This modality uses up to 6-8 sessions of focussed counselling in the early weeks and months following the loss. It encourages the expression of separation distress, angry protest, and subsequently mourning for the dead person with review of the lost relationship in its positive and negative aspects and expression of relevant affects such as sadness. Other components include a specific review of the circumstances of the death, and working through of the reactions to these. Opportunities to enhance supportive response from the social network are also incorporated (Raphael, 1977).

There have also been studies and intervention programs for parents following the death of a child, where the bereaved show higher levels of risk especially where the death has occurred in traumatic circumstances. For example, Murphy (1996) tested preventive intervention for 156 bereaved parents whose 12 – 28 year old children had died by accident, homicide or suicide in a multisite longitudinal cohort design, pre and post test. This involved both problem focussed and emotion focussed support. Both these dimensions were considered to be very relevant, and selected intervention strategies included dealing with the parents' assumptions about the world, the experience of victimisation, issues related to the family life cycle and social support.

Of great interest is the effect of ***bereavement on children*** (eg. death of a parent) and whether or not ***preventive*** programs can lessen adverse impacts for them. Studies of parental bereavement intervention programs suggest that there may be significant benefits, although many are limited in both conceptual and methodological terms. Lohnes and Kalter (1994) describe a model of time-limited intervention groups for such children and that there are common emergent themes which need to be taken into account. For instance children continue to struggle with the stress well beyond the loss, and there is a need to maintain an internal representation of the dead parent that is an important component of the bereavement process. Such understandings are critical, for the child must take-in the experience and respond in 'doses' and time periods that can be modulated to his or her development, resiliency, and environment. Other work has

emphasised the importance of a sense of ongoing family security after a parent dies, and the continuity of a family environment of attachment and care. It is often only with this type of security assured that the child can, when ready, and often later, deal with his or her loss.

A ***family oriented prevention program*** for children in such circumstances has been described by Sandler et al (1992) in the format of a family bereavement program. This program was specifically designed to improve variables in the family environment which were identified mediators of the effects of parental death on family mental health. This was a randomised controlled trial. The researchers found that the interventions lead to parents experiencing increased warmth in their relationships with their children, increased satisfaction with their social support, and maintenance of family discussion of grief related matters.

The relevance of grief for ***older populations*** and the particular issues for preventive intervention with this group have been described by a number of workers. For instance a focus on enhancing the sense of control as a personal quality, through self help group intervention was found to be associated with decreased psychological distress (McKibbin et al, 1997). Another study of self-help groups also showed that the use of personal skills in these contexts can reduce reports of depression and prolonged grief, indicating an important prevention outcome (Casserta et al, 1995). As bereavement may be an important factor in precipitating depression in older people, programs focussed for the bereaved who are at risk, and bereavement in high risk situations such as nursing homes (Murphy et al, 1997) can be important in prevention. Suicide is also a higher risk in older bereaved people, especially older males and this adds to the importance of a focus on these bereaved populations where suicidal ideation and death wishes are often prevalent (Byrne & Raphael, in press).

Psychotherapeutic treatments

The basis for treatment for bereaved people ***merges with that of prevention*** in that where there is specific bereavement related pathology such as a pattern of abnormal grief, there will be ***attempts to facilitate normal grieving***. The various modalities that have been employed to achieve this will be discussed below. In addition, there are the complications of bereavement that may require treatment, specifically the development of posttraumatic stress disorder, the development of bereavement related depression, or anxiety disorders, or the precipitation of other illness, for instance an episode of bipolar disorder (Raphael et al, 2000).

Treatments for bereavement pathologies

A number of researchers have provided evidence for the effectiveness of a range of psychotherapeutic modalities. For example, the work of Kleber and Brom (1992) which focuses on prolonged or abnormal grief, showed that a 12-15 session psychotherapeutic program was more effective than a wait-list control condition, although avoidant behaviours were more resistant to intervention. This dealt with facilitating normal grieving, and the working through of the loss through psychodynamically oriented,

compared to other patterns of psychological intervention (hypnotherapy and behavioural). All were effective to a degree, with the psychotherapeutic interventions being most helpful for the avoidant phenomena. Horowitz's group has provided the most detailed review and examination of psychotherapy in a study of the effectiveness of psychotherapeutic techniques for abnormal grief and examined the relationship of process to outcomes (Horowitz et al, 1984).

In each of these cases, the psychotherapeutic aim is that of **facilitating** a 'normal grieving' or bereavement process, whether through psychodynamic or behavioural principles. This involves key elements of dealing with the circumstances of the death; reviewing the lost relationship; expression of the various affects of grief; mourning the deceased, both psychologically and in ritual; coming to some terms with the new realities that result from the loss, including any altered role or status; dealing with concurrent life stressors; and achieving the necessary tasks of a practical nature during this period (Raphael et al, 2000). These interventions are brief, targeted, and do not usually engage the broader complex issues of the bereaved person's life. Several practical handbooks are available which describe these and other techniques in work with both adults (Worden, 1991; Lendrum & Syme, 1992) and children (Dyregrov, 1990). Some more specific techniques are described below.

- Using photographs, possessions and other symbols of the deceased to promote both registration of the loss and the formation of an internal relationship.
- Writing or drawing, which can tap emotions that may be difficult to verbalise. These methods may also be used as symbolic communication with the deceased allowing "unfinished business" to be dealt with.
- Creating rituals, which may be private or shared, and which can be a way of remembering or commemorating the dead person. They may also help to make a change or transition, particularly for those who are 'stuck'.
- Cognitive restructuring, which involves confronting and testing out distorted beliefs that may be uncovered by grief and may be maintaining a pathological response (Kavanagh, 1990).

Posttraumatic stress disorder and bereavement

Initially bereavement was seen as a traumatic stressor that could lead to stress response syndromes but later, particularly with the development of the diagnostic criteria for PTSD in DSM-IV and it became increasingly clear that normal bereavement could not really be seen as a stressor meeting DSM-IV, criterion A.

Recently, Schut and colleagues have carried out systematic studies of PTSD and bereavement. They found this disorder to be frequent amongst the bereaved, and often correlated with the perceived inadequacy of the goodbye said to the deceased. They concluded that creating opportunities for 'saying farewell' to the deceased, for instance in grief therapy, may be important components that can facilitate recovery (Schut et al, 1997).

The dearth of good studies on effective treatment for PTSD, with the usual modalities being cognitive behavioural therapy (eg. Bryant et al, 1998b), and pharmacological treatments (see Foa et al, 1999), means that these should be considered early in the treatment program in relevant cases. Medication if required is usually in the realm of antidepressants, although minor tranquillisers may be helpful in the acute phase. A combination of biopsychosocial assessments, with interventions dealing first with the trauma, and then gradually the loss, is most likely to achieve better outcomes, although there is a need for controlled trials to establish a scientific basis for these programs and their outcomes (Raphael et al, 2000). Caution about exposure therapy components is also indicated (see above).

Depression and related disorders and bereavement

There has long been a conceptual difficulty in separating the phenomenology of bereavement reactions from those of depression. Indeed some researchers initially described the process of bereavement as a 'reactive depression' (eg. Parkes, 1972) and early studies used depression scales to measure the reaction to loss (Clayton, 1990).

Recent work has clearly differentiated both normal bereavement from depression and shown that abnormal bereavements such as chronic grief, 'complicated grief' or even 'traumatic grief' can be clearly differentiated from major depression and from anxiety disorders and other psychiatric disorders, although there may for some be an increased risk of also developing major depression in these circumstances (Horowitz et al, 1997; Prigerson et al, 1996; Raphael & Minkov, 1999).

Depression in relation to bereavement, at any stage of the life cycle, will need to be treated in its own right. Psychotherapeutic interventions will inevitably be part of this, and should be tailored both to developmental stage and to the modalities that are most likely to be effective for the particular pattern of illness. Cognitive behavioural therapy and interpersonal psychotherapy are predominant modalities. Antidepressants should be used as appropriate to the syndrome of depression, and if very severe and non responsive, electro-convulsive therapy may also be required. While reports to date focus on nortriptylene, new antidepressants may be relevant, but further trials for their value for such bereavement-related depressions are very necessary. They are ***not*** appropriate treatment for bereavement without depression.

Anxiety symptoms (separate from PTSD) are also found in the bereaved and some may be at greater risk of anxiety disorders than depression. For instance, Byrne and Raphael (1994) found a closer relationship between bereavement phenomena and anxiety symptoms, whereas Middleton et al (1998) point to a fairly consistent relationship with each. Anxiety disorders such as generalised anxiety disorder, and phobic conditions have been described. Further, it is important to understand the difference between anxiety symptoms of a general kind and the separation anxiety or distress that is part of normal grief, but may be heightened in its more chronic or pathological forms (Raphael et al, 2000).

Bearing in mind these clinical and phenomenological distinctions, here as with depression, appropriate treatment for preexisting or precipitated disorders is that

relevant for the diagnosis; including antidepressants, anxiolytics and psychotherapy, or behavioural interventions for the condition, and grief counselling to facilitate the resolution of the loss (Raphael et al, 2000).

Special issues in psychotherapy with bereaved people

Psychotherapy with bereaved people, regardless of modality adopted, requires a dynamic understanding of a number of important issues:

- the lowered defensiveness in the acute period following loss
- the intensity of the normal affective response at this time, and the painfulness of separation distress, yearning and longing
- the pervasiveness of angry protest
- the focus on sadness and exclusion of other relationships of the psychological mourning processes

(Raphael et al, 2000).

The bereaved may find it difficult to engage with the therapist or may focus anger on them as they are there to console the loved one, when the deceased is not. They may attach to the therapist as a 'replacement' in an attempt to meet the desperation of their emptiness, all the while struggling for survival psychologically and physically to go on living, and resenting those like the therapist who do (Raphael et al, 2000).

As in all psychotherapy, but particularly for those acutely distressed, there needs to be a mix of humanity and compassion; of professionalism and patience; of sensitive timing of progress; and of taking a pace with the bereaved, but one that is not too slow. In terms of counter-transference, over-identification with the bereaved and their suffering, immersion in their grief, a reluctance to accept that the aims of therapy may be to facilitate but not complete these grieving processes, are all issues. And primarily too for the therapist is the reawakening of personal losses, the fears of loss and death and contagion by them, from the bereaved. Trauma-related issues complicate this further. These and other parameters must be carefully monitored in this psychotherapy, as in all others (Raphael et al, 2000).

NOTE: **Debriefing is inappropriate for this population**. Recent reviews of the increasingly popular process of psychological debriefing, applied to a wide range of traumatic experiences, including traumatic bereavements, call for caution. This 'quick fix' has not been established to be effective for traumatic stress situations and may be counterproductive in some instances. Those suffering the double impact of loss and trauma may not benefit from automatically reviewing their experience at a time determined by a researcher, yet may be so affected as to require the outreach of a clinician (Raphael & Martinek, 1997).

Specific issues for disaster workers and mental health professionals

Working in the acute situation of a disaster can be both exciting and distressing. The mental health worker, like others responding at this time is likely to experience heightened arousal and an intense wish to help others and to 'make right' what has happened. There is likely to be a heightened reaction to others who are involved and an intense focus on the experience. There is also a greater sense of identification with those affected. The usual client-professional relationship that 'protects' both parties changes in the face of the acute emergency, the shared experience, and the lowering of social boundaries. This facilitates a compassionate helping response. However, workers need to be attuned to the nature of their own response in such circumstances and still retain their capacity for clinical observation as well as engagement and spontaneous care.

Mental health workers may also be stressed by their experience. This may occur because of exposure to the stressors that all disaster workers may face. In addition, there may be effects related to feelings of helplessness, not being in an active role, or more frequently, exposure to the experiences of others when these are shared, ie. some form of 'vicarious traumatisation'. Appropriate training, briefing, tours of duty, clinical review and supervision are likely to protect against negative effects of such exposure (Berah, Jones & Valent, 1984).

Interventions for special populations

Survivors of chemical/biological/radiological disasters (CBR)

Rapid, accurate triage and effective treatment will be the cornerstones of initial management after a CBR attack. See Table 14 for a summary of psychiatric intervention.

Distinguishing symptoms of hyperarousal from those of intoxication and infectious disease prodromes will be crucial. The type of exposure and any lack of complete information about the agent will increase uncertainty and the risk of psychiatric morbidity. The risk for secondary psychological trauma will increase if actions by leaders or helpers fail to provide a quick, accurate diagnosis, a sensitive process for communicating the nature of the risk, and a supportive environment for those exposed and their families (Holloway et al, 1997).

An attitude of expectation that those with hyperarousal or demoralisation will soon return to normal activities should be conveyed. Patients should be moved out of the patient role as quickly as possible. The assignment of simple tasks can help restore function to the psychological casualties. The recovery environment should be constructed

to create a sense of safety and to counteract the helplessness induced by the terrorist act (Raphael et al, 1996).

Table 14: Psychiatric Intervention after a chemical or biological disaster

Interventions
• Prevention of group panic • Careful, rapid medical evaluation and treatment • Avoidance of emotion-based responses (eg. knee-jerk quarantine) • Effective risk communication • Control of symptoms secondary to hyperarousal - Reassurance - Medications for acute relief (as indicated) • Management of anger, fear or both • Management of misattribution of somatic symptoms • Provision of respite as required • Restoration of an effective, useful social role • Return to usual sources of social supports in the community

Adapted from Holloway et al (1997).

Children and adolescents

Children's dependence and developmental levels are important to consider in planning appropriate responses to assist them to cope with disaster but some common principles, such as the provision of 'psychological first aid', are also highly appropriate (Pynoos & Nader, 1988).

Some treatment practices have been poorly researched; however there is increasing evidence for the effectiveness of interventions based on cognitive-behavioural principles and for programs to assist parents to aid in children's recovery. Families and schools play important preventive and protective roles and work on school-based programs may be used to identify at-risk children and promote recovery and resolution (Pynoos & Nader, 1993). Family interventions may be useful where parental response results in minimisation or denial of a child's distress and in increasing the family's ability to support the child (Pynoos & Nader, 1993).

Primary schools were used as a focus to screen children for persistent problems 6 months after the 1994 Sutherland bushfires (McDermott & Palmer, 1999) and to offer treatment. Schools and mental health staff had also collaborated in a pro-active mastery workbook.

Few treatment outcome studies are available to guide treatment selection for individual children with PTSD.

Goenjian et al (1997) examined the effectiveness of school-based grief/trauma focussed psychotherapy in reducing chronic PTSD and depressive symptoms in adolescents

following an earthquake in Armenia. These authors argued that exploration, relaxation and desensitisation procedures and group support may be important therapeutic factors. A cognitive-behavioural-oriented group program delivered in schools, for children and adolescents with mild to moderately severe PTSD associated with a range of single-incident events, was followed by decreased scores on measures of PTSD, depression, anxiety and anger post-treatment and at follow-up, and internalising of locus of control at follow-up (March et al, 1998).

Clinicians vary in the degree to which they advocate explicit exposure techniques and there is little support for use of debriefing in the acute disaster aftermath (Yule, 1993).

Involvement of parents/carers, school supports and normalising the child's responses to disaster through psychoeducational approaches are core components of intervention. Additional specialised interventions may be necessary for more complex problematic responses such as depression, panic and dissociation. There is a lack of empirical support for the use of any particular psychotropic medications in children with PTSD (March et al, 1996) but these may be effective in producing some symptom reduction in the seriously affected individual child/adolescent (Davidson & March, 1997).

Older adults

Assessment

Specific assessment of the individual's physical capacity and functioning, cognitive, behavioural and emotional functioning is crucial. Each of these dimensions must be assessed to identify the individual's internal strengths and weaknesses as well as external resources and social support (Massey, 1997).

- A comprehensive assessment is recommended when working with older adults. It is important to begin with a **complete physical history**.

- Assessing the **instrumental activities of daily living** further aids the interviewer with information about whether the older adult can: use the telephone, take public transport, shop and pay bills, do housework. Following a disaster it has been noted that it is these instrumental activities that are most impacted. It has been recognised that it is often hard for younger adults to carry out these activities without problems. It may be nearly impossible for older adults, especially for the isolated homebound elderly.

- **Cognitive functioning** must be carefully looked at by the clinician. Common stress symptoms include confusion, inability to concentrate, and memory impairment. With older adults, the same symptoms may be mistakenly diagnosed as dementia, Alzheimer's or acute confusional states. It is important to keep in mind that most problems and post-disaster symptoms are *normal* reactions to abnormal events.

- **Behavioural functioning**, which is similar to and may include instrumental activities of daily living, can be assessed for the ability to look for and use community resources.

- The **psychological-emotional functioning** of the older adult may be determined. You want to know if they are depressed, traumatised, actively suicidal, crying, stuck on repetition on some parts of the 'story', hearing voices, seeing things not seen by others. Are they more suspicious than they used to be? Is this fear keeping them from obtaining assistance? Are the feelings causing them to withdraw and be alone? etc.

Interviewing techniques

Professional caregivers need to be skilled and trained in working with the older adult population. According to Mitchell and Resnick (1986) some helpful suggestions for interviewing older adults include:

- Treat older adults with respect. Do not talk to them as though they are children. Use their name and proper title.
- Provide accurate information to allay fears.
- Be very mindful of physical complaints such as chest pain, aching arms and hands, and sore feet.
- Avoid medicating unless specifically indicated.
- Clarify what you are doing to help them and return frequently to update them.
- Be willing to provide practical assistance as well as emotional support for older people.
- Older adults have a sense of 'immediacy' about them. They are often demanding if they are overwhelmed with problems.

It is important to keep in mind that older adults often under-utilise disaster assistance. Some of the most effective ways to break down the barrier of fear are home visits, willingness to provide transportation, and asking the older adult what would be most helpful (Massey, 1997).

Interventions

Interventions with older adults must include providing comfort for the older survivor who needs to feel an emotional sense of caring from the caregivers. This is the stage in the process where time takes on particular importance. The older adult's feelings of being overwhelmed can be reduced by taking the time and care to break down the entire process into small steps and achievable goals (Massey, 1997).

However, it is important to remember that people who need help may not seek it. The older adult in particular may tend to rely upon informal support structures such as family, friends, and religious organisations. This reluctance to use formal assistance may

reflect a generational emphasis on independence and 'carrying one's own weight' and the stigma of 'public welfare' (Norris et al, 1994).

Given that older adults are generally reluctant to request assistance and do not seek out outpatient mental health services, a traditional 'office' approach in which clients are self-referred is not effective. Crisis intervention must assume a proactive approach in identifying those older adults in need of services. This may involve active casefinding and outreach services in the community. These **outreach efforts are most effective if they are linked to GPs and welfare services** and take the form of **assisting** older victims with the variety of **practical problems** arising during the impact period, such as needs for housing, medical care, material aid and social services (Norris et al, 1994).

Refugee and migrant populations

Assessment

Cunningham et al (1990) suggest the following strategies when caring for refugees who may be possible torture survivors:

- Arrange for an interpreter who is acceptable to the individual if appropriate.
- Identify the nature of the individual's complaints, their country of origin, date of migration, and residency status (those who are asylum seekers, refugees, or on Special Humanitarian Programmes are more likely to have been exposed to torture and trauma).
- Explain to the individual issues of confidentiality of the interview, and avoid writing down any notes that may be politically sensitive.
- When taking a history, avoid sounding interrogatory and preface all enquiries by explaining simply and clearly your purpose for asking questions.
- Focus on the individual's specific complaints but encourage them to share with you any other problems he or she may be experiencing. Individuals are often reluctant to volunteer information about their torture experiences but are likely to present with other complaints, often physical, mood related or social.
- Organise for an empathic and informed doctor to physically examine the individual if appropriate. The doctor should explain the purpose of each section of the examination and will need to take special care with any invasive techniques or potentially threatening instruments.
- Assist the individual with such practical needs as social welfare, housing, employment, social and leisure activities etc.

If the individual begins to open up and talk about his or her prior torture experiences, and these experiences appear to be central to their current psychological problems, then referral to or consultation with a specialised service for torture survivors is highly recommended.

Barriers to assessment may include (Silove, 1994):

- The refugee's desire to forget the past and correspondingly any posttraumatic symptoms which remind them of those events.
- Shame about actions or responses they manifested during torture or other traumatic experiences and fear that closely guarded secrets may be revealed.
- Suspicion of authority figures (including those from their own culture) who may represent further 'trouble' from the government or other agencies.
- Persistent fear of revealing any health problems which may jeopardise their residency status, employability etc, or which may interfere with applications for migration of other family members.
- Reluctance, based on memories of bureaucratic procedures in the past, to complete forms or to be subjected to systematic questioning.
- Fear of being stigmatised as having a psychiatric disorder which is regarded with particular shame in many cultures.
- In some cases, fear of health personnel because of ill-treatment or complicity in torture by such professionals in their home countries.

Interventions

The majority of refugees or migrants affected by disaster may be adequately managed by existing mainstream mental health services, with the assistance of interpreters and bicultural workers, if required.

It is important that services are sensitive to cultural issues and differences between cultures. For example, there may be strong cultural prohibitions in some groups against showing emotions, particularly for men who may fear breaking down in front of other family members or female therapists (Silove et al, 1991). It will be important for services to encourage the use of traditional means of coping, eg. working with traditional healers, supporting grieving rituals, and also to mobilise existing community support structures. It will be vital to establish partnerships with local community organisations and liaise with community leaders and religious leaders (Morris & Silove, 1992).

Specialist referral to services for survivors of torture and trauma may be required for a small number of refugees who may experience a relapse of psychopathology related to previous traumatic events (eg. torture), or for those who have numerous risk and vulnerability factors, eg. social isolation, poor English language etc (Silove, 1994).

Community-based interventions

Disasters may have a profound impact on community systems and institutions particularly if there is massive structural damage, large number of deaths or deaths of significant leaders, or repeated severe threat, as with complex emergencies. By their very nature all disasters place some strain on communities.

'Emergency organisation' may spontaneously arise in the disaster impact or immediate aftermath when local leaders of the affected community and the community itself mobilise the earliest levels of response, before outside help arrives. This 'emergency organisation' may be lead by natural leaders or by the recognised leadership of the community. The emergency or disaster response services take over to provide the necessary support but recognising and complimenting appropriate local action is important, especially in the recovery process.

Support for local organisations, including local government, recovery focussed groups, self-help associations and local leadership in affected communities can promote recovery and prevent disempowerment of those affected by disaster. Involvement of communities in their own recovery is paramount and this should include the management of community-based recovery processes including restoration or rebuilding utilisation of donated funds, decisions regarding memorials, testimony, and so forth.

Interventions should support personal and community strengths, enhance resilience, and build community capacity. Those providing mental health interventions may appropriately become involved, if invited or engaged to do so, and support psychosocial recovery. This may include advice regarding psychosocial aspects; prevention of scapegoating and splitting; identifying and supporting emergency needs; facilitating closure, and moving on.

It should be noted that the early responses of the community are frequently altruistic and affiliative – there is relief of those who have survived, lowering of social boundaries and a sense of special sharing between those who have been through 'the same thing'. This may include those who are rescuers from the outside. This positive phase is often known as the 'honeymoon' phase. Gradually, however, the realities of different experiences, loss, and the chronic stressors and distress that must be faced give way to anger, despair and the phase of 'disillusionment'. This may continue - to complicate recovery and even continue as a further or second disaster. However, for most individuals and communities this passes and the human strengths and community energies drive a renewal and moving on.

Longer-term follow-up

The magnitude of disaster-specific pathology can be managed in the early months. Ongoing problems can be linked to regular systems of mental health care provision. Nevertheless, as delayed-onset PTSD and other prolonged morbidity may appear, follow-up review at 6 and/or 12 months is likely to be helpful and can provide a more complete picture of disaster effects. Optimally however, while the effects of the disaster may have an ongoing impact, usual systems of care should provide the interventions and continuity needed.

A timeline summarising the various mental health interventions post-disaster has been included in the Appendix section.

CHAPTER 4: **Roles of Disaster Workers & Rescuers**

Summary of Key Points

- Disaster workers are usually emergency personnel, rescue or health professionals but may also include volunteers from many backgrounds.

TRAINING & PREPAREDNESS:

- Training, experience and prior exposure to stressful events have been associated with better outcome after a disaster.

STRESSORS OF DISASTER WORK:

- Stressors associated with disaster work may include exposure to toxic agents, high workload intensity, group stresses, and extensive exposure to the dead and dying. **Exposure to death**, especially of children has repeatedly been identified as a major stressor. The profound sensory stimulation associated with the dead, and **identification with** those who have died are significant stressors.

- **Frustration** at being unable to fulfil disaster roles may contribute to stress.

- Extreme **fatigue and physical exhaustion** are often present and seldom measured among disaster workers. Some groups perform their missions in hostile and toxic environments and require extensive protective clothing that may have additional physical demands.

Mitigation of stressors

- The effects of disaster may be mitigated through:
  - appropriate training
  - immediate preparation and briefing
  - working in teams
  - working in a buddy system with more experienced colleagues
  - ready availability of support on scene
  - limitation of shifts and breaks as required
  - clear roles and responsibilities

RISK FACTORS:

- Current research suggests that certain variables may be expected to affect the outcomes of rescue workers. These include, level of exposure, experience of high levels of severe incidents or disasters in close time frame, negative life events, age, spousal support, co-worker support, identification with the deceased and certain personality characteristics.

POST-DISASTER REACTIONS:

- Many of the reactions experienced by rescue workers will be similar to those of the general population. For example, studies have reported stress reactions, feelings of helplessness, high arousal, guilt, depression and posttraumatic stress symptoms.

- Numerous positive reactions are also commonly described among rescue workers. For example, sense of achievement and positive self-worth.

INTERVENTIONS:

- Follow-up and specialised counselling may be required for workers if they have persistent problems. Organisational backing is very important in this process as workers may fear they will be seen as inadequate for their jobs if they seek assistance.

Debriefing

- Critical incident stress debriefing (CISD) or other forms of debriefing have gained wide acceptance among field emergency workers, and are also used with hospital-based emergency personnel, military services members, public safety personnel, volunteers etc. There is no evidence that such interventions will prevent psychopathological problems and they may have a negative impact for some.

- CISD will not be appropriate for everyone and should never be mandatory.

Chapter 4 Roles of disaster workers & rescuers

Disaster workers are usually emergency personnel, rescue or health professionals but may also include volunteers from many backgrounds. These workers perform rescue, recovery, and cleanup operations after disasters, and they are exposed to long hours of work often under difficult conditions, are often exposed to mass death or gruesome scenes, and endure frightening or otherwise unpleasant surroundings (Delahanty et al, 1997).

Training & preparedness

Training, experience, and prior exposure to stressful events have been associated with better outcome after a disaster (Ursano et al, 1996; Weisaeth, 1989). For example, Hytten (1989) found that survivors of a helicopter crash reported that training allowed the survivors to remain calm and to appraise the situation despite extreme threat; this allowed them to pursue alternate escape routes when the initial routes were found to be blocked. Prior success in a similar training environment provided confidence that the actual experience could be survived. However, the magnitude of a disaster may exceed that anticipated in training exercises. Ersland and others (1989) reported the impact of trauma in rescuers at the site of an oil rig collapse. Professional rescue personnel, although trained to respond to disaster situations, found that the severity of the catastrophe was outside the realm of their training experience.

Experience has also been found to be a mediating variable in reactions to disaster. For example, McCarroll, Ursano, Fullerton & Lundy (1995) studied body handlers and found that the degree of anticipated stress related to the handling of dead bodies was significantly lower in those with prior experience. In comparing groups who handled and those who did not handle the remains of the dead from Operation Desert Storm, McCarroll et al (1995) found that those who were inexperienced in such tasks had significantly higher intrusion, avoidance and total Impact of Event Scale scores than did those with prior experience.

Other studies however, have found that previous traumatic experiences are linked to subsequent posttraumatic stress. Weisæth (1989) showed that firefighters who had experienced multiple stressors experienced more symptoms of posttraumatic stress than those who had experienced a single stressor. These findings are inconsistent with reports that negative adjustment following a disaster is associated with inexperience (eg.

McCarroll et al, 1993). The central issue is as to whether or not such stressors have been successfully dealt with and have lead to 'stress inoculation' or have lead to 'cumulative vulnerability'.

Stressors associated with disaster work

The most severe reactions are among those involved in **post-disaster body handling** (McCarroll et al, 1993; Ursano & McCarroll, 1990). Exposure to death and dead bodies, especially those of children, has repeatedly been identified as a major stressor. The profound sensory stimulation associated with the dead, and identification with those who have died are significant stressors. Both short- and long-term disturbances are seen. Inexperienced body handlers may have more symptoms. In this group, there is a significant correlation between the number of remains handled and the level of symptoms reported (Ursano & McCarroll, 1990). To cope with these stressors, rescue workers tend to avoid humanizing the remains by not looking at the face, not learning the names of victims, concentrating on the tasks at hand, and thinking of the benefits their work has on families and society. The coping use of denial, distancing, and intellectualisation is interpreted as use of natural defense mechanisms (Burkle, 1996). Alexander's work has shown that appropriate briefing and support processes, including informal or supportive debriefing, the use of a buddy system, and recognition of the role of humour, can all lessen stressor effects (Alexander, 2000).

Additional stressors

Several studies of military personnel in potential chemical and biological warfare (CBW) environments also provide some data about possible stressors (see Ursano et al, 1996).

Extreme fatigue and physical exhaustion are often present and seldom measured among disaster workers (Fullerton & Ursano, 1994). Some groups perform their missions in hostile and toxic environments and require **extensive protective clothing**, which may cause hyperthermia, nausea, claustrophobia and additional physical demands. They are exposed to **toxic agents**, high workload intensity, group stresses, and extensive **exposure to the dead and dying** (Fullerton & Ursano, 1990). Physical and mental fitness combined with the familiarity of the protective equipment is essential to minimise impact on workers. If the worker is not fit or is not familiar with the equipment, frustration and/or lack of confidence may place them at further risk. Low pre-stress anxiety and high social support during the trauma have been found to be protective from negative psychological effects of the high stress CBW environment. Firefighters, as well as chemical spill and radiation contamination cleanup teams, face these additional physical stressors (Ursano et al, 1996).

Mitigation of stressors

The psychological stress experienced by workers dealing with mass deaths may lead to significant short- and long-term effects for some. The effects of disaster and trauma may be mitigated through:

- appropriate training
- immediate preparation and briefing
- working in teams
- working in a buddy system with more experienced colleagues
- ready availability of support on scene
- limitation of shifts and breaks as required
- clear roles and responsibilities in line with personal and professional capabilities

(Emergency Management Australia, 1999).

Support integrated within the organisation in which workers are involved can prevent adverse psychological outcomes through such preparation, education, psychosocial support throughout the operation, and mechanisms for group or individual working through subsequently, as required. This may be provided to the team as a group, but individual specialist counselling should also be available. Information, support for families, official recognition and valuing of this work by managers all assist adaptation in the post-disaster period. Many workers, although finding the work distressing, feel positive about their skills and achievements and are prepared to do such work again (Alexander, 2000; Ursano & McCarroll, 1994).

Risk factors

Current research suggests that several variables may be expected to affect the outcomes of rescue workers. These variables include age, level of exposure, spousal support, co-worker support, and perceived threat (Marmar et al, 1996; McCarroll et al, 1996). Additionally, ethnicity or gender may be relevant. Frustration in the ability to fulfil tasks for which the individual is trained may be an added stressor, for instance, being unable to rescue or save lives.

Age

The literature suggests that older workers fare better than their younger counterparts. This observation may be due to the fact that older workers have additional experience that serves as a protective factor. Alternatively, it may be that older workers are more likely to hold administrative positions and, therefore are less directly exposed to certain

aspects of the disaster response. Finally, it may be that disaster workers have established more supportive networks (Nixon et al, 1999).

Emotional support

Emotional support is an important factor in any negative situation. Some studies have suggested that the source of the support may vary as a result of experience. For example, McCarroll et al (1996) reported that experienced body handlers were more likely to report the use of co-worker support, whereas less experienced participants reported a greater dependence on spousal support.

Exposure

Exposure is obviously implicated in a negative outcome. Consistent with studies of survivors (eg. Smith & North, 1993), level of exposure has been associated with negative outcomes of rescue and recovery workers in a number of disasters.

Specific aspects of the traumatic exposure have been shown to increase posttraumatic stress symptoms. These include:

- magnitude of the stressor (McCarroll et al, 1993)
- nature of the stressor (Ursano & McCarroll, 1994)
- exposure to victims remains (Ursano & McCarroll, 1990)
- failing to save immediate survivors (Fullerton et al, 1992)
- identifying with the victims (Ursano & McCarroll, 1994)
- an isolated working environment (Ersland et al, 1989)
- physical stress and fatigue (Fullerton et al, 1992)
- life threat or other potential harm to the disaster worker (Ersland et al, 1989)

Factors that may decrease this experience include:

- time to prepare for the specific disaster work (Alexander & Wells, 1991)
- worker training and experience (Ursano & McCarroll, 1994)
- social support (McCaroll et al, 1996)

Identification with the deceased

Identification with the deceased has been found to be a risk factor for PTSD and posttraumatic symptoms in disaster workers exposed to the dead. In a study conducted by Ursano, Fullerton, Vance & Kao (1999), 54 volunteer disaster workers who worked with the dead following an explosion on the USS *Iowa* naval ship were assessed 1, 4, and 13 months after the disaster. The results showed that disaster workers who reported

identification with the deceased as a friend were more likely to have PTSD, more intrusive and avoidant symptoms, and greater levels of posttraumatic symptoms including somatisation. Disaster workers who reported identification with the deceased as a family member had greater intrusive symptoms one month after the disaster than those who did not identify with the deceased. Conclusions were that identification with the deceased is a risk factor for PTSD and posttraumatic symptoms in disaster workers exposed to the dead. Identification with the dead as a friend is specifically associated with higher risk for these workers.

The results of this study indicate that identification is both common and frequent, occurring in almost 75% of disaster workers exposed to deceased victims. In addition, identification with the dead, particularly as a friend, is associated with higher rates of PTSD and greater intrusion, avoidance and somatisation, both acutely and over the long term (Ursano et al, 1999).

Personality characteristics

Emergency workers may bring particular personality characteristics and coping styles to their work (Marmar et al, 1996). They may be strongly drawn to action and to deny feelings or vulnerability and the ethos of their organisation may reinforce a 'macho' image that makes it difficult for them to acknowledge that they are distressed, or to seek help. Fear that workmates will see them as inadequate or that their career prospects will be adversely affected are the commonest reasons for distressed rescue workers not seeking professional support. The stresses of the disaster impact may also make workers more vulnerable to 'counter-disaster syndrome'. This is where a person may perceive their role as indispensable and be unwilling to take breaks or finish their shift, leading to diminished efficiency and possible burnout.

Hardiness, a sense of commitment, challenge and control, or dispositional resilience seems to be a protective personality style for many workers (Hodgkinson & Stewart, 1991). Coping styles that emphasise sharing problems with others, constructive use of humour, and use of social support, also appear to be helpful.

Mental health outcomes

Stress reactions

Various studies have identified the stress experienced by rescuers and other disaster workers. Raphael and associates (1984) conducted a one-month survey after an Australian rail disaster and found that the majority of rescue workers reported feelings of helplessness attributed to the magnitude of the destruction, exposure to sight and smell of mutilated bodies, contact with the anguish of relatives, and the need to work under

pressure. About 20% experienced stress-specific symptomatology. However, not all reactions experienced by disaster workers are negative. 'Positive' effects and reactions have also been reported following disasters. Some of these include a sense of achievement and positive self-worth and competence, enhanced camaraderie and mateship, increased self-efficacy and self-control, willingness to do similar work in the future, and a re-evaluation of life and family relationships in a positive way (Leffler & Dembert, 1998; Raphael et al, 1984).

Taylor and Frazer (1981) in a study of personnel involved in the recovery and identification of bodies after the Mt. Erebus air crash, reported that about one third of the workers experienced initial problems, one fifth had difficulties at three months and there was evidence of continuing distress for some workers at a 20 month follow-up.

McFarlane (1988) in a longitudinal investigation of the responses of volunteer fire fighters to the Ash Wednesday bush fire disaster, reported that 32% qualified as PTSD cases at four months, 27% at eleven months, and 30% at 29 months after the disaster. Negative life events antedating the fire were reported significantly more often in the persistent chronic stress group. Pre-disaster risk factors were more highly predictive of outcome than level of exposure, with greater neuroticism, avoidant coping style, and a history of prior treatment for psychological disorders predictive of poorer long-term outcome.

Fullerton et al (1992) reported on the psychological responses of fire fighters. They identified four dimensions of response: identification with victims, experiencing helplessness and guilt, fear of the unknown, and psychophysiological arousal.

Fullerton and Ursano et al (1996) found increased posttraumatic stress symptoms among dentists identifying the dead from the Branch Davidian fire in Waco, Texas, compared with local dentists not involved in this task. Ursano et al (1995) found that body handlers had more intrusive and avoidant PTSD symptoms and more hostility and somatisation than non-body-handling volunteers.

Marmar et al (1999) examined responses in 322 emergency services personnel to the Loma Prieta earthquake Interstate 880 Freeway collapse. Results showed that despite modest improvement at 3½-year follow-up, rescue workers were at risk for chronic symptomatic distress. These authors found that rescue workers, particularly those with more catastrophic exposure and those prone to dissociate at the time of the critical incident, were at risk for chronic symptomatic distress.

Interventions

Typically emergency services will have a well-established organisational process in place to ensure adequate adjustment to post-disaster stressors and difficulties. These processes are sometimes referred to as Critical Incident Stress Management (CISM).

CISM may be seen as an early opportunity to avoid later negative consequences. However, CISM techniques, such as defusings and debriefings, are NOT therapies and there is no evidence that they can prevent PTSD and other disorders from developing (Bisson & Deahl, 1994). Symbolically though, CISM and similar programs have been seen as important as they reflect the organisation's recognition and support of the needs of workers. It is clear that the highly stressful work faced by emergency personnel can have an impact (Ursano et al, 1996), thus it is important to provide workers with appropriate training, briefing, support and opportunities for psychological assistance if required.

Later follow-up and individual specialised counselling is likely to be required for workers if they have persistent problems (Ursano et al, 1999). There needs to be education about normal reactions to disaster, how to manage them and where to seek help, as well as adequate support and counselling services for workers who do become affected. Organisational backing is very important as workers may fear they will be seen as weak or inadequate for their jobs if they seek assistance. They need reassurance and support from management to do so (Raphael, 1993).

Appropriate training, including practical exercises, to prepare workers for the nature of their work as well as the technical aspects is important, as is the provision of stress management techniques. Briefing focussed on a specific incident, appropriate management of tours of duty and thus exposure, and support programs as required post-disaster set the framework for what is needed.

Debriefing

Critical Incident Stress Debriefing (CISD) was originally devised as a relatively rapid technique designed to alleviate stress symptoms and prevent burnout of rescue workers (Mitchell & Dyregrow, 1993). CISD has been developed only for use by emergency and rescue personnel and has been perceived as helpful by these groups, ie. groups that have been formally briefed for an operation. CISD or other forms of debriefing have gained wide acceptance among field emergency workers, and are also used with hospital-based emergency personnel, military service members, public safety personnel, volunteers, disaster survivors, and witnesses. However, while many emergency services continue to use CISD techniques these are frequently modified to suit the particular needs of the group, eg. peer support, links with other services. There is no evidence that CISD and other forms of debriefing will prevent psychopathological problems (Raphael & Wilson, 2000).

Indeed, **CISD is not appropriate for everyone and should never be mandatory**. This point is illustrated by a study conducted by Ørner and colleagues (2000) with 106 individuals from high-risk occupational groups (eg. police, fire services). They found that the majority were involved in deliberate adjustment strategies such as deliberate rest and relaxation, exercise, re-establishing routine and a sense of control in life. About 60% felt that CISD was not appropriate for them and by far the majority stated that they preferred to have contact with colleagues and peers after a critical incident. Whilst 85% of participants stated that they did usually talk about an incident afterwards, 15% said

they preferred not to. This indicates that a considerable proportion of emergency responders did not want to talk about the event and as such the underlying assumption among many early intervention strategies of 'uniformity of need' is not supported by these findings. Also, the majority of participants expressed the need to be given the choice of whether or not to receive CISD rather than it be imposed by organisational structure and well-meaning professionals.

Integrated Mental Health Management: Occupational Health & Safety

Many of the matters discussed above and the extensive reports of work with disaster and emergency workers can help form the basis for some general conclusions:

- Significant stressors occur in emergency work and may be associated with psychological morbidity for some workers (Mitchell & Everly, 2000).
- Appropriate preparation including education and training, participation in exercises, and briefing for incident response, are likely to be protective. Past experience is also helpful for the majority, although an accumulation of severe, recent and unresolved stresses may increase vulnerability.
- An integrated approach is likely to be helpful, for instance as a mental health component of an occupational health and safety program (Alexander, 2000).
- Team leaders may play a critical role for formal emergency response groups, providing opportunities for group discussion and review of the experience in situations where these groups have been briefed (Shalev, 2000; Weisæth, 2000). It is important that team leaders are mindful of mental health issues when conducting operational debriefing.
- Stress management programs may be of assistance, and some form of supportive debriefing as part of a stress management program may assist with more routine stressors but be less effective in preventing significant psychological morbidity.
- There is no evidence that debriefing can prevent PTSD and it may increase risk for some. For the majority it is unnecessary. It should **NEVER** be mandatory.
- An environment of recognition, valuing the contribution of workers, acknowledging their experience, respecting their individual coping styles and recovery processes, is likely, but not established, to be associated with more positive outcomes. Such an environment should recognise that some workers at some times, may naturally face personally overwhelming stressors. There should be a non-stigmatising process of access to skilled mental health assessment, evidence-based treatment and rehabilitation of such workers.

CHAPTER 5: **Disaster Mental Health Services**

Summary of Key Points

COUNTER DISASTER PLANNING & COORDINATION:

- Many countries will have national, state and local counter disaster policies and procedures in place. It is important for professionals who may be involved in disasters to be familiar with these and to review these periodically.

LIAISON WITH OTHER AGENCIES:

- There are a number of agencies designated as welfare organisations which will have complimentary roles in the post-disaster period. These include both government agencies (eg. Health Department), and non-government organisations (eg. Red Cross).

- Establishing cross-linkages between fellow professionals who have disaster responsibilities helps assure that appropriate physical and psychosocial resources are brought to bear in a timely fashion.

EMERGENCY & RECOVERY RESPONSIBILITIES:

- The provision of post-disaster psychosocial support, counselling and welfare services is conducted by a number of services.

PROFESSIONAL ROLES & RESPONSIBILITIES:

- Disaster site management is typically the responsibility of the emergency services, usually police, ambulance etc.

- Mental health responsibilities with respect to the disaster site, if it is appropriate for there to be attendance there (ie. site is secure and safe), may include, provision of general support and comfort to disaster affected persons; provision of psychological first aid; providing information about normal responses to disaster; triage; screening for acute stress reactions; keeping adequate records of all persons seen and interventions conducted, etc.

TRAINING & SUPPORT:

- It is vital that staff are well trained to function in difficult situations and are clear about both their roles and the likelihood of being exposed to disturbing sights and experiences.

- All mental health personnel involved in disaster mental health response must be familiar with their local, state, or national policies and procedures plans, have an understanding of the range of psychosocial responses and appropriate interventions, and have knowledge of the roles of other agencies.

- Practical exercises should be undertaken on a regular basis.

Changed work circumstances

- In a major disaster, mental health services may be delivered on site, at hospital emergency services, and in disaster relief and application centres, shelters, community centres, schools, religious centres, work sites or essentially wherever survivors and workers are. Mental health response requires the delivery of services in ways that differ from those typically delivered by mental health professionals.

Post-disaster worker skills

- Counselling following disasters involves a different pattern of relationship and work from traditional counselling settings where those affected present themselves as people with problems needing help from professionals.

- Teams should have members that have skills in helping children, the elderly, those in crisis or acutely stressed, those injured and those with ongoing physical illness and disability. Case review and supervision are important backup for staff in these settings, especially as they may themselves become stressed.

Counter-disaster syndrome

- The 'counter-disaster syndrome' is a relatively non-productive behaviour pattern sometimes seen in the emergency response and recovery phases. Here people are overactive, over-conscientious but with loss of efficiency. People may be unwilling to finish their shift, be over-involved and believe they are indispensable, even though their efficiency is in fact diminished.

DEALING WITH THE MEDIA:

- Communication with the public by print media and by television and radio is crucial in a disaster. There should be a policy for handling media requests for interviews with mental health professionals, whose messages must be consistent with ongoing events.

- Mental health professionals interviewed by the media have a powerful opportunity to facilitate the public's understanding of mental health issues and the roles of mental health workers.

Chapter 5 Disaster Mental Health Services

Counter Disaster Planning and Coordination

Many countries will have national, state and local counter disaster policies and procedures in place. It is important for professionals who may be involved in disasters to be familiar with these and to review these periodically. These plans may or may not include specific policies regarding disaster mental health response.

Liaison with other services

After a disaster, there may be a number of agencies designated as welfare organisations, which will have complimentary roles. These may include both government agencies such as the local health department and non-government organisations such as Red Cross. It is important that a spirit of cooperation and mutual recognition and support be maintained between these agencies and the mental health disaster response, and that any potential conflicts be resolved as soon as possible.

Establishing cross-linkages between fellow professionals who have disaster responsibilities, such as Red Cross, medical emergency counselling teams, police, clergy and colleagues on a state and national level, helps assure that appropriate physical and psychosocial resources are brought to bear in a timely fashion. Such linkages also provide an important early entry into the network of helpers, which is useful at all stages of a disaster, even before its occurrence. Collaborating in the preparation for mental health response to disaster begins to build a network that is more easily activated as the needs become clearer. Such advance planning permits the mental health professional to be on the scene as a tragedy or impending tragedy is being perceived. Prior planning also allows mental health workers to be part of the emergency response to the disaster from the onset (Green & Lindy, 1994).

Emergency and Recovery Responsibilities

In the event of disaster the provision of psychosocial support, counselling and welfare services is conducted by a number of organisations. The mental health organisational response to disaster comes from a number of different systems and primarily comprises two broad roles. These are:

1. **Emergency response role**: immediate response and of relatively short duration.
2. **Recovery response role**: longer-term and integrative process.

Professional roles and responsibilities

Many aspects of disaster are open to mental health intervention (Green & Lindy, 1994). Characteristics of the stressor event itself can be modulated: warnings can be more precise, and instructions may prevent trauma; news of traumatic loss can be buffered; and exposure to grotesque aspects of death and injury can be minimised. The recovery environment is also open to interventions from mental health professionals. Public education normalises early stress responses; media may combat negative attributions toward victims; mental health professionals may mobilise indigenous support networks and where needed, develop new disaster-specific support systems. The intrapsychic processing of the disaster experience is open to engagement via certain constructive activities, such as community memorials and mourning, and in providing a variety of therapeutic efforts (group, individual, family) where indicated. These potential roles vary depending on the dimensions of the particular disaster as well as the time-frame after the disaster. A summary of appropriate mental health intervention post-disaster has been included in the Appendix section.

Responsibilities

Mental health professionals may be responsible for providing mental health assistance on-site and off-site of major incidents/disasters. They need to assist the overall disaster response by collaborating with other services and working within a disciplined team structure. At all times, securing the site from further danger and providing emergency aid to physically injured survivors must take precedence over mental health interventions.

Roles

All disaster mental health workers should have appropriate training, including participation in disaster exercises. When deployed at disaster response sites, it is recommended that mental health response personnel work with appropriate focus of duty and have relevant breaks to ensure they are able to respond in a productive fashion.

Disaster site management

Most disasters result in a great deal of confusion and chaos. The first objective of all mental health response personnel should be to avoid adding to the confusion by being clear about roles and lines of command and operating within these commands.

Specific tasks at the disaster site may include:

- Providing psychological first aid.
- Aiding persons demonstrating acute severe disturbances of arousal, behaviour or cognition.
- Aiding persons at the direction of emergency workers, where the psychological state of the person may be inhibiting the rescue attempt (eg. trapped persons).
- Providing general support and comfort to those affected by the disaster.
- Collecting details of disposition of physically injured victims (for later mental health follow-up).
- Providing consultation to other services on strategies and tactics to minimise further distress.

Tasks at a recovery centre may include:

- Providing psychological first aid to those survivors affected but not physically injured.
- Screening for organic brain syndromes presenting as psychological reactions.
- Screening for acute stress reactions.
- Offering support to those bereaved by the disaster (this may be at the holding site or the morgue and conducted in collaboration with the team that operates this program routinely).
- Providing information about normal responses to disasters and about how to access mental health services.
- Coordinating the responses with sources of personal support (eg. Red Cross) as needed, ensuring that anyone in need of specialist mental health services is seen by the mental health response team.
- Keeping adequate records of all persons seen and interventions offered (for both follow-up and research purposes).

Disaster site equipment

Disaster site equipment may include:

- Helmet
- Overalls
- Solid sturdy shoes
- Gloves (latex gloves to avoid blood contact; leather gloves for protection/warmth)
- Mouth / nose masks (smell, protection)

- Ear plugs / muffs (noise)
- Sun protection (sunglasses, hat suncream)
- Identification

Clothing should be selected with regard to function and durability, degree of personal protection afforded and comfort. Protective clothing may be required if the targeting of mental health intervention is at the disaster site. If however, the disaster is reasonably contained and the main mental health response is away from the disaster site, then normal attire should suffice.

Training and support

An important part of preparation is to ensure that staff are well trained to function in difficult situations, and are clear about both their roles and the likelihood of being exposed to disturbing sights and experiences.

All mental health personnel who will be rostered to be part of the mental health response to disasters will require training and education in disaster management. At minimum they must:

- Be familiar with their state and local disaster health plans.
- Have an understanding of the role of mental health disaster response within the overall framework of health disaster response.
- Have an understanding and knowledge of the roles of other relevant agencies.
- Have an understanding of the full range of psychological responses to disaster.
- Have an understanding of appropriate evidence-based mental health interventions
- Have organisational and management skills.
- Have the ability to tolerate and work effectively as part of a team in a stressful environment.

Practical exercises, both of mental health services alone, and coordinated with other emergency services, should be undertaken on a regular basis. These exercises help to:

- Improve the coordination of the mental health response with other health and emergency service responses.
- Ensure that each local area has an adequate mental health response planning and training program.
- Ensure that mental health resources and facilities available within each local area are identified.

Changed work demands and circumstances

In a major disaster mental health services may be delivered on site, at hospital emergency services, and in disaster relief and application centres, shelters, community centres, schools, religious centres, work sites or essentially wherever survivors and workers are. Mental health response requires the delivery of services in ways that differ from those typically delivered by mental health professionals.

Help offered is more brief, more pragmatic, more directive, more focused on the external environment of the survivor and less centered around pathology. Moreover, the primary objectives and forms of mental health services change through the emergency, early post-impact, and restoration phases (Young et al, 1998). For example, during emergency on-site intervention the pragmatic needs of survivors are paramount and the establishment of safe and secure shelter is synonymous with good health care. Three weeks following the disaster, mental health services provided in community settings may be educational rather than psychotherapeutic, with the objective of increasing awareness of the impact of the event and strengthening ways to maximise coping. Prevention programs for those at higher risk may be mobilised at this time. Four months later, services for persistent symptoms provided in clinical settings may more closely resemble traditional assessment and treatment. Similarly administrative tasks change throughout the phases of disaster (Young et al, 1999).

Post-disaster worker skills

The worker needs to adapt their previous skills to be able to assist survivors to face and realise that their world has changed. This will necessitate a realisation that the survivor will need to act and make decisions so as to problem-solve day after day. Assisting the survivor emotionally by giving support and guidance the worker legitimises the healthy aspects of the survivor's coping capacity. This means that the survivor who is seen as a capable individual who will be able to reorganise their life is assisted with sensitivity, knowledge and respect.

The worker should have a clear focus regarding their intervention and appreciate the boundaries between post-disaster crisis counselling, mental health treatment and advocacy. Teams should have members that have skills in helping children, the elderly, those acutely distressed and in crisis, as well as those who are injured or ill, including the chronically ill. Although all members should be trained as generalist to have a common base of knowledge, the specialised skills will be necessary to address the needs of the different populations (Cohen, 1998).

Counselling following disasters involves a different pattern of relationship and work from traditional counselling settings where those affected present themselves as people with problems needing help from professionals. There is likely to be much greater identification with those affected, so clinicians may more readily find themselves overwhelmed and feel a need to withdraw, or alternatively may become too enmeshed in survivors' problems to be helpful. It is also vital that they do not erode the sense of independence and attempts at active mastery, but rather assist and facilitate these in non-intrusive ways, while at the same time pursuing goals of helping the person to

confront and integrate their experience. Case review and supervision are useful backup for counsellors in these settings, especially as they may themselves become stressed (Raphael, 1993).

In addition to the skills required for effective disaster mental health response, it is suggested that workers' attitudes can also play an important role. Among the attitudes that will be helpful to reinforce in the worker for effective assistance to survivors are the following (Cohen, 1998):

- Believes survivors are reacting normally to very abnormal situations. The manifestation of their responses is in most cases an expression of attempts to cope.
- Reaching out to survivors - outreach approaches are inherent of all efforts to find, contact and assist survivors.
- Capacity to avoid creating dependence on the worker and comfortable acceptance of the possibility of rejection or skepticism by the survivor.
- Accepting survivors as not seeing themselves in need of mental health services and for this reason not seeking out such services.
- Comfort by helping a survivor with practical concrete assistance to obtain resources.
- Ability to adapt the worker's usual behaviour to the cultural values of the survivor, and attending to their beliefs by paying attention to small details of social, traditional or religious practices.
- Ability to set aside usual methods of labelling emotions and behaviour according to clinical categories or mental health labels.
- Resisting the impulse to promise to supply all the needs of the survivor which will necessitate more resources and for a longer duration than available through the recovery programme.
- Capacity to assist survivors in understanding the scope and limits of the post-disaster counselling programme and recognising the sense of impatience or anger with the slow rhythm of bureaucracy.
- Capacity not to identify with the survivor's emotions, losing objectivity and unwittingly adversely affecting the survivors perception of the reality stemming from the trauma.
- Capacity not to lose focus or ability to respond appropriately in an ever-changing, confused and painful environment while being able to problem solve in an action oriented modality.
- Capacity to deal with rapid changes, edicts imposed by official governmental representatives, unclear lines of authority and shifting agency structures.
- Realistic expectations that individuals representing other agencies, eg. Red Cross, defense forces etc, have different goals, guidelines, approaches and mandates, and these in and of themselves may be as important and relevant as mental health interventions.
- Capacity to work respectfully and collaboratively with other agencies.
- Capacity to recognise and respond to broader community issues, both in the community and as they affect individuals.

Case review and supervision

Members of a mental health disaster consultation team, like other disaster workers, experience the stresses of the disaster. The reactions may be similar to those who suffer from traumatic stress, and in some cases, posttraumatic stress disorder: startle responses, flashbacks, social withdrawal, aggression, depression, sleeping problems and general stress reactions. At one time these reactions were known as 'burnout'. Now they are recognised as a special and more definitive form of burnout known as 'compassion stress' or 'compassion fatigue' (Figley, 1995).

The team leader must stay alert to the signs of stress in the team to maintain its health and functioning. Team leaders regulate the working hours and ensure adequate rest and respite for team members and themselves. Excessively long work hours are to be avoided if at all possible. Dedication to the mission is important, but overdedication - working extraordinarily long hours or exposing oneself to extreme psychological and physical suffering - is a problem (Ursano et al, 1995). It is useful to alert team members to the potential for overdedication. Since recognising overdedication in oneself can be difficult, training should emphasise 'buddy care'. Behaviours that suggest overdedication include skipping meals, working well beyond the end of a shift, providing others opportunities to rest yet not availing oneself of similar respite, and comparable patterns of ignoring physical and emotional limits. The team leader must recognise that asking a team member to take time out may cause them to feel devalued but may be necessary.

'Counter-disaster syndrome'

The 'counter-disaster syndrome' is a relatively non-productive behaviour pattern sometimes seen in the post-disaster and recovery phases. Here people are overactive, over-conscientious but with loss of efficiency. Bustling activity of a purposeless nature is characteristic of this syndrome. People may be unwilling to finish their shift, be over-involved and believe they are indispensable, even though their efficiency is in fact diminished (Raphael, 1993). This behaviour should as far as possible be prevented by clear lines of responsibility, tours of duty and personal awareness. If this develops, workers should ensure the support and 'stand down' of relevant persons in a non-stigmatising way.

Dealing with the Media

Communication with the public by print media and by television and radio is crucial in a disaster. There is a policy for handling media requests for interviews with mental health professionals, whose messages must be consistent with ongoing events. All media management should be coordinated with clear and consistent messages. Bearing these issues in mind, if interviews are given it would not be helpful, for example, to tell the public that the danger is minimal if, at the same time, they are watching television footage of armed security forces in full chemical or biological protective clothing. Trust

and credibility are key components of communication regarding environmental risk (Di Giovanni, 1999).

Mental health professionals interviewed by the media have a powerful opportunity to facilitate the public's understanding of mental health issues and the roles of mental health workers. The media can be used to disseminate important information, such as expected psychological responses to the disaster and agencies that are providing services (Aguilera & Planchon, 1995). Messages should encompass the normalcy of reactions and emphasise that recovery will occur for the majority of those affected. Carefully constructed descriptions of expectable reactions, such as sleep difficulty, irritability, and difficulty concentrating, provide a framework for survivors to understand and anticipate likely reactions, which may help to decrease fear about emotional responses and also may help survivors identify friends or family members who may be in need of professional help (Green & Lindy, 1994).

An important issue to consider in any disaster is the assignment of a person or persons to talk to the media, as the media will have an inevitable presence following any large-scale incident. Unfortunately, some mental health professionals in this situation may lose judgment or accuracy, because media interviews can be anxiety-provoking as well as intoxicating, hence, media interviews can produce statements that would not ordinarily be made. Such effects may also relate to the novice or inexperienced mental health responder who unexpectedly finds themselves under the glare of television lights and who exaggerates situations or in other ways loses a professional stance, such as giving unauthorised statements regarding survivors (Aguilera and Planchon, 1995).

The broader issue of interviewing those who have survived or the families of survivors may be a double-edged sword. Depending on the context, media presence can be an unwanted intrusion on a survivor or an opportunity to ventilate and receive social acknowledgment and support through a voluntary interview (Aguilera and Planchon, 1995).

Media management is a specialised role, and must be coordinated by the appropriate body, as indicated above.

APPENDIX A. References and recommended readings

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APPENDIX B. Disaster-related web sites

Australian

Emergency Management Australia (EMA)
http://www.ema.gov.au

NSW State Emergency Management Committee
http://www.oes.nsw.gov.au/Semchome.htm

NSW SES
http://www.ses.nsw.gov.au

Victorian SES
http://www.ses.vic.gov.au

Australian Red Cross
http://www.redcross.org.au

Australian Red Cross NSW
http://www.nsw.redcross.org.au

Natural Hazards Society
http://www.es.mq.edu.au/nhrc/nhs

FireNet Information Network
http://online.anu.edu.au/Forestry/fire/Firenet.html

International

Emergency: A Guide to the Emergency Services of the World
http://www.catt.rmit.edu.au/emergency/es-index.html

U.S. Department of Health and Human Services
Center for Mental Health Services
Emergency Services and Disaster Relief Branch
http://www.mentalhealth.org/emerserv/index.htm

The Federal Emergency Management Agency -- FEMA
http://www.fema.gov

The Global Health Disaster Network
http://hypnos.m.ehime-u.ac.jp/GHDNet

Disaster Central
http://www.promit.com/discent.htm

The World Association for Disaster and Emergency Medicine
http://hypnos.m.ehime-u.ac.jp/GHDNet/WADEM/index.html

Internet Disaster Information Network
http://www.disaster.org

The Disaster Relief website
http://www.disasterrelief.org

International Federation of Red Cross and Red Crescent Societies
http://www.ifrc.org

American Red Cross
http://www.crossnet.org

World Health Organisation
http://www.who.ch

Disaster Mental Health Institute – University of South Dakota
http://www.usd.edu/dmhi

Em-Dat: The OFDA/CRED International Disaster Database
http://www.md.ucl.ac.be/cred/welcome.htm

The Virginia Disaster Stress Intervention Site
http://cep.jmu.edu/vadisaster/links.htm

Disaster Mental Health Services: A guidebook for clinicians and administrators
National Center for PTSD
http://www.ncptsd.org/DMHS_Contents.html

APPENDIX C. Disaster mental health intake form

INTAKE CENTRE		RECORD NO.		TIME & DATE:	
FAMILY NAME	**GIVEN NAME**		**D.O.B.**	**AGE**	**SEX**
USUAL ADDRESS		**POSTCODE**	**PHONE**	HOME: WORK: MOBILE:	
CURRENT ADDRESS (if different from above**)**					
GP DETAILS			**PHONE**		
CHILDREN/DEPENDANTS OF CLIENT (names and whereabouts**)**					
IF CLIENT A CHILD : accompanied by ❑ parent / primary carer ❑ other appropriate carer (specify:) ❑ care needs to be arranged					
NEXT OF KIN / PERSONS FOR NOTIFICATION **1.** **2.**	**CONTACT DETAILS** (Include Phone No)		**NATURE OF RELATIONSHIP**		
ETHNICITY	**INTERPRETER REQUIRED** ❑ YES ❑ NO		IF YES INDICATE **LANGUAGE REQUIRED**		
REFERRED BY **NAME** **PHONE**	**POSITION**		**AGENCY**		

INVOLVEMENT IN DISASTER: *Include details of any significant trauma or loss and also length of time since disaster occurred.*

- ❑ Head injury
- ❑ Physical injury: *type* …….
- ❑ Exposure to environmental hazards (eg noxious fumes) *specify*:
- ❑ Personal life threat
- ❑ Witness to horrific scenes
- ❑ Life threat to significant other
- ❑ Death of significant other
- ❑ Other significant loss (eg house, financial) *specify*:

RELEVANT MEDICAL AND PSYCHIATRIC HISTORY: *Include routine medications and previous history of trauma.*

Client's perception of external supports ❑ good ❑ poor

PRESENTING CONDITION:

AROUSAL : (high)
- ❑ fearful
- ❑ irritable
- ❑ restless
- ❑ anxious

OTHER (*specify*)

BEHAVIOUR : (highly disturbed)
- ❑ disruptive
- ❑ withdrawn
- ❑ aggressive
- ❑ dangerous to self

COGNITION : (impaired)
- ❑ derealization
- ❑ confused
- ❑ disorientated
- ❑ numbing of feelings

INTERVENTION
- ❑ none
- ❑ general support
- ❑ psychological first aid
- ❑ specialised mental health treatment

DISPOSITION
- ❑ home
- ❑ welfare / recovery centre
- ❑ other temporary accommodation
- ❑ other (*specify*)

MENTAL HEALTH FOLLOW UP PLAN
- ❑ none
- ❑ temporary disaster MH program
- ❑ general MH services
- ❑ psychiatric admission
- ❑ medical review organic disorder
- ❑ GP
- ❑ other (*specify):*
- ❑ *URGENT* ❑ *NON-URGENT*

INFORMATION TAKEN BY - NAME: _____ SIGNATURE: _____
POSITION TITLE: PHONE NO.

Please use reverse of document for any further details

ADDITIONAL DETAILS:

FOLLOW-UP PLAN:

APPENDIX D. Example of educational handout

An example of an educational handout for survivors of traumatic experiences and their families is published as part of the following reference:

Foa, E.B., Davidson, J.R.T. & Frances, A. (1999) Expert consensus guideline series: treatment of posttraumatic stress disorder. *Journal of Clinical Psychiatry, 60, (suppl. 16),* 4-76.

APPENDIX E. Assessment Tools

Acute stress disorder measures

Clinician-Administered Measures
Two clinician-administered measures of ASD have been proposed. These measures have the advantage of using clinician's experience in the assessment of ASD rather than relying on trauma survivors' self-reports. They share the limitation however, of relating to diagnostic criteria that have not yet been strongly validated (Bryant & Harvey, 2000).

- *Acute Stress Disorder Interview (ASDI)*

  The ASDI (Bryant, Harvey, Dang & Sackville, 1998) is the only structured clinical interview that is validated against DSM-IV criteria. The ASDI satisfies standard criteria for internal consistency, construct validity, and test-retest reliability. The identification of 91% of trauma survivors who were clinically diagnosed with ASD and 93% of those who had not been diagnosed with ASD, suggests that it is a sound measure to identify those individuals who meet criteria for this disorder. The main advantage of the ASDI is that it is user-friendly and can be administered quickly. These qualities are often necessary when conducting an assessment in the acute trauma setting. The main disadvantage of the ASDI is that it lacks ordinal ratings of each symptom. Accordingly it does not provide ratings of severity or frequency of each symptom.

- *Structured Clinical Interview for DSM-IV Dissociative Disorders (SCID-D)*

  The SCID-D (Steinberg, 1993) has been offered as a structured interview for ASD. This interview was developed to diagnose dissociative disorders, and it has been subjected to extensive evaluation in this context. However, although the SCID-D is a valuable tool for assessing dissociative disorders, its heavy emphasis on dissociative pathology is offset by a relative neglect of reexperiencing, avoidance, and arousal symptoms. More importantly there are currently no data concerning the utility of the SCID-D in identifying people who meet criteria for ASD.

Self-Report Measures
Self-report measures are descriptive indices of ASD symptoms that individuals complete. It should be understood that self-report measures are NOT diagnostic. Their advantages are that they are simple and time-efficient to administer, and often permit severity ratings. Accordingly, they can be useful to index symptom severity pre- and post-treatment. There are currently two self-report measures available for the assessment of ASD however both need further validation with a wide range of trauma populations (Bryant & Harvey, 2000).

- *Stanford Acute Stress Reaction Questionnaire (SARCQ)*

  The original SARCQ (Cardena et al, 1991) was a 70-item self-report inventory that indexed all of the ASD symptoms. More recently the SARCQ was refined to a 30-item questionnaire that indexes specific ASD symptoms (Stam, 1996). The major disadvantage of the SARCQ is that it has not been validated against clinician diagnoses of ASD. Accordingly, it is uncertain at this stage how accurately this measure can identify those people who meet criteria for ASD.

- *Acute Stress Disorder Scale (ASDS)*

  The ASDS (Bryant, Moulds & Guthrie, 2000) is a self-report measure that is based on the same 19 ASD symptoms contained in the ASDI. Each item is scored on a 5-point Likert scale (1=not at all, 5=extremely) and describes the extent to which the respondent is currently experiencing ASD symptoms. This instrument possesses sound psychometric properties and has reasonable predictive ability in identifying trauma survivors who subsequently develop PTSD (ie. 91% sensitivity).

Posttraumatic stress disorder measures

Some of the most commonly used measures to assess PTSD are briefly described below. For a more comprehensive review see Wilson & Keane (1997).

Clinician-Administered Measures

- *Structured Interview for DSM-IV (SCID-IV)*

  The PTSD module of the SCID (Spitzer et al, 1996) is the most widely used clinical interview across a range of traumatised populations. One of its advantages is that it provides a comprehensive assessment of the comorbid disorders that can be present in traumatised populations. The SCID-IV has good reliability across clinicians and possesses sound sensitivity and specificity for diagnostic decisions (Kulka et al, 1990). The SCID-IV is limited however, because it indexes the presence, absence, or subthreshold presence of each symptom. Accordingly, it does not permit measurement of changing severity of PTSD. This limits the utility of the SCID-IV in measuring trauma adjustment after treatment.

- *Clinician Administered PTSD Scale (CAPS)*

  The CAPS (Blake et al, 1990) was designed to index the frequency and severity of each symptom and was intended to be used by clinicians and nonclinicians. It indexes both the 17 primary symptoms of PTSD as well as 8 additional items that index associated features (including guilt, depression and hopelessness). Each scale

has clear anchors for both the frequency and severity ratings. The CAPS has credible psychometric properties (Weathers et al, 1992). The CAPS has a very good reputation among clinicians and researchers. Its main flaws are that is has yet to be strongly validated in civilian populations and that it requires considerable time to administer.

- *PTSD Symptom Scale Interview (PSS-I)*

  The PSS-I was developed to assess the severity of PTSD symptoms over the preceding two weeks (Foa et al, 1993). The items are based on the symptoms listed in DSM-III-R criteria. Its psychometric properties are acceptable and it has good inter-rater reliability for diagnosis and symptom severity. The disadvantages of this scale include its validation being limited to female assault victims, the absence of clear anchors, and the unavailability of lifetime diagnoses (Newman, Kaloupek & Keane, 1996).

- *Diagnostic Interview Schedule (DIS)*

  The PTSD section of the DIS (Robins et al, 1981) has been primarily used in epidemiological studies. A subsequent version of the DIS also included a Disaster Supplement (DIS/DS) which has been used in a number of community studies (Robins & Smith, 1983). The DIS was developed to be administered by trained technicians as opposed to mental health professionals. Accordingly, it is simple to administer. The main disadvantages of the DIS are that it uses a dichotomous scoring system, requires the respondent to link each symptom to a specific traumatic event, and has questionable psychometric properties.

Self-Report Measures

- *Posttraumatic Diagnostic Scale (PTDS)*

  The PTDS (Foa et al, 1997) is a 17-item checklist that corresponds to each of the DSM-IV criteria for PTSD. Each symptom is rated on a 4-point scale in terms of its frequency over the past month. It also includes useful measures of the traumatic event and impairment level. The main advantages of the PTDS are its correspondence to DSM-IV criteria, its validation with a range of trauma populations, and its rating format for each symptom.

- *Davidson Trauma Scale (DTS)*

  The DTS (Davidson et al, 1997) is also a 17-item scale that measures each DSM-IV symptom. Items are completed on 5-point scales that index both frequency and severity of each symptom. The scale was validated with a range of combat and civilian trauma populations and has good psychometric properties. One disadvantage of the DTS is that whereas it asks about intrusive and avoidance symptoms with reference to the traumatic event, numbing, withdrawal, and hyperarousal items are rated without linking these responses to the traumatic event.

- *Mississippi Scale for Combat-Related PTSD*

  The Mississippi Scale for Combat-Related PTSD (Keane et al, 1988) was conceptually based on DSM-III-R and consists of 35 items that are scored on a 5-point scale. It possesses sound psychometric properties, has good sensitivity and specificity relative to SCID diagnoses, and is one of the most commonly used self-report measures of PTSD. This scale does not include all the diagnostic items, however, and this represents one disadvantage in using it to make diagnostic decisions.

- *Civilian Mississippi Scale*

  The Mississippi Scale for Combat-Related PTSD was modified by Vreven et al (1995) to apply to civilian populations. Unfortunately this scale did not perform well in that its convergent validity was poor and it correlated more strongly with general psychopathology measures than with PTSD. Accordingly the Revised Civilian Mississippi Scale (Norris & Perilla, 1996) was developed to contain 30 items that were more focused on PTSD. Initial data indicate that this scale has good psychometric properties. More data is needed to fully determine it psychometric properties.

Bereavement assessment tools

- *Texas Inventory of Grief (TRIG)*

  The measure most widely used to assess bereavement has been the Texas Inventory of Grief (TIG) and its revised form, the Texas Revised Inventory of Grief (TRIG; Faschingbauer et al, 1987). This measure has been criticised however for not allowing the respondent to grade either the frequency or severity of a particular symptom behaviour or emotion.

- *Grief Experience Inventory (GEI)*

  Another significant measure is the Grief Experience Inventory (GEI; Sanders, 1980) which was developed systematically and used to compare groups with different bereavements (eg. parent, adult child, and spouse). The domains covered by this measure are despair, anger, guilt, social isolation, loss of control, rumination, Depersonalisation, somatisation, and deep anxiety, as well as some additional scales of denial, social disability, atypical response and 'research scales'.

- *Other measures*

  There have also been a number of scales developed to deal with particular areas of grief, for example, prenatal grief (Toedter et al, 1988) and suicidal bereavement (Barrett & Scott, 1989).

Problems with the aforementioned measures are the difficulties of identifying the specific core phenomena of grief/bereavement and the relationship of these to other groupings of phenomena, such as posttraumatic stress reactions, anxiety, depression and so forth. Furthermore, many have not provided measures that have been developed and tested on populations of 'normally' bereaved people in the community.

- *Core Bereavement Items (CBI)*

  Middleton and colleagues (1998) explored the development of a measure of core bereavement phenomena and developed two conceptually overlapping scales. The Core Bereavement Items (CBI; Burnett et al, 1997), and the Bereavement Phenomenology Measure (BPM). The CBI contains 17-items which measure the frequency of commonly occurring responses to the loss of a loved one. The major dimensions of the CBI comprise three factors: *Images and Thoughts,* with seven items of cognitions of the person who is lost, *Acute Separation,* with five items, including yearning and focusing on the lost person, and *Grief,* with five items of affective response to reminders of the lost person, including sadness. The other scales include: sense of presence, dreams about the deceased, nonresolution, personal resolution.

  The CBI has an alpha reliability coefficient of 0.91 (Burnett et al, 1997). The alpha coefficients for each of the three subscales are 0.74 (Images and Thoughts); 0.77 (Acute Separation); and 0.86 (Grief) (Middleton, 1996; cited in Burnett et al, 1997). The CBI has good face validity, and satisfactory discriminant validity.

These measures have been shown to have high reliability and validity and discriminate between different groups of bereaved people and show identifiable change over time following the loss. They provide systematic measures to assess acute and chronic reactions to loss. These phenomena may then be measured alongside the measurement of traumatic stress, with measures such as the Impact of Event Scale (IES; Horowitz et al, 1979) or other measures of traumatic stress phenomenology. Traumatic bereavement will encompass using both measures and distilling out the relevant patterns of each over time (Raphael & Martinek, 1997).

Acute stress reactions assessment tools

- *Dissociative Experiences Scale (DES)*

  The DES (Bernstein & Putnam, 1986) is the most popular measure of dissociative experiences and has been used very widely in studies of trauma-related dissociation. This scale has been shown to have good psychometric properties. However, critical reviews of the DES have suggested that the extent to which it indexes dissociation is influenced by respondents' perceptions of the purpose of the questionnaire and their level of general psychopathology. Moreover because there are no general population

norms of the DES, it is difficult to interpret the meaning of elevated scores (Briere, 1997).

- *Peritraumatic Dissociative Experiences Questionnaire (PDEQ)*

  The PDEQ (Marmar et al, 1994) was developed to index dissociative responses during and immediately after a trauma. It consists of ten items that index depersonalisation, derealisation, and amnesia. In reviewing the studies that have used the PDEQ, Marmar (1997) concluded that the scale has acceptable internal consistency, reliability and validity. Most impressively, in a prospective study Shalev et al (1996) found that PDEQ scores 1 week after the trauma predicted symptomatology 5 months later.

- *Clinician-Administered Dissociative States Scale (CADSS)*

  The CADSS has been recently developed to provide a structured interview for trauma-related dissociation (Bremner et al, 1997). The CADSS has been shown to have good interrater and sound construct and discriminant validity. The CADSS has much potential to assess posttraumatic dissociative symptoms because it provides the clinician with a structured interview to assess both the individual's subjective experience of dissociation and the observer's perceptions of behaviour that is indicative of dissociation.

- *Impact of Event Scale (IES)*

  The IES (Horowitz et al, 1979) has been used to index intrusive and avoidance symptoms in the acute posttraumatic phase. The IES is a 15-item inventory that comprises intrusion and avoidance scales, has been shown to correlate with PTSD and possesses sound psychometric properties. The IES is probably the most popular index of the intrusive and avoidance symptoms of PTSD. To address the omission of arousal symptoms, Weiss & Marmar (1997) developed the IES-Revised (IES-R) which added seven items pertaining to hyperarousal. Studies to date indicate that the IES-R possesses good internal consistency and test-retest reliability.

- *Beck Depression Inventory – 2 (BDI-2)*

  The second edition of the BDI (BDI-2; Beck et al, 1996) is a 21-item self-report measure of depressive symptoms. Its items are based on DSM-IV descriptions of depressive disorders, and each item is scored on a 4-point scale. The BDI-2 possesses very strong psychometric properties. Its scoring criteria permit respondents to be classified as reporting minimal, mild, moderate, or severe depression.

- *Spielberger State-Trait Anxiety Inventory (STAI)*

  The STAI (Spielberger et al, 1983) indexes both state and trait anxiety. This instrument contains 40 items and measures levels of anxiety experienced 'at the moment' (state) and 'generally' (trait). It possesses good psychometric properties.

- *Symptom Checklist-90-R (SCL-90-R)*

  The SCL-90-R (Derogatis, 1983) is one of the most commonly used self-report instruments in research on natural and human-made disasters. The SCL-90-R is a measure of general distress. It has scales that are highly interrelated and a global index that provides an excellent measure of overall distress but may not be particularly specific. It has excellent norms, provided by the author, on large samples of nonpatients and patients. The scale has two disadvantages however. First the measure is copyrighted and must be purchased by the author, therefore it may be less accessible for some studies. Second, the authors will not allow the instrument to be translated into other languages. Because much of disaster research occurs in non-English speaking countries, this is a major disadvantage.

- *General Health Questionnaire (GHQ)*

  The GHQ (Goldberg, 1972) is used frequently in countries other than the US for trauma and disaster research. It has several versions (60-item, 28-item and 12-item) and is recommended as part of a standard battery to be administered following disaster events (Raphael et al, 1989). This instrument was used to screen for PTSD cases in a study by McFarlane (1988) but was not evaluated directly against diagnoses made using structured interviews, so its predictive accuracy is uncertain.

APPENDIX F. Timeline of mental health interventions post-disaster

This is a timeline of the types of responses and interventions that mental health professionals will typically be engaged in following a disaster. In all settings the overriding principle guiding mental health intervention is **FIRST DO NO HARM**.

- Decisions regarding **attendance** at a disaster site should be made between the State HSFAC and the State Mental Health Controller.

- **Consultation / liaison** is a major part of mental health disaster response.

- **Acute mental health interventions:**

    - Implement **Psychological First Aid** techniques.
        - comfort, ensure safety, provide information and practical support
        - observe ABC (arousal, behaviour, cognition) and respond to normalise these or triage
    - Provide **support** (eg. bereaved people viewing dead bodies).
    - **Triage** (eg. acutely aroused or distressed, disturbed mental state, cognitive impairment, disturbed behaviour etc.)

- Offer contact, **outreach** and follow-up if indicated.

- Allow for **initial adaptation** and adjustment to disaster stresses (about 2 weeks).

- Identify people at **increased risk** of developing post-disaster psychopathology.

    - **screening** (through use of generic forms and self-report measures)
    - clinical **review** if indicated (eg. very high arousal, behavioural disturbance, cognitive impairment)
    - comprehensive mental health **assessment** for symptomatology and specific syndromes

- Refer for **follow-up** and specialised treatment if indicated.

- Fold disaster mental health response back into usual mental health services.

• Do **not** conduct psychological or critical incident stress debriefing. • Supportive debriefing may be provided, but only if natural group processes indicate this is appropriate.