DISASTER MENTAL HEALTH NURSING

**IMPLICATIONS FOR DISASTER PREPAREDNESS
AND PRACTICE IN NEW ZEALAND**

BY

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ABSTRACT

Disaster mental health care is now a recognised nursing specialty in many countries, including Australia, Sweden and the United States of America (Raphael & Meldrum 1993). Despite compelling international literature on the benefits of disaster mental health response, (Myers 1993, Speier 1995), New Zealand has not followed these trends recognising the importance of such health care. Disaster mental health care is conspicuously absent in any meaningful form within our current health system.

The majority of Crown Health Enterprise (CHEs), including Capital Coast Health Ltd and MidCentral Health Ltd preparedness plans imply only that mental health services will respond. Unfortunately, the plans say little of how these services are to be met or what is required in terms of knowledge, skills and resources to meet these objectives. The focus of disaster management in New Zealand is trauma orientated, directed towards the surgical, physical and medical needs of casualties. In his experience (Burkle, 1996) argues that triage and disaster management plans, for the most part, fail to include in their classifications the primary casualty who also suffers acute psychological consequences of the physical trauma. New Zealand has experienced many memorable disasters that would seem to have been forgotten in the planning of health care, especially in relation to mental health care needs, both at the national and local service level of planning.

The aim of this literature review is to inform the reader regarding knowledge of disaster health care issues such as understanding the impact, public health effects,

clinical implications, interventions and the issues, problems and challenges that nurses in New Zealand can learn about mental health disaster preparedness and response.

The ultimate goal of this review is to contribute towards the development and implementation of national health care standards and guidelines, focusing on the mental health aspects of disaster care in New Zealand.

The framework chosen for this literature review is a combination of epidemiologic public health and service issues, rather than focusing on a singular nursing framework. This is intentional because in New Zealand, mental health nursing is hugely undeveloped or in the main, absent in this area. The frameworks used are expected to inform nursing in the professional provision of disaster mental health care.

The rationale for the combination of frameworks used is that disasters affect a community in numerous ways and are considered a public health problem (WHO 1980). Noji (1991) points out that surveys have shown that each kind of disaster has its own common epidemiologic profile and pathologic characteristics. This is crucial in planning and in designing and implementing prevention activities. Within an epidemiologic framework, follow-up studies can assist in identifying risk factors for nurses that would serve as the basis for planning strategies in preventing or reducing impact related morbidity in future disasters. Practical applied and operational research can be useful for nurses in planning public health responses to future disasters. Within this framework it also provides nurses with information useful for client care and developing appropriate mental health relief response.

Ideally, the disaster mental health team should be inter-disciplinary and multi-skilled professionals. Disaster mental health nursing within inter-disciplinary teams is now a well recognised, but still developing specialty in overseas literature, (Myers 1993; Raphael & Meldrum 1993). This literature review supports an interdisciplinary approach as the preferred way of how nursing would fit within disaster mental health care.

It is envisaged that the resulting discussion and recommendations form the background for further clinical research and/or background towards formulating health care policies and standards in regards to all aspects of service and professional provision of disaster mental health care in New Zealand, including nursing. It is imperative that both readers and health policy planners alike are challenged into assisting with frameworks in the areas of preparedness planning, recruitment, training and other local and national relief efforts of various professional groups and disaster service organisations. There is an expectation that all services will respond in a disaster, including mental health. The current reality is that when the next disaster does strike, the public of New Zealand could be failed.

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ONLY AS MUCH AS I DREAM

Only as high as I reach can I grow;

Only as far as I seek can I go;

Only as deep as I look can I see;

Only as much as I dream can I be.

Dorothy Novello (1993)

SECTION ONE CONTEXT AND BACKGROUND

A 1993 publication by the International Federation of Red Cross reports that between 1967 and 1991, 7766 disasters worldwide were reported. These events killed more than 7 million people and affected nearly 3 trillion. Closer to home in New Zealand, in the late 1980's, the Bay of Plenty region suffered a major earthquake causing widespread disruption to surrounding communities; Wellington Trades Hall bombing mid 1980; Palmerston North aviation crash 1996; Mt Ruapehu erupted with the potential for mass devastation and evacuation in 1996; and more recently in 1997, the Raurimu massacre.

In 1989 the United Nations General Assembly, as cited by Kalayjian (1994:533) adopted a resolution declaring the 1990's "The International Decade for Natural Disaster Reduction", with the World Health Organisation (WHO) endorsing this resolution in 1990. Within New Zealand, individual Crown Health Enterprises (CHEs) have responded by formulating disaster preparedness plans, as have local city councils, in conjunction with civil defence. However, these plans in the main, focus on formulating procedures in response to a major emergency or civil defence disaster involving mass casualties. The plans focus mainly on roles and responsibilities, co-ordinating centres, communications and essential services. mental health needs are not specifically addressed within these plans of disaster preparedness. The preparedness is usually restricted to the response of the disaster impact only.

Recovery, including both short and long term mental health strategies and interventions, would appear to be absent.

The focus of disaster management in New Zealand is usually directed towards the surgical, physical and medical needs of casualties because our emergency service systems are currently trauma orientated. Burkle (1996) also argues that in his experience, triage and disaster management plans, for the most part, fail to include in their classifications the primary casualty who also suffers acute psychological consequences of the physical trauma, or the person who suffers psychological signs and symptoms alone, without physical trauma. In addition, most plans fail to address other victims such as bereaved or depressed friends and relatives or those rescue workers who present either acutely or over time, with symptoms suggestive of post-traumatic stress.

Currently in New Zealand when disaster or mass trauma occurs, Victim Support Services become involved. This is a voluntary organisation whose aim is to deal with the impact of the crisis at that time only. Victims requiring mental health support and/or treatment both during and post crisis, are referred to mental health services in the traditional manner. That is, through the crisis service and community mental health referral processes. Mental health teams are not dispatched to these events as a first point of contact. In the wake of these experiences as van der Kilk (1987) explains, there most frequently lies a wide path of physical and psychological destruction.

Disaster is not a rare event (Burkle 1996:Green & Lindy 1994:Petit 1991). However, disasters frequently expose vulnerabilities in the capacity of both mental health systems and community infrastructures to respond. A report by WHO (1992) suggests that the inability of victims to adjust psychologically, coupled with the strained capacity of community resources to adapt, can result in more difficulties than the physical consequences of the disaster itself. Further to this, Burkle (1996) alludes to the fact that many health care providers are poorly prepared to understand or deal with victims suffering these psychological consequences.

In New Zealand, most mental health professionals including nurses, go through a career in which they are never called upon to provide services to, or consider the consequences of, large scale natural or human caused disasters. Yet, as noted earlier, disasters are common.

Granot (1993) argues that in most instances, a community orientated mental health approach seems better suited to the circumstances created by sudden emergencies than is the traditional medical model of treatment in which the victim seeks out the professional. In times of disaster, things change, and in the main, disasters cannot be adequately managed merely by mobilising more personnel, equipment or supplies. Disasters create new tasks and skills for nurses, and can engage participants who are not ordinarily disaster responders. In the absence of training, procedures and communications, it is likely nurses will fail to see how their function fits into the complex, total response effort. Historically, nurses have responded to times of need in war, crises and disasters by their immediate and competent caring for the ill and injured. In emergency situations, nurses traditionally have responded as health care

professionals who place the needs of their clients in the highest priority. The literature on disasters similarly reflects this focus (Wright, Ursano, Bartone & Ingraham, 1990; Lystad 1989; Laube & Murphy, 1985).

Earthquakes, fires, floods, plane crashes, hazardous material spills, volcanic eruptions, mass killings and any number of other natural, accidental or intentionally inflicted disasters strike throughout the world each year. Internationally some of the most memorable disasters of the 1990's include Hurricane Andrew in the United States of America 1992; Kobe Earthquake in Japan 1992; Los Angeles earthquake 1994; and in May 1997 the Bangladesh earthquake. New Zealanders have experienced many memorable disasters as mentioned previously. For example, 1855 Wellington Earthquake; 1866 Mt Tarawera Eruption; 1931 Hawkes Bay Earthquake; 1953 Tangiwai Rail Disaster; 1964 Opotoki Floods; 1968 The Wahine Disaster; 1979 DC10 crash on Mt Erebus; 1980 Wellington Rail Crash; 1987 Eastern Bay of Plenty Earthquake (Replay Radio, Radio NZ 1996). Yet these memorable disasters would seem to have been forgotten in the planning of health care, especially in relation to mental health care needs, both at the national and local service level of planning, including the professional aspect and implications that could arise. An excerpt from "After the Quake" (National Radio 1996) succinctly sums this up. *"People forget quickly that something has happened. It's happened. It's gone."*

In the wake of these disasters, there often lies a path of physical destruction, property loss, serious injuries, and deaths to people who happened to be in the affected area at the time when the disaster struck. Yet extensive literature on disasters (Weaver, 1995; Raphael & Meldrum, 1993; Mangelsdorff, 1985; Leach, 1995;) for example, all

agree that also in the wake of the disaster, which is often less obvious to an untrained observer, is a path of emotional destruction as people struggle to rebuild their lives whilst living with the traumatic memories of what has just occurred. Re-establishing communication, assessing the damage, cleaning up the mess, reconstructing homes and businesses, is certainly costly and time consuming. However, this can often be the easier part of the process of getting things back to normal. What can be harder for many disaster victims is the emotional damage caused by an event that is extremely stressful, resulting in an array of emotional responses that can last many years. For example, mental confusion, massive anxiety, recurring nightmares of the event, intrusive thoughts and exaggerated startle response with a sense of helplessness, hopelessness, and despair (Burkle, 1996).

The author's ultimate goal in this literature review is to lessen the likelihood that negative, long-term mental health problems such as Post-Traumatic Stress Disorders (PTSDs) will occur as a result of these incidents. To this end, this review is expected to contribute towards the development of national health care standards and guidelines focusing on the mental health nursing aspects of Disaster Care in New Zealand. It is the author's vision that from this literature review, the resulting discussion will form the background for any formal clinical research and/or background towards formulating health care policies and standards in regards to all aspects of service and professional provision of disaster mental health care in New Zealand.

As part of the process of this vision, this discussion paper is expected to be actioned within 5-10 years as a result of highlighting conclusions and/or recommendations that

will assist in the implementation of, in collaboration with other services and industries, mental health interdisciplinary disaster teams within New Zealand.

Because the author's professional base and expertise is situated within mental health nursing, the role of the nurse in disaster mental health care will be highlighted, identifying requirements concerning the victim's needs with resources required to develop nurses in this area. Also, in later sections of this review, nursing will be discussed within an interdisciplinary approach as this is the author's preferred way of how nursing would fit within disaster health care.

Disaster mental health care is now a recognised specialty in many countries, including Australia, Sweden and the United States of America (Raphael & Meldrum, 1993). From the literature review it would appear that most Western developed countries have incorporated Disaster Mental Health Care into their Core Services. It would seem that New Zealand has not followed international trends in recognising the importance of such health care and as such, currently there is little recognition of the importance of providing for mental health needs as evidenced by two local CHE emergency management plans (Capital Coast Health Ltd and MidCentral Health Ltd 1996). For example, both CHEs have a contractual agreement with the Regional Health Authority to provide emergency services. In both emergency management plans the content is written in such a way that it implies mental health services will respond in an emergency and will endeavour to keep these services going in both the hospital and community setting, as well as attending mental health needs of the public at large. A concern is that when a disaster does happen, continuation of existing mental health services will occur, along with provision of acute and long term mental

health nursing and other services for those people who are mentally traumatised by the disaster. Unfortunately, the plans say little of how these services are to be met or what is required in terms of knowledge, skills and resources to meet these objectives. Compelling data from worldwide literature and research, combined with international interest, has not led to mental health service provision being an accepted and important part of the disaster response in New Zealand. Perhaps this is because of the current environment within mental health with its fragmented services, lack of money for basic existing services, and partly because mental health, for decades, languished behind “institutional walls”, only coming to the forefront of public attention following a decade of inquiries.

It is also envisaged that this literature review, with its vision of contributing towards mental health nursing service provision in disaster health care, will be a priority in the health care arena. The review will provide the reader with an overview of major themes permeating the literature in quest of this vision becoming a reality, and also in creating an awareness of the many opportunities and unanswered questions that may arise when disaster strikes.

Significant background literature will be reviewed with an emphasis on the epidemiology of disasters, professional and clinical issues/implications, and disaster preparedness. These three groupings in relationship to disaster mental health care, consistently permeate the literature and will be used to justify each section of the review. It is the author’s hope that the reader will be more informed in the knowledge of disaster health care issues such as understanding the term disaster, the impact emotionally that disasters create, public health effects, clinical nursing implications of

disaster response, interventions and the issues, problems and challenges that can be learned from disaster preparedness. The greater hope is that the reader, through generating this awareness and knowledge, will capture an interest no matter at what level of input and use it towards influencing this currently neglected area within New Zealand. Most people would agree there is a need for such a provision, yet have not taken any steps to become involved. Perhaps community perceptions of mental illness and disasters are fraught with misconceptions. Also, the perception about what “community” means. For example, if society is seen in an individualistic light, there could be a lot of emphasis on people being prepared through property and health insurance. If there is a collective sense, then taxes would be allocated to support services around disasters. These two ideas will probably influence people’s understanding of, and response to, disasters.

Even in the absence of a disaster, it is well documented that ethnic minorities encounter numerous barriers to the appropriate and adequate use of mental health services (Webster, McDonald, Lewin & Carr, 1995). A large proportion of refugees to this country have been victims of torture or trauma in their own countries.

This literature review acknowledges that both torture and trauma for refugees is a definitive part of disaster mental health care. However, because of possible ethnic differences in coping style and perceptions of a traumatic event between the mental health of immigrants compared with members of our host population, the review will not cover this aspect. It is also acknowledged that the indigenous people of Aotearoa New Zealand will have possible cultural differences, understandings and meanings of a traumatic event and/or disaster. What is envisaged is that full participation in any formulation of policies and standards in regards to all aspects of service and

professional provision of disaster mental health care will occur. This process would be guided by Te Tiriti O Waitangi principles, namely Partnership, Protection, Participation and To rangatiratanga.

HISTORICAL ASPECTS

Mangelsdorff (1985) argues that one of the earliest cautions for disaster preparedness might have been the story of the four horsemen of the Apocalypse as predicted in the New Testament Book of Revelation (death, pestilence, famine and war). Thorndike (1927) noted that between 1480 and 1540, Europe was devastated by frequent outbreaks of bubonic plague, typhus fever, and syphilis. Langer (1958) argued that the psychological trauma generated by the plagues contributed to significant changes in European culture. That is, the Black Death of 1348-1349 and again in 1361 was followed by an age of misery, depression, anxiety and impending doom. It has only been since the twentieth century that an examination of humanity's ability to deal with the stresses of natural and manmade catastrophes has been possible or even occurred, (Mangelsdorff, 1985, Silver & Goldstein 1992, Weaver 1995). It is acknowledged, however, that sound public health practices have existed for centuries. The development of psychiatric terms helped in the recognition of behavioural responses to stress and many of the preventive and mental health interventions were developed in response to the experiences in war.

According to Weaver (1995:21) there is evidence by Devine (1904) of early disaster relief efforts by social workers that assisted victims of the Chicago fire of 1871.

Devine (1939) also documented how he worked through the aftermath following the San Francisco earthquake and fire of 1906. There is much literature that during

World Wars I and II, mental health professionals were struggling to address the growing number of cases of shell shock, also known as battle fatigue and combat stress (Freedman, Kaplan & Sadock 1972, Nakanomiya 1975, Bailey 1981, Glass 1966). In World War I for every four men wounded in action, there was one psychiatric casualty coping with the stresses of trench warfare. During World War I a group from the American National Committee for Mental Hygiene was sent to France to observe the treatment of stress casualties and what followed was an experiment in treatment modalities. They found that by treating the troops close to the fighting and by maintaining the casualties as soldiers rather than as patients, the French returned about 90% of their psychiatric casualties to combat or combat support duties, whereas the English returned very few soldiers to the front after they had been evacuated to England. Also, evacuation of war neuroses cases was found to produce fixation of symptoms and chronic disability. A vast collection of symptoms and diagnoses often followed the stressful events that precipitated the condition. For many, getting them off the battlefield for some short rest and recuperation was enough to get back in fighting form. And, according to Freedman, Kaplan & Sadock (1972) these same issues, and the incidence of Post Traumatic Stress Syndrome, have also been widely documented and studied among Vietnam veterans.

Probably the most widely known account of early crisis intervention that is known as disaster mental health is the work of Lindemann (1944) as cited by Weaver (1995) and Silver & Goldstein (1992). Lindemann's work with the survivors of the 1943 fire in Boston's Coconut Grove nightclub gives accounts of acute grief reactions following the fire when he managed to help survivors and, simultaneously, document the various types of stress and discomfort they were experiencing. According to

Silver and Goldstein (1992:250) this clinic-based approach was the first major contribution to mental health intervention in catastrophes which led to the beginning concepts of crisis intervention. As with Devine (1904) and those who assisted in World War I, Lindemann (1944) found that short term individual psychotherapy provided immediately following the occurrence of the catastrophe could relieve some of the severity of the symptoms of the grief experience. Lindemann (1944) wrote about how similar the stories were between victims. That is, vast numbers of victims reporting shortness of breath, tightness in their throats, muscle weakness, general feelings of emptiness and emotional pain. He found that recovery was faster and more thorough if victims were encouraged to express their grief and plans for the future. Since then, there is much detailed literature on disaster mental health efforts that have followed most large disaster events throughout the world.

PRIORITIES FOR MENTAL HEALTH ASPECTS IN A DISASTER

If people were asked “What is a disaster?”, there probably would be many responses, such as making joking remarks about the horrible day at work, a bad hair cut, or overeating habits. Reflecting more seriously, people might go on to name certain events like Raurimu, Wahine, Abbotsford, Mt Ruapehu, and so on. Yet it may seem amazing how vividly everyone can probably remember many of these disasters, even though these people have never been in the area. However, some family and friends may have been affected in some way and that is why these events are remembered. Graphic images of suffering from every recent major disaster that has been relayed through the media assists in this memory.

As stated previously, disasters are not a rare event, but the focus of disaster management in New Zealand is directed towards the surgical, physical and medical needs of casualties due to our emergency service systems being currently trauma orientated. Victims requiring mental health support are referred to mental health services in the traditional manner which, in the main, is through a referral process. Also, New Zealand has not followed international trends in mental health as being an accepted and important part of disaster response in New Zealand.

There could be many reasons why disaster health care is not a current health priority. Restructuring New Zealand's health service to meet client care needs has been, in recent times, the greatest challenge to all those who work within the health care system. The 1990s has become a decade of unprecedented changes in health care as the industry seeks answers to the ever-increasing questions of cost, quality, access to care and ethics. Mental health has not escaped these changes. Mason (1996) outlines the fact that since 1987, 67 inquiries have been held or are being conducted into aspects of mental health services. In each inquiry some incident or set of circumstances has been of sufficient concern to initiate independent investigation. This latest report by Mason (1996) includes powerful anecdotal evidence from both health professionals, consumers and whanau in regards to fragmented services nationally.

A summary of the key recommendations were:

1. The establishment of a Mental Health Commission and a National Advisory Board.

2. The Mental Health Commission to prepare a national blueprint for the development of mental health services.
3. Outline a strategy for “Looking Forward – Strategic Directions for the Mental Health Services” (1994)
4. Specific attention with benchmark levels and timeframes to:
  - workforce development
  - development of services for Maori, Pacific Island people, Child and Adolescent and Early Intervention programmes.

In view of these recommendations, the author contacted Ron Patterson, Manager Mental Health, Ministry of Health, to enquire as to whether mental health aspects in a disaster are, or would be, in the future included into any blueprint for the development of mental health services, either through the Mental Health Commission, or the Ministry of Health. His response was “No”. When asked, because of his legal background, if in the event of a major disaster, what the legal consequences could be for health professionals unable to meet these requirements, and what, if any, guidelines or contingencies were already in place to guide practice, his response again was “surely common law would take over”. It would be fair to say that practice in mental health as compared to other health professionals, is both bound by and guided by more legalities and ethical dilemmas than anyone else. Mental health practice is also directed heavily towards assessment abilities and other clinical extensions of professional roles such as psychological, social and occupational input.

LEGAL AND ETHICAL ISSUES

Imagine for a moment when a disaster does strike. Communications and transport systems are down, roads are blocked, etc. What happens when processing the Mental Health and Compulsory Assessment Act 1992. Could the Court Review hearings continue? Would there be access to enough resources such as psychiatrists? What about completion of the required paperwork with the possibility of no access to phones or faxes? What happens with client consent and the Privacy Act 1993? These are just a small number of problems that mental health professionals are likely to be faced with.

Over and above this, for example, are professional registration acts, standards, the Crimes Act 1961, 1992 Accident Rehabilitation and Compensation Medical Misadventure Regulations, The Health and Disability Commissioner Act (1994), and so on. What we would seem to be dealing with is a complete “mish-mash” of competing legalities and standards with no clear framework for practice in such an emergency. On the one hand, the Health and Disability Commissioner Act (1994) promotes and protects the rights of health consumers and disability services consumers, yet there are a number of Acts regulating health professional groups which provide for competence, registration and discipline such as the Nurses Act 1977, Medical Practitioners Act 1968 and the Medicines Act 1981.

Some guidelines of expected standards and quality of client services are contained within The Code of Rights for Consumers of Health and Disability Services – a resource for public consultation (pp 22-23, 1995). It provides the framework only for addressing some of the concerns previously mooted. For example, the Ministry of

Health requires Regional Health Authorities to purchase services of a particular standard in such a way that improves the quality and effectiveness of those services. However, these services must comply with all requisite legal, ethical and safety requirements relating to the provision and standard of Health and Disability Services. Also of great importance is the fact that the Ministry of Health also sets standards for emergency services. However, it is clear that mental health does not currently intend to be a major part of these emergency services standards, as per the Ministry of Health, Mental Health Manager. Crown Health Enterprises are given guidelines by the Ministry of Health "Ethical Standards for CHEs, Guidelines, September 1993". Included in these requirements is that care must be taken to ensure clients do not come to harm as a result of the actions of staff and there is also reference to the maintenance of an appropriate quality of service and care as well as stipulating that these standards of care must be upheld at all times, including emergency care.

As previously noted, Capital Coast Health Ltd. (1996) and MidCentral Health Ltd. (1996), major emergency incident plans, are concentrated mainly towards internal procedures often, excluding external community health bases. Mental health has been "tacked on" to the emergency management structure in such a way that mental health services are unlikely to deliver any effective support and/or service in times of crisis. In both Crown Health Enterprises there is compulsory yearly competencies for all staff in regards to emergency training. This training is trauma orientated and has no mental health component. The mental health training component is conspicuously absent which raises in both plans, just how any mental health crisis intervention can occur. It also raises alarming national issues for both the Ministry of Health and

Crown Health Enterprises in a climate where mental health is a current priority for health care, as dictated by our Government.

NURSING CHALLENGES

In order to lessen the likelihood of long term mental health problems that are associated with a disaster, nurses must be challenged into assisting with frameworks and an understanding of the contribution the mental health aspect in a disaster could make to existing and future services. As the 21st Century approaches, new opportunities arise for expansion of the skills and services of mental health professionals. The following excerpt is re-told by a nurse who attended the 1995 World Federation of Mental Health Conference in Dublin. The following excerpts are challenging because it highlights the likelihood of many components being replicated in New Zealand when the next disaster strikes.

“Community Mental Health nurses from Bosnia were sponsored to the conference in Dublin through the assistance of the World Health Organisation. Many spoke through interpreters of how they worked. It was reported that at least 70% of the female nurses had been raped whilst working. There were no vehicles except trolleys and bicycles. These nurses did everything from working with children who were traumatised to supplying food and shelter. They desperately tried to get some of their known clients antipsychotic medications, eventually resorting to ancient cultural medicines. There were long periods without pay. To get through the emotional trauma themselves, they helped one another. Also present at the conference were mental health nurses from Kobe in Japan who worked after the 1993

earthquake. They also talked about limited supplies of sedatives and antipsychotics after the disaster. The psychiatric hospital had collapsed and their clients were placed into the several shelters that accommodated everyone else. In these shelters there were known psychiatric clients as well as new clients presenting with symptoms of post traumatic stress disorder. Everyone was just roaming around. There was more emphasis on the zoo animals that broke free and required tranquillisers than people. There were major problems with roading and access. These mental health nurses felt they were well prepared for a disaster as they had received some specific multidisciplinary mental health disaster team training. However major problems still occurred which ultimately had an affect on future planning. Major debriefings for staff involved in the disaster work was a common occurrence which assisted the nurses to cope better.” (Hughes, 1995)

DISASTER APATHY

According to Auf der Heide (1996) there are a number of factors that tend to accentuate disaster preparedness apathy. This apparent apathy, by the Ministry of Health and Crown Health Enterprises, as already noted by the author, would seem in reality that although the need to plan for disasters has a degree of acceptance in the health care arena, it is not actually given much attention or priority. The author's viewpoint on this reality is that it is most likely due to the fact that more urgent economic and social issues are competing for diminishing resources and dollars. Hence it becomes more difficult to motivate allocations of time and money towards events that may never happen. Unfortunately a common perception is that disasters

are unlikely to occur, and that when they do, it will be somewhere else or someone else's problem. Adding to this situation is that faults in disaster preparedness are not often visible until after the disaster has occurred. Therefore, in times of health care economic constraints, which New Zealanders are currently faced with, it would seem that programmes where benefits cannot be clearly demonstrated, tend to be last on the list of budget priorities. This justification, or false perception, only adds to the belief that disasters can be effectively managed by expanded mobilisation of personnel, equipment and supplies. It is a requirement in New Zealand under the Civil Defence Act (1983, Section 43-45) that all hospitals have a written disaster plan. However, it is most often not accompanied by an adequate training plan which in turn creates the illusion of preparedness, based on the completion of a written document. Written plans are only one part of the preparedness process which again can give the illusion of preparedness capabilities. This then can create a widespread false sense of security for the public at large. As Auf der Heide (1996:463) aptly states "*Interest in disaster preparedness is proportional to the recency and magnitude of the last disaster. After that, it rapidly decays*".

In order to revitalise the absolute awareness required for prioritising disaster health care in New Zealand for both the health care arena and general public at large, it is vital to add to the justifications previously noted, by further identifying existing knowledge on the subject, especially in relation to service and professional aspects of mental health care in a disaster.

The literature supports the use of frameworks used in this literature review. Disasters affect a community in numerous ways and are considered a public health problem.

The World Health Organisation's (1980) rationale is that specific health problems tend to occur at different times after a disaster's impact. This effective public health response depends on anticipating the different health problems as they arise, and delivering the appropriate interventions where they are needed most. Mental health interventions and rehabilitation planning are frequently required. Noji (1991) points out that surveys have shown that each kind of disaster has its own common epidemiologic profile and pathologic characteristics. These similarities and differences are crucial in planning, in designing and implementing prevention activities, and in executing disaster mental health programmes. According to Noji (1996) applications of epidemiologic methods in disaster situations and its role in disaster situations include a broad range of activities. These include rapid assessment of mental health needs, action orientated information systems, assessment of the use and distribution of mental health services, etiologic research on morbidity and mortality owing to disasters, and the development of long term epidemiologic studies of the affected populations. Within an epidemiologic framework, follow-up studies can assist in identifying risk factors for nurses that would serve as the basis for planning strategies in preventing or reducing impact related morbidity in future disasters. Subsequent evaluation of the effectiveness of these prevention measures can then lead to the development of actions that are even more effective when faced with another disaster.

Furthermore, practical, applied and operational research can be useful in planning public health responses to future disasters, as well as in providing nurses with information useful for client care and developing appropriate mental health relief response.

SECTION TWO

EXISTING KNOWLEDGE AND DISCOURSES IN DISASTER MENTAL HEALTH CARE.

There are many definitions and perceptions of what constitutes a disaster as perceived by both health professionals and members of the public. These definitions are extensively evident throughout the literature combining various understandings and concepts related to disasters. For the purposes of this literature review and discussion, a definition has been chosen which accounts for multiple understandings, yet is very succinct being defined on the basis of the consequences on health and health services.

“A disaster is the result of a vast ecological breakdown in the relation between humans and their environment, a serious and sudden event on such a scale that the stricken community needs extraordinary efforts to cope with it, often with outside help or international aid. From a public health perspective, disasters are defined by what they do to people; otherwise, disasters are, simply interesting geological or meteorological phenomena. What might constitute a disaster for one community might not necessarily be considered a disaster in a different community.” (Noji 1996:290)

Rutherford & de Boer (1983:10) divide disasters further into two broad categories. That is, those caused by natural forces and those that are caused by people or generated by humans. Examples of natural disasters are earthquakes, volcanic eruptions, fires and hurricanes. Disasters caused by people include causes that have identifiable human actions, deliberate or otherwise. For example, major industrial accidents, nuclear warfare or explosions from hazardous substances. It would be fair to say that there may be a blurring between natural disasters and those caused by people. This is because one disaster may trigger another, such as fires after an earthquake, or toxic materials being released into the environment in the aftermath of floods. Noji (1996) also points out that natural and human generated disasters can be divided into acute or sudden impact events, such as earthquakes and cyclones, and into those events of slow or chronic origin, for example droughts leading to famine and environmental catastrophes that result from exposure to harmful chemicals.

In any given disaster, loss and trauma will directly affect many people. In addition, there are many other individuals who are emotionally impacted just simply by being a part of the affected community. Myers (Harsough & Myers, 1985:53) address the extensive kind of personal and community upheaval which disaster can cause:

“A disaster is an awesome event. Simply seeing massive destruction and terrible sights evokes deep feelings. Often residents of disaster-stricken communities report disturbing feelings of grief, sadness, anxiety and anger, even when they are not themselves victims. Such strong reactions confuse them when, after all, they were spared any personal loss. These individuals

find comfort and reassurance when told that their reactions are normal in every way; everyone who sees a disaster is, in some sense, a victim."

Even individuals who experience a disaster "second hand" through exposure to extensive media coverage can be affected. Most recently, this was visible during the extensive media coverage of the 1997 Raurimu massacre in New Zealand. Several affected families lived in surrounding streets in a Wellington suburb. Through media coverage it became apparent that when victim support services were mobilised, it was not just the immediate families who were affected, but a whole community. Victim support services consciously set out on foot and door knocked over a large geographical area, offering support reassurance, and most importantly, visibility.

In his study of the Buffalo Creek, West Virginia flood of 1972, sociologist Kai Erikson (1976:12) described two tiers of trauma that occur jointly and continuously in most disasters:

"Individual trauma is defined as "a blow to the psyche that breaks through one's defences so suddenly and with such brutal force that one cannot react to it effectively".

"Collective trauma is defined as "a blow to the basic tissues of social life that damages the bonds attaching people together and impairs the prevailing sense of communiality".

Disasters vary along a number of important dimensions as to whether the disaster is an act of nature or human made. Bromet & Dew (1995:113) offer the following 10 dimensions that can be delineated:

“The degree of life threat; the degree of bereavement or loss of significant others; the speed of onset; the duration of the trauma; the persons displacement from home and home community; the potential for recurrence; the exposure to death, dying and destruction; the person’s role in the trauma; the proportion of the community affected by the trauma; and the organisational responses to an event.”

An additional variable that increases the difficulties of generalising findings across disaster research is the socio-cultural context in which the event occurred. It would be a useful exercise to ask any person their understanding of what is meant by a community. This is an important value because if people define a community in an individualistic light, there could be a lot of emphasis on people being prepared through property or health insurance. If there is a collective sense, then such things as taxes being currently allocated to support services around, disasters in New Zealand would be evident, especially when taking victim support services into account and its voluntary status structure. These two ideas can influence people’s understanding of and response to disasters and whether the disaster becomes an individual event or a community event and whether people feel any sense of community responsibility for people who have been damaged by disasters.

It could also mean that people have a fatalistic view of disasters, otherwise why would people live in Wellington? For example, during the month of June 1997

Wellingtonians felt the swarm of nine earthquake jolts with the last one of magnitude 4.7. Marita Vandenberg (1997:1) reports that this swarm is only significant because people were very aware of it as there has not been a similar one in Wellington since 1950. Also, this report argues that seismologists calculate the biggest quake Wellington can expect is 7.5 on the Richter Scale, which is about the same size as the one which devastated Kobe in Japan in 1995. Karen Howarth (1997:1) in this same article states "*The swarm has been good for raising awareness. A lot of people have put off preparing and this has made them act. Market research last year shows about 56 per cent of Wellingtonians have made emergency preparations*". However, this still raises questions of individual or collective community perceptions when defining a community because the vast majority of local literature is about raising individual awareness of what to do when an earthquake occurs and what every home, workplace and family should do in such an emergency.

Further questions arise in regards to the apparent irrational approach to health services in general and in disaster preparedness in particular. For example, if health care planning operated rationally, as economic rationalist would have people believe, then surely policy makers would accept the scientific probability that there will be a major earthquake in Wellington in the next fifty years.

From this scientific probability, policy makers would prepare for this accordingly. Yet there must also be an irrational hope that it won't really happen or that most Wellingtonians will be out of town when it does occur. This raises how health care and policy makers cope with this kind of irrationality.

Excerpts from survivors of the 1987 Edgecombe earthquake in New Zealand depict that to some degree this event was a community event and most people did feel a sense of community responsibility for others. However, competing community perceptions are still very evident. For example "*The Maori community gathered at the marae. For most Maori, they felt safe within their own culture. At one stage there were 2000 people sleeping at one marae. There was a lot of spiritual healing. However, for the pakeha community there were many different experiences. There was a lot of denial. Some had no family and they felt as though they had to get on with it*". (Spectrum, After the Quake, New Zealand National Radio, 1996).

Quarantelli (1985:41-52) offers another approach to the definition of "what is a disaster" by examining perspectives that originate from a psychosocial aspect. These perspectives focus on a combination of seven elements:

- Physical agents (fires, floods, tornadoes, etc)
- Physical impact (the visually observable destruction done by the physical agents)
- Assessment of physical impacts (the damage has to exceed certain thresholds)
- Social disruption (due to physical damage)
- Social construction of reality (perceptions of the seriousness of the impact)
- Political definitions (official disaster declarations)
- Demands for actions (which exceed normal response capabilities)

The first three elements are physical dimensions, and the latter four are psychosocial. Quarantelli (1985), stresses that disasters are social occasions. That is, in his view quite a substantial number of people must be involved and there must be a public consensus on the elements noted previously, or it will be viewed as just another crisis, rather than a disaster.

Puskar & Obus (1985) differentiate psychiatric emergency intervention from crisis intervention. For example, the American Psychiatric Association (1994:424) defines psychiatric emergency (PE) as “a situation that includes an acute disturbance in thought, behaviour, mood or social relationship that requires immediate intervention as defined by client, family or social unit”. A key cause of PE frequently is loss and common elements of a PE are change, intolerance to that change reaction of significant others and the immediacy of the situation. As with Quarantelli’s (1985) psychosocial definition of disaster, the definition of PE also arises from changes that may be intrapsychic, interpersonal, biological influences, or from a combination of the three. The psychiatric emergency is usually discussed in the literature under the general category of crisis intervention. Lego (1984) suggests that a PE is an urgent situation that can occur repeatedly, requiring immediate action without necessarily bringing about a change in the person’s life, whereas a crisis is a turning point that precludes the possibility of life going on as usual. Lego (1984) limits her definition of psychiatric emergencies to include situations in which the client is on the verge of total collapse or self-destructiveness that requires emergency intervention to sustain life. The term “psychiatric emergency”, then, is differentiated from the concept of crisis by the immediacy of intervention required. Spreff (1981) categorises the victim of a traumatic event alongside other types of clients within the term PE, such as the

anxious client, the violent client and so forth, which further adds to the difference between a psychiatric emergency and a crisis, being a controversial distinction.

It is usually acknowledged by most people that facing a life threatening event can result in psychological dysfunction and produce behaviour that often debilitates. In acknowledging this, a wide variety of human experiences are stressful but usually manageable. There are some events and circumstances such as natural disasters that are outside the usual range of human experiences and the stress in these exceptional events can be intense, severe, threatening and usually unexpected. Assuming that mental health or behavioural consequences of disasters exist, what are the consequences called?

Baum & Davidson (1985) note the critical roles that both the stressors and the individual's event-related perceptions and responses play in outcomes. When victims or helpers are unsuccessful in confronting and managing the combination of real and perceived threat, the so-called stress response of the body preparing for fight or flight is the result. Profound changes occur in both physical and cognitive systems as people strain to cope. If their efforts fail, the potential costs can be high, as a variety of physical and/or mental illnesses may result.

Bolin's (1985) examination of the psychosocial impact of disasters talks about victim level and trauma potential. Primary level victims are described as those who directly experience the event and suffer the related, catastrophic losses of life and property. Secondary level victims also witness and experience the event and may have even lost friends or family members, but somehow have not been so deeply distressed by it.

Trauma potential exists, according to Bolin (1985) in several impact characteristics that somewhat overlap with Quarantelli's (1985) findings. The characteristics that Bolin (1985) discusses are such things as terror and horror of the events witnessed; duration of impact; unexpectedness of the event; the threat posed; sociocultural changes during recovery; and interactive and cumulative affects. Victims and helpers themselves vary greatly in personality types, ability to manage stress and also their pre-disaster emotional state, which may impact and vary from person to person.

Depending on how one views individuals who demonstrate similar signs and symptoms, the literature suggests that impacts on victims may lead to either mental illness, defined as severe psychopathologies, mental problems considered to be behavioural consequences of less severity, or problems in living, the characteristics of which are determined by an individual's inherent social fabric, (Burkle 1996; Leivesley 1984; Quarantelli 1979). More commonly cited in the literature now, as a consequence of stress, is Post Traumatic Stress Disorder (PTSD), which has recognised criteria for both acute and chronic phases. PTSD research is based on a firm body of knowledge, especially in war, rape and assault. Still evolving are studies specifically for natural and technological disasters, (Burkle 1991; Green & Lindy 1994; Freedy & Kilpatrick 1994; Myers 1994)

Leach (1995:668) explains that work in this field began with warfare and a form of psychological dysfunction being observed which equated to combat exhaustion or battle fatigue, although this was not accepted as an official psychological disorder until World War I. Prior to this period, such dysfunction was more often that not considered to be simply cowardice. With large numbers of psychological casualties

during World War I, the situation presenting itself could no longer be overlooked. This condition became known as “shell shock” and was characterised by the following symptoms, described by Kentsmith (1986:89) as; “*dazed, confused, exaggerated startle reaction, amnesia, violent tremors, a look of terror, and nightmares of war*”. During World War II, additional symptoms were identified including guilt, impairment of concentration, sleep disturbance and operational dysfunction. Later, it was noticed that behavioural symptoms identified with warfare could also apply to casualties who had survived disasters. This condition is now acknowledged by the PTSD in the American Psychiatric Association, Diagnostic and Statistical Manual of Mental Disorders 1987. This literature search on PTSD for this review revealed no New Zealand literature on its prevalence and treatment in the New Zealand setting.

Retrospectively, it can be seen that PTSD is not new. Most disaster survivors are normal people who function reasonably well under the responsibilities and stresses of everyday life. However, with the added stress of disaster, most individuals will usually show some signs of emotional and psychological strain, (Farberow & Frederick, 1978). Reactions include post-traumatic stress and grief responses. These reactions are normal reactions to an extraordinary and abnormal situation, and one to be expected under the circumstances. Green, Wilson & Lindy (1985) emphasise that the post-traumatic stress process is a dynamic one, in which the survivor attempts to integrate a traumatic event into their self-structure. The process is natural and adaptive and should not be labelled a disorder, according to Green, (1985), unless it is prolonged, blocked, exceeds a tolerable quality, or interferes with regular functioning to a significant extent. Similarly, Myers, Zunin & Zunin (1990) point out that grief

reactions are a normal part of recovery from disaster. Not only may individuals lose loved ones, homes and treasured possessions, but hopes, dreams and assumptions about life and its meaning may be shattered.

Acute Stress Disorder (ASD) has been included as a new diagnosis for the DSM-IV (American Psychiatric Association 1994). According to Spiegel & Cordena (1991), this disorder has been created in recognition that an abnormally stressful event may lead many people to experience significant distress and impairment within the weeks immediately following the event that may require clinical intervention. The utility of defining ASD as a disorder is to identify the high levels of distress or dysfunction that can be manifested in response to a traumatic event, and to distinguish this level of considerable psychological impairment from lesser levels of distress. According to Koopman, Cardena & Spiegel (1995:32), the word “acute” in the ASD diagnosis is included to emphasise that the symptoms occur within four weeks of the traumatic event. However, evidence suggests that a diagnosis of ASD indicates an increased risk for later PTSD and that people exhibiting PTSD long after a trauma are more likely to have also experienced ASD during, or in the immediate aftermath of the trauma. Koopman, et al (1995), argues that the link currently between ASD and PTSD is based more on logical arguments than on empirical research and cites several studies to support her reasoning. For example, in the Sloan (1988) study of plane crash survivors, 10-15% may have met the criteria for PTSD one year after the accident, and 59% of the victims of the North Carolina tornado met the criteria for acute PTSD 5-8 months later (Madakasira & O’Brien, 1987). However, neither study reported whether those persons who developed PTSD later on were the same

individuals who manifested ASD symptoms in the immediate aftermath of the traumatic event.

Acute Stress Disorder is a highly similar diagnosis to PTSD with its primary difference being it requires symptoms to occur within four weeks of the traumatic event rather than a month or more having elapsed since the traumatic event.

Koopman (1995 et al) argues that dissociative and other symptoms associated with ASD can serve a useful function in helping trauma survivors to cope with temporarily overwhelming feelings concerning the event. Hence, not everyone who experiences ASD would later experience PTSD. There are, however, good reasons to expect a strong link and Koopman (1995 et al) gives two factors that can account for a link between the immediate effects of ASD and the longer term effects of PTSD; the dissociative capacities of the individual and the intensity of the trauma.

Both ASD and PTSD conditions may originate in the individual's capacity to access dissociative states and focus their attention (Speigel & Cardena, 1991). People who are most capable of using this defence may be most likely to use it during the acute stage, preventing them from making the trauma explicit or integrating it into their experience of self or the world. In turn, this failure to integrate and work through the trauma in the acute stage would be expected to be linked to later PTSD symptoms manifested in response to the unresolved painfulness of the trauma. This is suggested by research among Vietnam veterans showing a significant relationship between PTSD and high hypnotizability which includes the capacity to dissociate, hence making it more likely that an individual will develop ASD after a traumatic event (Stutman & Bliss, 1985; Spiegel, Hunt & Dondershine, 1988). The other factor that

may link ASD to later PTSD is the intensity of the trauma as perceived by the survivor. Mueser & Butler (1987) as cited by Koopman (1995 et al), argues that this second factor is suggested by the research finding that the intensity of imagery in PTSD symptoms is related to the intensity of combat exposure.

Post-trauma response is the nursing diagnosis used with survivors of catastrophes who experience persistent symptoms or a delayed reaction (Sideleau 1992:41). The emotional state and dysfunctional behaviour associated with the post-trauma response and pre-existing vulnerabilities may also support the use of other nursing diagnoses with clients such as anxiety, fear, powerlessness, social isolation, self esteem disturbance and sleep pattern disturbances. Nursing care of clients who experience post-trauma symptoms include collaborative and independent interventions which need to address clients' physical, psychological and socio-behavioural problems.

There is conflicting evidence in the literature regarding the prevalence of PTSD. The 1994 Diagnostic and Statistical Manual for Mental Disorders states that acute PTSD is the most common diagnosis defined after disaster, and it may have its onset of symptoms immediately, soon after the event, or it may be delayed. The clinical picture according to this classification, is a dramatic one, with mental confusion, massive anxiety, and repetitive intrusive memories and dreams of the disaster event. Furthermore, anxiety reactions with acute PTSD have been linked to the severity of the stress exposure in 80% of patients; reactions appear immediately or within hours, with only 5% of clients experiencing delay. Ettinger (1985:89-103), argues that the chronic form of PTSD should be diagnosed if the symptoms last 3 months or longer. Chronic PTSD may continue for decades and acute phases of the disorder may be

reactivated years later by an event that simulates the original disaster. Victims of PTSD may fail to volunteer information of which Burkle (1996) comments that research into PTSD can be hampered by victims who avoid any re-experiencing of the event through interviews. This is compounded by the fact that many victims of natural disasters are not accustomed to requesting assistance or completing research questionnaires.

The following excerpts from survivors of the New Zealand 1987 Edgecombe earthquake highlights this point:

“People slept in their cars due to the aftershocks which ere severely psychologically damaging. They destroyed the ability to cope and there was a terrible fear of electrocution through electrical power lines that had fallen down. Some people left Edgecombe when outside help arrived in the form of Armed Forces and fire brigades due to chemical spills, everyone felt invaded. The most useful people were the Salvation Army. They played their instruments in the streets to lift spirits and to help people release their emotions. They also just sat with people. Most people were extremely annoyed with the influx of news helicopters and tourists and victim support services wanted clients to counsel. There was much anger and frustration about this. Social Welfare’s presence was seen as being helpful and practical”. (Spectrum, After the Quake New Zealand National Radiom 1996).

Relief from stress, the ability to talk about the experience, and the passage of time usually lead to the re-establishment of equilibrium. As stated previously, most

important lessons in this study for nurse administrators and disaster planners was that the best way to care for clients in a time of crisis, was to care about the nurses and other team members as dedicated professionals, as individuals with personal lives, and as respected colleagues.

In another study by Walker (1991) following the San Francisco earthquake, she concludes that nurses and other professionals cannot assume that because one has had past loss experiences, learned coping behaviours will automatically transfer to present loss experiences. The staff's concerns for future disaster centred primarily around communication. For example, the ability to contact family and significant others (86%) and improved communication both in and out of the hospital system (71%) were cited. Other concerns of the nurses included a need to learn the hospital disaster plan (50%) and to have disaster training (50%). Nurses commented that their inability to have contact with family was most upsetting.

Rubonis & Bickman (1991) as cited by Bromet and Dew (1995:115), reviewed fifty two disaster studies which was limited to disasters that had sudden onsets and encompassed both natural and human-made disasters. The psychopathology measures included depression, anxiety, somatization, alcohol dependence or abuse and post-traumatic stress symptoms. Using standard meta-analytic procedures, they concluded that disasters increase the prevalence rate of psychopathology by approximately 17% on average. Both methodological and disaster related variables were associated with higher rates of psychopathology, including using a questionnaire as compared with an interview, assessing psychopathology retrospectively, having less time elapse since the event, and studying events that occurred from natural as opposed to human-made

causes. Most studies, according to Bromet and Dew (1995) since this meta-analysis appeared, continue to focus on symptoms of depression, anxiety and somatization and continue to find a modest statistically significant excess in morbidity associated with exposure.

Another study by Palinkas, Petterson & Russell (1993) focused on a controlled study to assess PTSD as well as other general psychopathology indicators on 599 men and women one year after the EXXON Valdez oil spill. They reported that 9.4% of the subjects developed PTSD, a rate 2.9 times higher than that in the control group.

Bromet and Dew (1995) argue that this finding is particularly interesting in light of other evidence which suggests a similar rate of PTSD in individuals exposed to personal traumatic events. It would seem then that because PTSD is often co-morbid with many other substance use and psychiatric disorders, its unique occurrence following disasters also needs to be ascertained. Another potential vulnerability variable with both theoretical and practical importance in disaster research is social support. Palinkas et al (1993), argues that the theory from stress research which is based primarily on studies of life events occurring at an individual level, is that social support should serve to buffer the adverse effects of disaster on mental health. The EXXON Valdez research by these authors found that perceived family support did indeed buffer the effects of exposure on depressive symptoms in Euro-Americans, but not in native Alaskans. In a selected sample of 222 older adults assessed before and after a flood, Kaniasty and Norris (1993:397) found that non-kin support, but not kin support, mediated the effects of personal loss depressive symptomatology 3-6 months after the flood. This raises the importance of understanding how different aspects of social support operate in various demographically defined groups which cannot be

underestimated, given its potential role in alleviating the affects of stress caused by disasters. It could also mean that social support is an aspect of the recovery environment which is an important component in the longer term impact of disasters.

Most researchers agree that natural and human created disasters have a strong psychological impact on individuals, communities, and those who become involved in helping in disaster recovery. They disagree, however, about the nature, extent and consequences of these events. Stuhlmiller (1993) argues that traditionally, two competing positions have guided inquiry and conclusions in this area. That is because it is widely understood or believed that disasters create adverse psychological reactions both immediately after the impact and for a long period afterwards, perhaps for the individual's entire life span. The less popular position holds that although some individuals experience adverse reactions, research has greatly overstated the extent of those negative consequences and has overlooked some positive outcomes. That is, the enhanced coping abilities with which many victims and helpers emerge from their experience.

Disaster studies in the past decade have largely followed the rational-empirical school of thought and typically have attempted to answer causal questions in order to explain negative consequences in terms of positivistic science. As Stuhlmiller (1993:323) states, "*these views have limited our ability to grasp the range of common and idiosyncratic interpretations of disaster in the flow of human experience*". From a nursing perspective, one of the goals should not be factors only that compromise well-being, but also those that facilitate it. Surely, discovering the personal and cultural meanings and strategies that enable individuals to cope with crisis in both constructive

and self enhancing ways would be essential. Much of the literature, evolves around an overly pathological and social view that excludes personal meanings and experience. Stuhlmiller's (1993) narrative research is an excellent account and insight into providing visions of the value and integrity of life, and also through reconstructing events through narratives of experience, sense was able to be made out of what happened in relation to past and present life stories. It allowed informants to describe their feelings and responses and also gave credence to the value and meaning they described in their encounters. This is in contrast to other research techniques that strictly guide what information is elicited and therefore what information has value.

Other investigators have found at least some evidence to support the idea that cultural belief systems may influence the phenomenology of dissociative states. Cultural differences have been suggested as a possible explanation for the relatively high Dissociative Experience Scale scores of Cambodian refugees, (Carlson & Rosser-Hogan 1994). For Holocaust survivors there is a societal mandate to "not forget" the atrocities that the Nazi's inflicted and to bear witness to these events for the next generation. In a recent study by Yehuda-Elkin; Binder-Brynes; Kahana; Southwick; Schmeidler & Giller (1996), many survivors reported that the desire to live through the Holocaust in order to pass on the truth was a primary survival strategy during their internment in concentration camps. Also, in the last two decades particularly, there has been an intensive effort by the Jewish community to encourage survivors to offer personal testimonies of their experiences to be archived for posterity. This can be clearly seen through recent Hollywood films such as "Schindler's List", and also by way of American personality television chat shows such as Oprah Winfrey. Furthermore, in keeping with Judaism's' long standing tradition of ritualising and

institutionalising national traumatic events, the Holocaust is regularly mourned and commemorated even by Jews who did not undergo this trauma. As Yehuda et al (1996) points out, the survivors act at telling the story in the context of the cultural imperative to memorialise the Holocaust collectively, may help the individual cope with some memory related symptoms. This idea would seem compatible with the suggestion that, allowing others to bear witness to one's trauma is an important healing component.

Disasters affect a community in numerous ways. Roads, telephone lines and other transportation and communication links are often destroyed. Public utilities such as water and sewerage services and energy supplies may be disrupted. Substantial numbers of victims may be rendered homeless and portions of the community's industrial or economic base may be destroyed or damaged. From a review of the literature, disasters may be considered a public health problem for many reasons, as outlined below:

Disasters may cause an unexpected number of deaths, injuries or illnesses in the affected community, exceeding the therapeutic capacities of the local health services and requiring external assistance. Disasters may destroy local health infrastructures such as hospitals, which will therefore not be able to respond to the emergency.

Disasters might also disrupt the provision of routine health services and preventative activities, leading to long term health consequences in terms of increased morbidity and mortality rates.

Some disasters may have adverse affects on the environment and the population, increasing the potential risk for communicable diseases and environmental hazards.

Disasters may affect the psychological and social behaviour of the stricken community.

Some disasters may cause a shortage of food and cause nutritional consequences.

Disasters may cause large, spontaneous or organised population movements, often to areas where health services cannot cope with the new situation, therefore leading to an increase in morbidity and mortality. (Noji 1996; Myers 1993; Mangelsdorff 1985; Speier 1995; Weaver 1995)

Therefore, as Noji (1996) argues, epidemiologic studies are essential to understand the consequences of disasters for the health of the population concerned and should be a prerequisite for effective management and organisation of disaster relief operations. Furthermore, by identifying risk factors such as mental health for adverse public health outcomes, epidemiologic studies provide public health officials and others the data necessary to develop strategies to mitigate the harmful affects of disasters. It will also ensure that the limited health and medical resources of the affected community are well managed.

Current literature reveals that in disaster situations, it is often the case that medical care begins at the disaster site. Mostly in practice, psychosocial support at the site is carried out first by the rescue workers and emergency medical professionals, and then the mental health team, in collaboration, establishes priorities on the basis of the nature and impact of the disaster, the types and number of casualties, and the resources available (Lewis & Aghababian 1996; Burkle 1996; Auf der Heide 1996; Raphael 1984). This could possibly explain why New Zealand's emergency response services are still orientated towards physical trauma responses. Hospitals are

generally expected to provide for a community's health care needs in times of crisis, yet they too are vulnerable structures and dependent on technological support to function.

Community mental health sites and other health care organisations are often divorced from meaningful contact and planning with other organisations involved in disaster preparedness and response, and vice versa. Victim support services which are funded through the Justice Department and Civil Defence Offices, for example, often have little interaction with, or knowledge about healthcare institutions or providers. The Civil Defence Act 1993 allows personnel to act specifically for the purposes of the urgent saving of human life. Contact with the Kapi-Mana Civil Defence controller confirmed that the National Civil Defence plan does incorporate planning for Mental Health needs in an emergency. The Kapi-Mana Civil Defence recognise Capital Coast Health in assisting with mental health care following an emergency. However, as stated previously, this plan does not state the "how" of the response in terms of resources, mobility and adequately trained personnel.

This is one important component that Auf der Heide (1996:459) refers to as the "Paper plan syndrome", which is the illusion of preparedness based on the completion of a written document. Furthermore, although he explains written plans are important, they are only one part of the preparedness process and are likely to be followed only when they are familiar to those who must use them. When they are not preceded by an adequate training programme, it is like "Taking the final exam" without "having attended the course". Also, because disasters tend to call for multi-

organisational, multi-disciplinary and multi-jurisdictional responses, optimal outcomes from training are most likely when they occur on a similar basis.

Another example describing fragmentation of services in response to an aviation disaster is Wellington Airport's Critical Incident plan, as told to the author by the Emergency Management Officer, Roger McCormack. Mental health care is located within the "Welfare Plan". This plan incorporates a nominated Capital Coast Health person to liaise with local mental health services and an industrial chaplain. The New Zealand Police arrange for victim support for survivors and a nominee of the Airport Emergency Department team will contact the Salvation Army for both families and survivors. The reason given for response by the Salvation Army being included in this major plan is that "people respond better to people in uniforms".

Most disaster victims enter the medical care system as the result of widespread search and rescue efforts. As Tiernay (1993) points out, most initial disaster search and rescue is carried out by spontaneous civilian bystanders or volunteers, rather than trained emergency personnel. He uses the 1981 Loma Prieta earthquake as an example because it was estimated that 3% of San Francisco residents and 5% of Santa Cruz residents became involved in search and rescue. He argues that this is in contrast to the conventional belief that citizens in disaster impact areas tend to suffer from the "disaster syndrome". Victims of this condition were described as being apathetic or stunned, and unable to take care of themselves. However, Auf der Heide (1996) argues that empirical disaster studies have failed to confirm that this condition exists in disasters, except as an uncommon or transient behavioural response. He maintains it is important to note that, in general, the public's perception of good

emergency care is transportation to a hospital as quickly as possible. For example, if ambulances or other public safety agencies are not able to promptly perform this function, then bystanders usually get the victims to the closest hospital by any means available. Field first aid and triage stations are often bypassed, simply because their existence is unknown. One contributing factor, according to Auf der Heide (1996) is that it is frequently unclear who has the responsibility for the overall co-ordination of the disaster response which may reflect a lack of mutually agreed upon procedures, or lack of training with all health and associated emergency personnel. Co-ordination of disaster response can also be further complicated by the tendency of disasters to cross geographical, jurisdictional and political boundaries. Furthermore, Auf der Heide (1996) recognises it is often difficult at disaster sites to even determine what emergency response units are present, much less to co-ordinate what they are doing. In part, this can be caused by multiple agencies on site who will independently request assistance without having any idea of what help other agencies are requesting. In the absence of training, procedures and communications, the above tends to contribute to problems.

One of the social realities, according to Drabek, Tamminga & Kilijanek (1991), that has to be faced in disaster planning is the prevalence of apathy towards training and inter-disciplinary/inter-agency co-ordination which can often be seen to be the greatest impediment to disaster preparedness. Any effective programme has to give serious attention to motivational issues or it will be doomed to fail from the outset. Because disasters are often viewed as low probability events, they have to compete for attention with the priorities of daily living. Frequently, getting the public and

health officials to support and action preparedness, is more difficult than carrying out the disaster counter measures themselves.

Priorities in the management of psychologic consequences have evolved slowly.

Bugge (1993:965) reports that in 1986 it was not clear that psychologic assistance should be included in Norwegian disaster plans. However, within 3 years, experience in disaster exercises dictated that psychosocial personnel were to be alerted immediately, along with medical personnel. This scenario was similar to the development of the Australian mental health services during disasters. Raphael & Meldrum (1993) report that initially there was little recognition of the importance of providing for mental health needs, yet the active involvement of mental health professionals and data evolving from studies in Australian communities, as well as heightened international interest and research, led to a framework of extensive mental health service provision being an accepted and important part of the disaster response.

Prior to the 1980s in Australia, mental health services were less developed and available, as was the case internationally. There was often a shortage of professionals with expertise or an unwillingness of disaster health authorities to acknowledge the needs. Now, sophisticated and intensive programmes have been provided in the immediate, intermediate and longer terms with the Education Department in several Australian states now including disaster response in the school system. Excerpts from the Edgecombe earthquake in New Zealand also acknowledge this point by stating *“School children should be taught how to cope in an emergency. This was taught in the schools here prior to the emergency and this prepared them for the trauma. This*

topic should be formally involved in the curriculum". (Spectrum, After the Quake, New Zealand National Radio, 1996.)

Anderson (1988) agrees that mental health needs must be included in disaster plans of major airports and urges mental health authorities and other governmental agencies to be more proactive in communities where these issues have yet to be addressed.

Airport emergency plans typically concentrate on having the right types of fire fighting vehicles and personnel and medical teams have been organised to provide emergency medical services designed to save lives if a crash occurs. However, as previously noted, in Wellington's International Airport Emergency Plan, little has been done to ensure meeting another basic human need in the aftermath of a crash, except for organising victim support services and the Salvation Army. Surely any reader of this literature review involved in an aircraft emergency would expect their needs for emotional and psychological support to be from an effective and fully trained professional crisis intervention team. Or maybe it is currently the public perception that this occurs! Little can prepare a person for the gruesome recovery process of a mass casualty accident, but preventative measures may reduce the trauma. It is the author's view that the kind and level of help available at such a disaster is directly dependent on professionals outside the typical airport organisational structure, for example. Involvement of the psychological and mental health aspect is vital to the success of a crisis intervention programme. The best one can hope for is that an airport's current crisis intervention programme, such as at Wellington, never need be activated. If it is needed, however, and is not available except for the Salvation Army and victim support services, the public will have been done a tremendous disservice.

Granot (1993) also raises the question of what are the appropriate responses to support a population suddenly faced with a disastrous event. During the 1991 Gulf War, Israeli mental health professionals played an invaluable role, but their efforts raised questions about what constituted an appropriate and supportive response for a population suddenly faced with a hostile event. Granot (1993:336) states that the low rate of Post Traumatic Stress Disorder among victims of missile attacks a year after the war resulted from the aggressive mental health interventions taken at the time of the attacks. However, it is argued their response may not have been totally adequate to meet the situation or its degree of severity. No organised body, governmental or otherwise, was authorised to co-ordinate the efforts of the various services and there was a degree of organisational pressure to obtain recognition to maintain funding. Some interventions, such as taking people to unfamiliar locations, added to disorganisation and an abrupt return to pre-disaster routines left many victims without support during the difficult and drawn out process of reconstruction and rehabilitation. Raphael (1984) points out that in the USA, the Federal Government provides extra funds to community mental health programmes following a disaster, with the clear implication that these will be necessary and beneficial. A number of studies have documented models and benefits of such interventions (Luckman; 1973, Frederick; 1977, Raphael & Meldrum; 1993) whilst these programmes have usually involved the rapid mobilisation of skilled staff to interview and work with the victims to assist them with the psychological response to a disaster. There is still a debate whether these interventions are effective, although workers involved have suggested that clinical evidence verified their need and that they were perceived positively by the communities for which they were provided (Raphael 1984; Granot 1993).

SECTION THREE

IMPLICATIONS FOR EDUCATION, TRAINING, PRACTICE AND FUTURE RESEARCH IN NEW ZEALAND.

According to Burkle (1996:125) the conceptual framework for post-disaster mental health intervention incorporates information from a number of sources. Beginning with a sensitive and inclusive triage classification system, a functioning mental health team at the site will re-triage those primary, secondary and tertiary victims presented to them. He points out that experience with worldwide complex emergencies and refugee populations has re-defined the vulnerable groups which include unsupported pregnant or lactating women, single parents, children and the elderly. Recognition of shared involvement in disaster activities, roles and relationships helps identify those secondary and tertiary victims who may otherwise be overlooked. The World Health Organisation (1992) recognises the groups most likely to have suffered severe psychosocial experiences requiring support as being the next of kin, the injured survivors and the uninjured survivors. At less risk, but still in potential need, are onlookers, rescue teams, body handlers, health personnel, persons holding responsibility or authority, colleagues in a workplace that suffered disaster, and evacuees.

In crisis intervention for disasters, several authors have recommended critical elements of a disaster plan (Bromet & Schulberg 1987; Myers, 1994; Freedy & Kilpatrick 1994).

1. designation of community mental health personnel as disaster workers;
2. designation of responsibilities of disaster workers, and training them to provide crisis support and assist victims in using resources available through disaster relief agencies;
3. development of inter-agency agreements with disaster agencies;
4. responsiveness to changing needs of disaster victims over time.

In addition to mental health teams at the disaster site, an information and support centre is necessary because psychosocial and behavioural consequences do not exist in isolation. Group and community needs are frequently recognised only in a sheltered setting, where information and support needs are gathered, community and religious resources identified, and referrals established. Myers (1994) emphasise that urban, suburban and rural areas have different needs, resources and traditions regarding the acceptance of assistance. Therefore, post-triage programmes must consider early, any ethnic and cultural traditions in the community. Freedy & Kilpatrick (1994) further emphasise that there is a correlation between early direct relief efforts, especially those involving basic needs such as water, food, shelter, medicines, sanitation and mental health recovery. Further to this, Granot (1993) agrees that in most instances, a community orientated mental health approach seems better suited to the circumstances created by sudden emergencies than is the traditional medical model of treatment in which the victim seeks out the professional.

A community orientated approach uses outreach techniques to fulfil the range of needs likely to be generated by the sudden change.

The World Health Organisation (1992) further recognises the function of mental health professionals in disaster preparedness to be the following:

1. Educate and train professionals involved with rescue operations in basic disaster psychology, including pre-hospital personnel and those involved in communication.
2. Organise mental health teams and co-ordinate with emergency management structure, stress management and debriefing teams.
3. Ensure education and training for recognition, early treatment and follow up of special mental health problems, such as Post Traumatic Stress Disorder, depression and grief.
4. Plan for the long haul, because it is after the emergency phase of the disaster is completed that the real work of recovery and rehabilitation occurs, especially in psychologic work.
5. Establish a refuge for families, friends, colleagues and neighbours to provide advice to victims, rescuers, and those assisting in short and long term support.

The organisational and clinical aspects of disaster are inextricably linked.

Management decisions, such as when and how to inform, evacuate or compensate threatened or victimised populations, have deep implications for the psychological responses of individuals and families (Omer & Alan 1994:273). On the other hand, these authors also view that conceptions of group pathology and about treatment of

trauma and of grief reactions, have wide implications for organisational decision making. This is because the very nature of disaster interlinks a diversity of organisations and professions, creating acute communication problems. As previously noted, without a common conceptual ground, different agencies often work at cross purposes, deepening the disruptions caused by the disaster. Nurses are almost invariably called to help, but their ability to do so is often curtailed by the lack of a common language with the people in authority and of clear guidelines on how to address victimised or threatened populations that suffer from urgent practical problems besides their emotional ones. Omer (1991:3) proposes a unifying principle as potentially fulfilling these demands. The continuity principle argues that through all stages of disaster management and treatment, it should aim at preserving and restoring functional, historical and interpersonal continuities at the individual, family, organisational and community levels. In addition, this principle should have common sense appeal so as to be acceptable to people from the most diverse orientations. It should be simple and practical so as to enable quick decision making. Finally, it should be consistent with knowledge on disaster and trauma.

Community mental health agencies routinely interact in well defined and understood relationships with other agencies such as social services, the schools, law enforcement, and the like. In times of disaster, things change. As Myers (1993) points out, a disaster differs from routine emergencies in that it cannot be adequately managed merely by mobilising more personnel, equipment and supplies. Disasters often create demands that exceed the capacities of single organisations, requiring them to share tasks and resources with other organisations that use unfamiliar procedures. As previously noted by Auf der Heide (1989), disasters may cross

jurisdictional boundaries. They change the number and structure of responding organisations, and may result in the creation of new organisations. They create new tasks and skills for nurses, and engage participants who are not ordinarily disaster responders. In addition, organisations inexperienced in disaster often respond by continuing their independent roles, failing to see how their function fits into the complex, total response effort. Auf der Heide (1989:116) describes this as the “Robinson Crusoe Syndrome” (*“We’re the only ones on the island”*). This isolation occurs not just in response but in planning as well. Too often, private sector groups and different levels of government and health bodies may not have plans that realistically consider the roles and resources of other groups. This point is argued within the New Zealand context, that because of the complexities and challenges of the disaster environment, it is crucial for responding agencies to educate themselves about the roles and responsibilities of other local and national agencies in time of disaster. Disaster nursing response must be aggressively planned based on a solid knowledge of the organisational environment.

Speier (1995) also argues that to be successful at disaster response planning, one must become familiar with the existing structure of the government, the mission and function of social and health related human service agencies, and local emergency operation responsibilities. This would include nursing and , by reviewing both the organisational structure and service functions, a perspective can be gained of the relationships mentioned and their integrated functional capacity that should result in a comprehensive response crucial to all stage of disaster planning response and recovery. It is essential for mental health services, within New Zealand, to have an

understanding of the basic roles of other groups in order to function effectively in the complex organisational environment of a disaster.

Several authors have written about disaster principles when planning for mental health's role in emergency response and recovery (Myers 1993; Speier 1995; Raphael & Meldrum 1993). Because New Zealand mental health services are currently still at the paper plan stages of response, the following is a summary of recommendations of disaster principles when planning service response, that mental health nurses and allied professionals should consider at the outset:

- Become familiar with the terms, acronyms, and roles of various agencies charged with disaster response duties.
- It is recommended that each regional department of mental health have a mental health disaster plan which is a component of the state emergency plan, and identifies its 24 hour response capability.
- It is recommended that the disaster mental health plan be mandated by legislation.
- Mental health services to disaster survivors must be provided in community locations where survivors congregate.
- The mental health plan requires co-ordination and integration with the emergency medical plan, the public health plan and the Coroner's plan.
- Funding must be made available in all aspects of disaster.
- A primary reference document is vital in pre-disaster planning activities. This document would identify the statutory authority for emergency operations and the primary and support responsibilities of the various agencies.

- The rapidly evolving nature of disasters requires a flexible mental health response. Quick implementation of preplanned administrative procedures assures availability of crisis counsellors.
- People with mental illness have the same basic needs as the general population following a major disaster regarding safety, shelter, food and social supports, although they may have special needs as well.
- Disaster planning as part of psychiatric rehabilitation programmes, is one way to educate staff and consumers.

(Myers 1993; Speier 1995, Raphael & Meldrum 1993)

As previously stated, an inter-disciplinary approach is the author's preferred way of how nursing would fit within disaster mental health care. Ideally, the disaster mental health team should be inter-disciplinary and multi-skilled professionals. Myers (1993) argues that much of the confusion at the time of disaster impact can be eliminated when a mental health agency has a core of staff pre-designated and trained as a disaster response team. Furthermore, in her experiences, she explains that if resources allow, the team can respond to smaller crises within their defined population so that staff will have some first hand experience behind them if a large disaster strikes. It also should be a given that mental health planners and administrators should include realistic training budgets within their scope of service. A summary of guidelines for mental health planners and administrators in preparing their personnel to be effective in times of disaster are summarised below (Myers 1991; Speier 1995; Raphael & Meldrum 1993):

- Skills need to match the needs of the population.

- All aspects of disaster operations must be sensitive to cultural issues, and services must be provided in ways that are culturally appropriate.
- Mental health workers need to be adept and creative with outreach in the community.
- Staff should be experienced in psychiatric triage, first aid and crisis intervention. They should have knowledge of crisis, post-traumatic stress and grief reactions, and disaster psychology.
- A debriefing or other group format for discussion of workers reactions to a perceived disaster should be conducted for workers before training.
- Close clinical supervision should be part of the organisational structure.
- Skills practice that approximate to a true disaster scene is crucial.
- Inservice training and/or consultation should be provided at regular intervals as staff working on long term recovery efforts must be attuned to training needs that may arise during the work.

As previously suggested by the author, practice in the mental health arena as compared to other health specialties, is bound by and guided by more legalities and ethical dilemmas than other practising professionals. For future times of disaster in New Zealand careful attention to the scope of practice laws for mental health nurses must be urgently addressed now. As Puskar (1989:23) states “emergency clinicians must be able to make decisions under stress, tolerate ambiguity and realise that often, there is no one correct choice.”

Legal issues regarding confidentiality in the New Zealand health system are covered under the Privacy Act (1993), yet in practice, this Act has been fraught by many

examples through the media, of both exceptional circumstances and of nurses working exactly within this Act, often to the detriment of both clients and their significant others. Restraint procedures, medicating or hospitalising clients involuntarily vary from region to region. The Mental Health Compulsory Treatment and Assessment Act (MHA 1992) provides for emergency detention and evaluation under a well defined definition of mental disorder. Informal consent implies that the effects and side-effects have been explained to the client and that the client has agreed to the treatment. In an emergency, the nurse may have to make some difficult clinical decisions regarding, for example, waiving of standard consent procedures and perhaps even some administrative tasks obligated under the Mental Health Act (1992). These decisions may have to be made quickly and therefore require careful forethought regarding how “emergency” or “disaster” in these decisions may arise. As outlined in the background of this review, there is currently a “mish-mash” of competing professional acts, governmental acts and Health acts that bind mental health nursing practice. This issue must urgently be addressed by way of national guidelines and legal mandates, not only to protect the health professional and client, but also to ensure that best practice within a disaster situation can be carried through within the bounds of ethics, standards and legalities, to ensure the best possible outcome at that time.

Providing staff with debriefing sessions and other support groups is helpful in the post-trauma period (Walker 1991; Deahl & Bisson 1995; Davis 1996). Debriefing is a specific technique or method designed to assist others in dealing with the critical incident stress response syndrome and the physical or psychological symptoms generally associated with it. It is argued debriefings should be conducted as soon as

possible after exposure to a stressful event (Davis 1992; Mitchell 1988). These authors argue that a debriefing should be provided as soon as possible but no longer than the first 24 to 72 hours after the initial impact of the critical event. Recent research on the effectiveness of applied critical incident debriefing techniques (Young 1994; Davis 1992; Mitchell 1988) has demonstrated that individuals who are given this debriefing within a 24 to 72 hour period after the incident will show less short term and long term crisis reaction and psychological trauma relating to it. Raphael & Meldrum (1993) in an Australian study of mental health workers involved in bush fires, found that a small number of debriefings were provided for some emergency service workers, health teams and counsellors. This study highlighted that debriefing provided for health workers was not always adequately followed through. As a result many team members experienced continuing distress in the ensuing weeks. Health workers involved showed significant levels of morbidity which were demonstrated by an increase in psychiatric and psychosomatic symptoms.

In another Australian study conducted by McFarlane (1984) as cited by Teale, Selby & James (1995:256) states that "anecdotal reports supporting the effectiveness of psychological debriefing are plentiful". He examined the course of post-traumatic morbidity in 469 firefighters exposed to a bush fire disaster over 25 months. He found that individuals who were not debriefed afterwards were more likely to develop an acute stress reaction than those who were. However, the effectiveness of the debriefing process was thrown into doubt by his finding that those individuals who developed a delayed onset reaction were more likely to have attended a debriefing than individuals who had remained well throughout the follow up period. As Teal, Selby & James (1995) argue, even though effectiveness of psychological debriefing is

far from proven, it would appear to be popular with the consumer. Most individuals value the opportunity to express feelings of anger and guilt and derive comfort from the realisation that these symptoms are a normal emotional response to trauma. Further evaluation of the efficacy of psychological debriefing is required. This should give a clearer indication as to whether this debriefing be routinely offered to staff and clients alike, or restricted to high risk individuals, or even abandoned, as suggested by these authors.

Disaster nursing can provide complex nursing challenges. According to Malmsten (1992) the importance of having qualified personnel at a disaster site has been widely recognised, and an important role for nurses is often advocated. Komnenich & Feller (1991) advocate for more research related to the role of nurses in disaster situations, since experience in a recent study shows that pre-hospital care raises considerable demands of improvisation and flexibility at the disaster site. These authors also advocate for all nurses to have theoretical, as well as practical, knowledge of and proficiency in disaster nursing. Nurses are capable of taking important leadership actions at the site of disaster. Actions such as surveying the situation, performing triage and psychological crisis intervention. This study in Sweden also revealed that nurses with limited experience do not function as efficiently in an emergency situation, and they appear to experience more stress. The study indicates that there is a need for increased education and training in disaster nursing for all groups of nurses, as any nurse may be faced with a major emergency. Furthermore, the nurses in the emergency teams stressed the importance of knowing each other and having good co-operation within the team. This supports the use of nurses as continuous resource in work at disaster sites. Suserud (1997) further adds to this by noting that in Sweden,

disaster nursing has been considered to be increasingly important in their nursing colleges during the past decade, with the subject being treated as a distinct course within basic nursing training. And, closer to home, Australian disaster workers and researchers have begun to establish liaisons with workers in other countries. Raphael & Meldrum (1993) note that within Australia, the evolution of mental health responses and training for staff has not been an easy road. However, as a result of growing research and an increasing awareness and recognition of national disasters within, Australia, formal systems of mental health response have now been fully developed. These include Federal and State advisors being appointed on the psychological and psychiatric aspects of disaster educational programmes and services. These developments were seen in the context of growing international recognition of post-disaster morbidity and as such, the mental health response was addressed by the Government throughout their health and welfare systems which extended expertise and responsibility. As Raphael & Meldrum (1993:76) state, "The issue of mental health care in disasters is now adequately addressed – as in the most recent catastrophes, excellent co-ordination has allowed for a full utilisation of all relevant expertise".

SECTION FOUR

CONCLUSIONS AND RECOMMENDATIONS

This literature review and subsequent comprehensive research is expected to contribute by way of recommendations towards the development of national health care standards, clinical guidelines and legal mandates focusing on mental health nursing aspects of disaster care in New Zealand. Evaluation on the development of the above would be an implicit adjunct within this research. This is because, even though the main concepts of disaster mental health have been in development for about 50 years, it is still a relatively new area of specialisation worldwide, and an even newer and untapped specialty for New Zealand health services and the general community.

In 1989 the United Nations General Assembly, as cited by Kalayjian (1994:533) adopted a resolution declaring the 1990s "The International Decade for Natural Disaster Reduction" with the World Health Organisation endorsing this in 1990. Within New Zealand, disaster preparedness plans, in the main, focus on formulating procedures in response to a major emergency or civil defence disaster involving mass casualties. The plans focus mainly on roles and responsibilities, co-ordinating centres, communications and essential services. Mental health needs within these plans focus mainly on the assumption that mental health services will respond in an

emergency and will endeavour to keep these services going both in the hospital and community setting. This is one important component that Auf der Heide (1996) refers to as the “paper plan syndrome”. That is, the illusion of preparedness based on a written document.

There is an expectation that all services will respond in a disaster, including mental health. The reality from a professional nursing viewpoint and from this literature review, is that in the main, the public of New Zealand will be failed. There is currently no formal training and no disaster plan that routinely incorporates a comprehensive mental health response element in the immediate, intermediate and longer term. It is the author’s view that the focus of disaster management in New Zealand being directed towards the surgical, physical and medical needs of casualties is firstly due to the historical nature of psychiatric care within New Zealand and secondly, due to other economic and social issues that are competing for diminishing resources and dollars within the health care system. Yet, the Ministry of Health requires Regional Health Authorities to purchase services of a particular standard in such a way that improves the quality and effectiveness of those services, including emergency care. Disaster mental health care is conspicuously absent in any form within our current health system, yet this literature review reveals the absolute importance of formal preparedness, training, knowledge and ongoing research in this specialised area (Raphael & Meldrum 1993, Suserud 1997).

According to Auf der Heide (1996) there are a number of factors that tend to accentuate disaster preparedness apathy. This apathy from New Zealand health planners would seem in reality that although the need to plan for disasters has a

degree of acceptance in the mental health care arena, it is not given much attention or priority. As previously noted, this is most likely due to competing health dollars and it becomes more difficult to motivate allocations of time and money towards events that may never happen. Unfortunately, a common perception is that disasters are unlikely to occur. However, this literature review clearly demonstrates that worldwide disasters are becoming more commonplace, with New Zealand not being immune to these phenomena. Mental health is currently a priority for health care, as dictated by our Government. All local, national and Governmental health planners must include disaster mental health care as a priority for current planning. The personnel in charge of our health systems and budgets are also members of their communities. When a major disaster does happen again in New Zealand, these people and their families could be severely affected. What is needed is more lateral and humane thinking to ensure planners and policy makers are challenged into assisting with frameworks and an absolute understanding of the contribution and actioning the mental health aspect in a disaster could make to existing and future services.

In any given disaster, loss and trauma will directly affect many people. In addition, there are many other individuals who are emotionally impacted simply by being a part of the affected community. Even individuals who experience a disaster “second hand” through exposure to extensive media coverage can be affected. For example, the extensive media coverage of the 1997 Raurimu massacre in New Zealand.

Baum & Davidson (1985) note the critical roles that both the stressors and the individuals event-related perceptions and responses play in outcomes. When victims

or helpers are unsuccessful in confronting and managing the combination of real and perceived threat, the so-called stress response of the body preparing for fight or flight can be the result. More commonly cited in the literature as a consequence of stress is Post Traumatic Stress Disorder, which has recognised criteria for both acute and chronic phases. Acute Stress Disorder is a new diagnosis within the DSM-IV with evidence suggesting that a diagnosis of Acute Stress Disorder indicates an increased risk for later Post Traumatic Stress Disorder. Further research is required to support the link between Acute Stress Disorder and Post Traumatic Stress Disorder. This research would serve a useful purpose for mental health nursing practice in New Zealand in relation to clarifying these commonly used psychiatric diagnoses, the latter in particular. This view is endorsed by the author due to both observations and clinical documentation within her own practice of using the diagnosis of Post Traumatic Stress Disorder without the full knowledge and criteria of both Post Traumatic Stress Disorder and Acute Stress Disorder. This could have nursing and other professional care implications in regards to treatment currently offered, especially if one views this understanding from a psychosocial impact.

Disaster studies in the past decade have largely followed the rational-empirical school of thought and typically have attempted to answer causal questions in order to explain negative consequences in terms of positivistic science. However, new research on disaster studies supports the view that the traditional approach limits the ability to grasp the common interpretations of disaster in the flow of human experience. Much of the literature evolves around an overly pathological and social view that excludes personal meanings and experience. The author supports and recommends that more disaster research be phenomenologically and narratively based, such as Stuhlmiller's

(1993) study. For nursing and other inter-disciplinary mental health professionals, this would assist in discovering the personal and cultural meanings and strategies that enable individuals to cope with a crisis in both a constructive and self enhancing way. This is in contrast to other research techniques that strictly guide what information is elicited and therefore what information has value. However, this in no way discounts or dismisses other research techniques that could be useful.

Epidemiologic studies are essential to understanding the consequences of disasters for the population of New Zealand and must be a prerequisite for effective management and organisation of disaster mental health nursing response. Clearly, all mental health nurses and others associated with emergency health care have a shared responsibility to document, debate, evaluate and refine the various processes and techniques that are used or not, to help disaster victims and the helpers who provide relief services. The efficacy of our intervention strategies is one area of practice that is especially in need of evaluative research. Of concern is the lack of New Zealand literature on PTSD and other issues concerning disaster health care within the context of the New Zealand setting. This incorporates the indigenous people of Aotearoa New Zealand who will have possible cultural differences and meanings in the event of a disaster. Full participation in any formulation of policies, standards and/or research must occur, and be guided by Te Tiriti O Waitangi principles, namely Partnership, Protection, Participation and Tino rangtiratanga.

Hospital, community mental health sites, other health care organisations and related disaster support services are often divorced from meaningful contact and planning with each other. Due to the absence in New Zealand of disaster training, procedures

and communications for nurses, including all other disaster agencies, it becomes unclear who has the responsibility for overall co-ordination. For mental health, there is an urgent need to have a nationally recognised mutual agreement in regards to the above, with all health and associated emergency agencies. Furthermore, it is recommended that authorised co-ordination of various services and their roles and responsibilities be clearly defined.

From this literature review, it is recommended that Disaster mental health nursing response be from within community mental health teams. Adequate funding must be routinely included in geographical budgets in order for the requirements of emergency care, including mental health care, to be met within New Zealand. Even though studies are still evolving and being debated around which mental health interventions are effective, the literature supports that mental health disaster workers verified the clinical need for their interventions and were perceived positively by the communities for which they were provided. In addition to mental health teams at the disaster site, an information and support centre is necessary because psychosocial and behavioural consequences do not exist in isolation.

Recommendations from the previous section pertaining to the implications for education, training and practice and future research in New Zealand is fully endorsed by the author as a mandate to develop professional, quality mental nursing health responses in times of disaster. Specifically, these are related to critical elements of a disaster plan such as designation of personnel, responsibilities, training and inter-agency agreements. Perhaps a retrospective study of victims of the Edgecombe earthquake could be extremely significant in providing further evidence to justify the

development of national guidelines. Also, the function of mental health professionals in disaster preparedness as outlined by the World Health Organisation (1992) such as education and training.

Continuation of existing mental health services in a disaster must continue, as is the provision of acute and long term mental health nursing and other services for those people who are mentally traumatised by the disaster. It may be that nurses and others may never become involved with disaster mental health nursing. However, it is likely that they will have to deal with the aftermath, sometimes years later. This could well be a primary point of departure in a scientific inquiry as the incidence or prevalence of mental health illness can be traced to unresolved difficulties at the time of a disaster.

Because New Zealand mental health services are currently still at the “paper plan” stages of preparedness and response, the author recommends that the summary of disaster principles suggested in the previous section, be included as being required to be actioned and endorsed at the outset of any planning. Some of these recommendations include legislation, funding, reference documents, professional skills and knowledge, and clinical supervision, for example. When the next disaster does happen in New Zealand, it is vital that attention to the scope of practice laws for various mental health professional disciplines in an emergency be addressed. This is currently totally unclear and brings to question such things as competing professional and civil acts, as noted. Careful attention to the scope of nursing practice legislation and for other various mental health professional disciplines, must be urgently addressed because nursing and clinical decisions have to be made quickly. In order to

minimise the current “mish-mash” of competing professional, governmental and health acts that bind mental health nursing practice, national priority must be given in this area. Not to do so will leave the client and nurse open to possible mismanagement, poor co-ordination of care and possible unsafe practice through improvisation.

It is recommended in the literature and endorsed by the author that disaster mental health response teams be of an inter-disciplinary nature. This approach allows for both comprehensive and complimentary interventions. Disaster mental health nursing within inter-disciplinary teams is now a well recognised, but still developing, specialty. Nurses within these teams must have theoretical as well as practical knowledge and be capable of taking leadership positions. There must be formal education and training in disaster mental health care for any effective response and service to be developed within New Zealand liaisons actively established with workers in other countries. The author also recommends advisors or the like, be appointed for psychological and psychiatric aspects of disaster, educational programmes and services, at a national level.

Thus, being involved in a disaster can change a person in innumerable ways. Working in a disaster recovery project engages mental health workers in activities that may be both intensely meaningful as well as stressful. By creating and maximising both public and professional awareness and knowledge before a disaster strikes, the author hopes that by way of this literature review, nurses will now channel some time, energy and interest in disaster mental health care, into the areas of preparedness

planning, recruitment, training and other local and national relief efforts of various professional groups and disaster service organisations.

“Who are you?” said the caterpillar.....

*“I.....I hardly know, Sir, just at present” Alice replied rather shyly, “at least I know who I **was** when I got up this morning, but I think I must have been changed several times since then.”*

Lewis Carroll

Alice’s Adventures in Wonderland (1960)

REFERENCES

- Accident Rehabilitation and Compensation Medical Misadventure Regulations (1992). Department of Accident, Compensation and Rehabilitation, Wellington, New Zealand.
- After the Quake (1996). National Radio New Zealand, Spectrum 954.
- Anderson; T: (1988). An Airport Directors Perspective on Disaster Planning and Mental Health needs. American Psychologist, September 721-723.
- Andren-Sandberg; A: (1993). Disaster Care. Emergency Clinics of North America, 11: 1-14
- Auf der Heide; E (1996). Disaster Planning, Part II. Disaster problems Issues, and challenges, identified in the Research Literature, Emergency Medicine Clinics of North America, (14), 2 : 453-480.
- Bailey; P: (1981). War neuroses, shell shock, and nervousness in solders. Journal of American Medical Association, 71: 2148-2153.
- Baum; A: Davidson'; L: (1985). A suggested framework for studying factors that contribute to trauma in disaster. The Charles Press, Rockville.
- Baum; A: Fleming; I: (1993). Implications of Psychological Research on Stress and Technological Accidents. American Psychologist, (48) 6: 665-672.
- Bland; S: (1996). Long term psychological effects of Natural Disasters. Psychosomatic Medicine, 58: 18-24.
- Bolin; R: (1985). Disaster characteristics and psychosocial impacts. Disasters and Mental Health: Selected contemporary perspectives, 12: 3-28.
- Bromet; E: Dew; M: (1995). Review of Psychiatric Epidemiologic Research on Disasters. Epidemiologic Review, (17) 1: 113-118.
- Bugge; R: (1993). Temporary organisation for crisis intervention. International Handbook of Traumatic Stress Syndrome, New York: Plenum Press.
- Burkle; F: (1996). Acute – Phase Mental Health consequences of Disaster: Implications for Triage and Emergency Medical Services, Annals of Emergency Medicine (28), 2.
- Capital Coast Health Ltd., Major Incident Plan (1996), Wellington, New Zealand.
- Caplan; G: (1976). Support systems for civilian populations. In G Capland & M.

Killilea (Eds), Support systems and mutual help: Multi-disciplinary explorations (pp 273-315). New York: Grune & Stratton.

Carlson; E; Rosser-Hogan; R (1994). Cross cultural responses to trauma. Journal of Traumatic Stress, 7: 43-58.

Carroll; L; (1960). Alice's Adventures in Wonderland. New York: Signet Books.

Castledine; G; (1993). First-aid management of psychological emergencies: 2. British Journal of Nursing, (2) 21: 1079-1083.

Civil Defence Act (1983) Section 43-45, Department of Health, New Zealand Government, Wellington, New Zealand.

Coffman; S; (1996). Parents struggles to Rebuild Family life after Hurricane Andrew, Issues in Mental Health Nursing, 17: 353-367.

Davis; J; (1992). Identifying acute post-traumatic Stress Disorder in disaster victims and emergency responses. Journal of Emergency Medical Services, 5: 41-46

Davis; J; (1996). Sadness, tragedy and mass disaster in Oklahoma City: providing critical incident stress debriefing to a community in crisis. Accident and emergency Nursing, 4: 59-64.

Deahl; M; Bisson; J; (1995). Dealing with disaster: does psychological debriefing work? Journal of Accident and Emergency Medicine, 12: 251-254.

Devine; E; (1904). The Principles of Relief. New York: MacMillan.
Diagnostic and Statistical Manual of Mental Disorders (4th Ed) (1994) Washington, DC, American Psychiatric Association

Diagnostic and Statistical Manual of Mental Disorders, (3rd Ed) (1987). Washington, DC, American Psychiatric Association.

Division of Mental Health; (1989). Psychosocial consequences of Disasters, Prevention and Management, World Health Organisation, 3-42

Drabek; T; Hoetmer; G; (1991). Emergency Management: Principles and Practice for Local Government, Washington, DC. International City Management Association.

Erikson; K; (1976). Everything in its Path: Destruction of Community in the Buffalo Creek Flood. New York: Simon and Schuster.

Farberow; N; Frederick; C; (1978). Training Manual for Human Service Workers in Major Disasters. Rockville, Maryland: National Institute of Mental Health.

Frederick; C; (1977). Current thinking about crisis or psychological intervention in United States disasters. Mass Emergencies, (2) 43.

- Freedman; A: Kaplan; H: Sadock; B: (1972). Modern synopsis of comprehensive textbooks of psychiatry. Baltimore: Williams & Wilkins.
- Freedy; J: Kilpatrick; D: (1994). Everything you ever wanted to know about natural disasters and mental health. Clinical Quarterly, 4: 6-8.
- Glass; A: (1966). Lessons learned. Neuropsychiatry in World War II. Washington DC: US Government Print.
- Granot; H: (1993). Israeli Emergency Social and Mental Health Services in the Gulf War: Observations and experiences of a Mental Health Professional. Journal of Mental Health Counselling 206: 336-346.
- Green; B: Linday; J: (1994). Post Traumatic stress disorder of victims of Disasters, Psychiatric Clinics of North America, (17), 2.
- Green; B: Wilson; J: Lindy; J: (1985). Conceptualising Post-traumatic Stress Disorder: A Psychosocial Framework. In Figley; C, (Ed), Trauma and its wake, Vol 1: The Study and Treatment of Post-traumatic Stress Disorder. New York: Brunner/Mazel.
- Health and Disability Commissioner (1995). A proposed draft Code of Rights for Consumers of Health and Disability Services, Wellington.
- Health information Privacy Code (1994), Department of Labour, New Zealand Government, Wellington, New Zealand..
- Hughes; F: (1995). Personal Communication
- International Federation of Red Cross and Red Crescent Societies World Disaster Report (1993). Dordrecht, The Netherlands. Martinus Minjhoff.
- Kalayjian; A: (1994). Mental Health outreach programme following the earthquake in Armenia: Utilising the nursing process in developing and managing the post-natural disaster plan, Issues in Mental Health Nursing, 15: 533-550.
- Kaniasty; K: Norris; F: (1993). A test of the social support deterioration model in the context of natural disaster. Journal of Social Psychology, 64 : 395-408.
- Kommenich; P: Feller; C: (1991). Disaster Nursing. Annual Review of Nursing Research 91: 123-134.
- Koopman; C: Classen; C: Cardena; E: Spiegel; (1995). When Disaster Strikes, Acute Stress Disorder may follow. Journal of Traumatic Stress, (8) 1: 29-41.
- Langer; W: (1958). The next assignment. American Historical Review, 63,: 283-304.
- Laube; J: Murphy; S: (1985). Perspectives on disaster recovery. Norwalk: Appleton-Century Crofts.

- Leach; J: (1995). Psychological First-Aid. A practical Aide – Memoire. Aviation, Space and Environmental Medicine, (66), 7: 668-674.
- Lebedun; M; Wilson; K: (1989). Planning and integrating disaster response. In R Gist & B Lubin (Eds), Psychosocial aspects of disaster (pp 268-279). New York: Wiley.
- Lego; S: (1984). The American Handbook of Psychiatric Nursing. Philadelphia: Lippincott.
- Leivesley; S: (1984). Psychological response to disaster. Epidemiology of natural disasters, London:Karger.
- Lewis; C; Aghababian; R: (1996). Disaster Planning, Part 1. Overview of Hospital and Emergency Department Planning for Internal and External Disasters. Emergency Medicine Clinics of North America, (14) 2: 439-450.
- Lindermann; E: (1994). Symptomatology and management of acute grief. American Journal of Psychiatry, 142: 741-743.
- Looking Forward – Strategic Directions for the Mental Health Services (1994), Minister of Health, Wellington.
- Luckman; A: (1973). Disaster and mental health intervention. Community Mental Health Journal, 9: 151-157.
- Lystael; M: (1989). Mental Health response to mass emergencies. New York: Brunner/Mazel.
- Malmsten; C: (1992). Emergency care at accident sites. Journal of Trauma, 30: 1215-1219.
- Mangelsdorff; A: (1985). Lessons learned and forgotten. Journal of Community Psychology (13), 3: 239-259.
- Mason; K: (1996). Report of the Ministerial Inquiry to the Minister of Health, Hon. Jenny Shipley, Inquiry under Section 47 of the Health and Disability Services Act 1993 in respect of certain Mental Health Services, Minister of Health, Parliament Buildings, Wellington.
- McFarlane; A: (1984). The Ash Wednesday bushfires in South Australia: Implications for planning for future post-disaster services. Medical Journal of Australia, 141: 286-291.
- Mental Health Compulsory Assessment Act (1992). Department of Health, New Zealand Government, Wellington, New Zealand.
- Mitchell; J: (1988). Stress: The history and future of critical incident stress debriefing. Journal of Emergency Medical Services: November, 47-52.

- Morita Vandenberg, (1997). "No warning likely for the Big One". Contact Newspaper, 10 July, P1.
- Myers; D: (1993). Disaster Response and Recover: A Handbook for Mental Health Professionals. National Centre for Post-traumatic Stress Disorder, Menlo Park, California.
- Myers; D: (1994). Psychological recovery from disaster: Key concepts for delivery of mental health services. Clinical Quarterly, 4: 1-5.
- Myers; D; Zunin; H; Zunin; L: (1990). "Grief: The Art of coping with Tragedy" Today's Supervisor, (11) 6: 14-15.
- Nakanomiya; Y: (1975). History of War. Nation Defense Medical Journal, 22: 67-73.
- New Zealand Disasters (1996). National Radio New Zealand, Replay Radio, 9517.
- Noji; E (1996). Disaster Epidemiology. Emergency Medicine Clinics of North America, (14) 2: 289-300.
- Noji; E: (1991). Natural disasters. Critical Care Clinics, 7: 271:292.
- Novello; D: in styles; M; Moccia, P: (1993) On Nursing: A literary Celebration. New York: National League for Nursing (pp 288-289).
- Omer; H; Alon; N: (1994). The continuity Principle: A unified Approach to Disaster and Trauma. American Journal of Community Psychology, (22) 2: 273-285.
- Palinkas; L; Petterson; J; Russell; JⓈ(1993). Community patterns of psychiatric disorders after the Exxon Valdez oil spill. American Journal of Psychiatry, 150: 1517-23.
- Palmerston North Hospital Mass Casualty and Major Incident Plan, Overview (1996) Palmerston North, New Zealand.
- Petit; M: (1991). Nursing the mind. Recognising post-traumatic stress. RN Magazine (54), 3.
- Puckar; K; Obus; N: (1989). Management of the psychiatric emergency. Nurse Practitioner, (14), 7 9-23.
- Quarantelli; E: (1985). What is disaster? The need for clarification in definition and conceptualisation in research. The Charles Press, Rockville.
- Raphael; B: (1983). Psychiatric consultancy in major disaster. Australian and New Zealand Journal of Psychiatry 18: 303-306.
- Raphael; B; Meldrum; L: (1993). The Evolution of Mental Health Responses and Research in Australian Disasters. Journal of Traumatic Stress (6) 1 pp 65-87.

Rubonis; A; Bickman; L: (1991). Psychological impairment in the wake of disaster: The disaster-psychopathology relationship. Psychological Bulletin, 109: 384-99.

Rutherford; W; de Boer; J: (1983). The definition and classification of disasters. Injury 15: 10-12.

Sideleau; B: (1992) Management of post-traumatic stress disorder, comprehensive psychiatric nursing, 4th Edition, St Louis, Mosby, pp 431-454.

Sloan; P (1988). Post-traumatic stress in survivors of an airplane crash landing: A clinical and exploratory research intervention. Journal of traumatic stress, 1, 211-229.

Speier; T: (1995). Responding to the needs of people with serious and persistent mental illness in times of major disaster, Centre for Mental Health Emergency Services and disaster Relief Branch, U.S. Department of Health and Human Services, pp 10-15.

Spiegel; D; Cardena; E: (1990). New uses of hypnosis in the treatment of post-traumatic stress disorder. Journal of Clinical Psychiatry, (51) 10: 39-43.

Spiegel; D; Hunt; T; Dondershine; H: (1988). Dissociation and hypnotizability in post-traumatic stress disorder. American Journal of psychiatry, 145: 301-305.

Spreff; S: (1981). Management of the psychiatric Emergency, New York: Wiley & Sons.

Steeffel; L: (1993). The World Trade Centre Disaster. Healing the unseen wounds. Journal of psychosocial Nursing, (31) 6: 5-7.

Stuart; G: (1990), Caring for the Caretakers in times of Disaster, JCPN (3), 4:145-147.

Stuhlmiller; C: (1993). Narrative Methodology in Disaster Studies in Benner; P: (Ed). Interpretative Phenomenology, Wiley: New York.

Summerfield; D: (1995). Raising the dead: war, reparation and the politics of memory, British Medical Journal, 311: 495-7.

Suserud; B: (1997). Acting at a disaster site: experiences expressed by Swedish nurses. Journal of Advanced Nursing, 25, 155-162.

The New Zealand Crimes Act (1961). Department of Justice, New Zealand Government, Wellington, New Zealand.

The New Zealand Medical Practitioners Act (1968). Department of Health, New Zealand Government, Wellington, New Zealand.

The New Zealand Medicines Act (1981). Department of Health, New Zealand Government, Wellington, New Zealand.

- Thorndike; L: (1927). The blight of pestilence on early modern civilisation. American Historical Review, 32: 455-474.
- Tierney; K : (1993). Emergency preparedness and response: Lessons from the Loma Prieta Earthquake, Newark, Disaster Research Centre, University of Delaware.
- United Nations, (1989). 44th session of General Assembly. Resolution A/Res/44/236.
- Van der Kolk; B (1897). Psychological Trauma, American Psychiatric Press, Washington.
- Walker; V: (1991). When disaster strikes. The concerns of Staff Nurses. Journal of Psychosocial Nursing (29), 6: 9-13.
- Weaver; J: (1995). Disasters: Mental Health Interventions, Professional Resource Press, Sarasota.
- Webster; J: McDonald; C: Lewin; F: Carr; K: (1995). Torture and Trauma of refugees . Journal of Traumatic Stress, (8), 44-56.
- Webster; R: McDonald; R: Lewin; T: Carr; V: (1995). Effects of a Natural Disaster on Immigrants and Host population, (183) 6: 390-397.
- World Health Organisation (1980). Emergency care in natural disasters: Views of an international seminar. WHO Chronicles, 34: 96-100
- Wright; K: Ursano; R: Bartone; P: Ingraham; L: (1990). The shared experience of catastrophe: American Journal of Orthopsychiatry, (60) 1: 35-42.
- Yehuda; R: Elkin; B: Brynes; K: Kahana; B: Southwick; S: Schmeidler; J: Giller; E: (1996). Dissociation in Ageing Holocaust survivors. American Journal of Psychiatry (153), 7: 935-939.
- Young; M: (1994). Responding to communities in crisis. National Organisation for Victim Assistance, NOVA, Washington DC: 2-16.