EMERGENCY NURSES STRESS

SUPPORT AND BURNOUT

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ACKNOWLEDGEMENTS

John Lennon wrote “Life is what happens to you when you’re busy making other plans”. He could have been singing about my plan to complete this thesis in time for the Sydney Olympic Games in September 2000.

Major events in my life, both professional and personal ensured however that this thesis would have to be postponed whilst I dealt with “life”. Professionally, a secondment to “Operation Safe Haven” to manage the care of five thousand refugee’s in 1999, consumed most of my time and energies (including the thesis) however the secondment taught me the value of the small treasures in my life.

Personally, my family was consumed by the grim 1999 diagnosis and subsequent death of my husband in early 2001. The effect on my family was to once again put most things on hold (including the thesis) whilst we faced the challenges of repeated hospital admissions and his ultimate demise.

Throughout this rather turbulent time my supervisor, Cecily Hengstberger-Sims was a calm and understanding mentor who never baulked at my hurried phone calls cancelling yet another meeting whilst I dealt with events in my life. Her steady influence and quiet support gave me the encouragement to pick up the pieces and continue to write.

I would like to acknowledge my late husband, Greg for his support during 1998-99 when I spent our summer holidays entering data whilst he entertained our daughter, Samantha. I especially want to thank my sisters, Kathy and Libby for their love, humour and practical assistance with Sam whilst I came to grips with single parenting. Thank
you to my good friends; Anne Hawkins for her continual encouragement and insight into rural nursing and Cathy Isaksen for her unquestionable faith in my abilities.

This thesis is dedicated to all those emergency nurses who confront the many challenges of emergency departments both big and small. The fifteen years I spent in emergency showed me the true nature of professional support and camaraderie amongst a great team. Thank you to all those nurses who completed the survey and thank you to the Emergency Nurses Association of NSW for their permission to utilise their journal.
PLEASE NOTE

The greatest amount of care has been taken while scanning this thesis,

and the best possible result has been obtained.
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ABSTRACT

This thesis examines the responses of one hundred and seventy three nurses who work in emergency departments in New South Wales (NSW) to the psychological tenets of stress, support and burnout. Several tools were utilised including the Maslach Burnout Inventory, the Jalowiec Coping Scale and the Bailey Stress Scale.

The respondents were grouped according to their place of work and numerous variables were analysed for both similarities and significant differences.

Overall, nurses who work in emergency departments in NSW reported that the lack of in-patient beds (or exit block) was the most significant stressor in their work, followed by interruptions by telephones and uncontrolled volumes of patients.

Although a variety of formal support systems available to emergency nurses were identified in this study there was not universal agreement about their usefulness. Support from colleagues however was identified as sustaining and helpful. Reported coping styles of the respondents in this study were constructive, self reliant and professional. There was a very small number of respondents who can be classified as “burnt out”.
CHAPTER ONE INTRODUCTION

PREAMBLE

The purpose of this study was to explore the phenomena of stress, coping and burnout in Australian Emergency nurses and in particular those nurses who live and work in the state of New South Wales (NSW). The work of the Emergency nurse has attracted little attention amongst the plethora of nursing texts and journals and a limited amount concerning their early history is known in the literature and research. Although the phenomenon of stress in nursing has been well researched (Harris, 1989), the overwhelming majority of the work has explored either nurses working in the critical intensive care setting. For example, Vreeland and Ellis (1969), Hay and Oken (1972), or nurses in other specialist clinical settings, including oncology and mental health (Cronin-Stubbs and Rookes 1986).

Prior to the commencement of this study in 2000, only five research studies had been noted in the Cumulative Index of Nursing and Allied Health Literature (CINAHL) data base that specifically explored stress and emergency nurses. Three out of the five publications reported research undertaken in the United States of America (USA). At the time of conceptualising the study there were no refereed publications relating to research involving stress or coping in Australian emergency nurses.
EMERGENCY DEPARTMENT DEVELOPMENT

The outpatient departments of the old colonial hospitals were the forerunners of today’s modern Emergency Departments, (ED) (Schultz 1996). During the 1900s hospitals in NSW continued to expand and Casualty Departments (sic. EDs,) were to become an intrinsic part of the hospital outgrowing their outpatient status. The development of emergency medicine was spurred on by military conflicts (especially the Korean and Vietnam wars), which served as training grounds in resuscitation and pre-hospital care (Kitt & Kaiser 1990). Advancements in technology, transport (especially the ambulance service) and pharmacology paved the way for the development of the modern ED.

Emergency nurses in NSW work in a wide variety of conditions depending on the size and location of their hospital. The EDs of NSW can be divided into six distinct groups (NSW Health, 2001). The delineation of the groups is dependent on their level of service delivery, staffing numbers and specialisation. Table 1 (p. 3) below outlines the six delineated levels.
<table>
<thead>
<tr>
<th>LEVEL</th>
<th>SERVICE CAPABILITY</th>
<th>NURSING STAFF</th>
<th>MEDICAL STAFF</th>
<th>ALLIED HEALTH</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Able to provide first aid treatment prior to moving to higher level of service.</td>
<td>Often only 1 nurse available. 24 hour on-call roster.</td>
<td>Access to a doctor. This may be the Royal Flying Doctor Service.</td>
<td>Generally not available.</td>
</tr>
<tr>
<td>2</td>
<td>Emergency service in a small hospital (10 - 20 beds). Generally deals with minor injuries and ailments. Resuscitation and limited stabilisation prior to transfer. Access to local retrieval service.</td>
<td>Nursing staff from ward available to cover ED. Nursing staff often perform x-rays. Access to Clinical Nurse Consultant.</td>
<td>Visiting Medical Officer on call. Access to specialist consults and mental health resources.</td>
<td>Limited</td>
</tr>
<tr>
<td>3</td>
<td>As per level 2 above. Full resuscitation facilities in separate room. Operating Suite available during normal hours and on call after hours. Education programs for nursing and medical staff.</td>
<td>Designated nursing staff available 24 hours per day plus designated Nursing Unit Manager. Some Registered Nurses (R.N) with post graduate qualifications.</td>
<td>24 hour access to Medical Officer. Specialists in general surgery, paediatrics and medicine available. Medical Director ideally with specialist qualifications.</td>
<td>Access to Allied Health professionals. Pathology and radiology available during normal hours And on call after hours.</td>
</tr>
<tr>
<td>4</td>
<td>As per Level 3 above plus can manage most emergencies including stabilisation and ventilation. Purpose designed area. May be a regional trauma service. Provides in-house formal medical and nursing staff education.</td>
<td>Experienced R.N’s on duty, including RN with specialist qualifications on each shift. Access to a Clinical Nurse Educator (CNE) is desirable.</td>
<td>Designated Medical Director with specialist qualifications. Experienced Medical Officers on duty 24 hours per day. Specialists on call 24 hours in intensive care, paediatrics, anaesthetics and medicine.</td>
<td>24 hour access to pathology and radiology.</td>
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<td>LEVEL</td>
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<tr>
<td>5</td>
<td>As per Level 4 plus can manage all emergencies, and provide definitive care. Access to retrieval service. Sends out teams to disaster site.</td>
<td>Access to CNC. Access to CNE is desirable</td>
<td>Medical Director is Fellow of the Australasian College for Emergency Medicine accredited registrar. May have Staff Specialists in emergency medicine additional to Director. 24 hour on call emergency consultant cover</td>
<td>Has designated. 24 psychiatric assessment, on call. Extended hour access to allied health professionals (in particular social work and physiotherapy).</td>
</tr>
<tr>
<td>6</td>
<td>As per Level 5 plus has neurosurgery and cardiothoracic surgery on site May be designated Supra-Area Trauma Service. Capacity for management of frequent major trauma and other life threatening emergencies. Capacity for invasive monitoring and short-term ventilation Provides advice and stabilisation for complex cases transferred from other network hospitals. May provide or participate in regional retrieval service. Active research program.</td>
<td>Dedicated Nursing Director and/or NUM 24 hours. A designated CNC and CNE</td>
<td>All Sub-specialties available on rosters</td>
<td>CT and nuclear medicine available on site.</td>
</tr>
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From Table 1 (p 3) it is obvious that the conditions under which emergency nurses operate in NSW differ markedly depending on where they work. Emergency nurses in the large urban areas work with a large network of support staff (clinical, paramedical, clerical, education, hospitality, pastoral and so on) whilst their rural colleagues may be the sole health provider available in their location.

In the rural/remote setting, nurses who are required to work in the emergency setting may not be specialists in emergency nursing. Rather, they are multi skilled generalist nurses (Hawkins, 1999). Their role may involve observing patients for lengthy periods of time prior to a medical assessment or to discharge a patient from hospital without medical assessment (Hawkins, 1999).

Thus the differences between rural/remote and urban emergency nurses include not just a difference in service delineation but extends across professional and clinical responsibilities.

Questions naturally arise out of these differences. Do rural nurses providing emergency care encounter the same stressors as emergency nurse’s working in a major urban trauma centre? What stressors are generic to the role of the emergency nurse and what are specific to the location or context in which they work? Do rural and remote nurses providing emergency care cope with these stressors in a similar way to their urban colleagues? What support mechanisms are provided for nurses in rural and remote areas? Do they use them?
EMERGENCY DEPARTMENT UTILISATION

Emergency care has been described as dynamic, broad based and in perpetual evolution (Kitt & Kaiser 1990). Utilisation of emergency services has also developed rapidly in the last twenty years. In 1999/2000 there were nearly two million presentations to EDs in NSW. This represented a 10.7 percent increase from 1994/95 (NSW Health Emergency Department Services Plan 2001). In addition, analysis of this data set shows that 97 percent of patients requiring resuscitation were treated within 2 minutes of presenting to an Emergency Department.

In NSW, accurate statistical data was made possible with the 1992 introduction into the major NSW hospitals of the computerised Emergency Department Information System (EDIS). This series of minimum data sets made possible sophisticated analysis of patterns and numbers of presentations to EDs in NSW. National Triage categories were also introduced that allowed for benchmarks of “best practice” across Australia. The Australasian Triage Scale is presented in Appendix A.

The National Health Strategy (1992) listed the following utilisation figures for EDs.

- 69.1 percent of patients presented with emergency type encounters
- 15.0 percent were definitely general practice type encounters
- 15.4 percent were encounters representing the overlap between emergency type and general practice.
The time of day also influenced referral patterns with 53.4 percent of patients presenting for ambulatory care between the hours of 5.00 p.m and 9.00 a.m (NSW Health 1991). However, the extent of after hours presentations may reflect the paucity of after hours general practice services available to patients in both city and rural areas.

Major reasons for attending the ED included:

- convenient to get there (34.8 percent)
- doctor outside the hospital referred/advised (20.9 percent)
- familiarity - previously used service (18.3 percent)
- don’t know any other service (15.1 percent)
- all services needed are here (11.9 percent)
- quality of care/expertise at hospital (10.7 percent) (National Health Strategy 1992)

One particular consequence of increased utilisation of the ED has been the development of bed access block or “exit blockade”. Exit blockade is the result of the hospitals' inability to provide enough in-patient beds to transfer their admitted patients from their EDs and according to the NSW Department of Health (2001, p. 12)

"remains the major challenge facing Emergency Departments in urban and some rural areas”.

Exit block compounds problems in the ED by not having enough beds to locate new arrivals in the department. The exit blockade phenomena results in admitted patients occupying beds in ED. Obviously the layout and utility services in EDs are not
conducive for nursing in-patients especially in relation to privacy, noise or even enough toilets and showers. This gridlock of patients places enormous stress onto the EDs that sometimes ends with the hospital being put into a state of “Life Threatening Only” (LTO) where EDs will only accept life-threatening cases from the ambulance service. The ambulance service is then forced to search for an ED that is willing to take their patients. Obviously exit blockade is not a politically welcome scenario and the statistics on this phenomenon are reported regularly in the press. The recent headline “Packed Hospitals shut out ambulances” (Sydney Morning Herald, Thursday March 2, 2002 p.1) reported on the number of hours of restricted access to metropolitan EDs which had doubled since an earlier reporting period.

As utilisation increased other management systems were introduced to help deliver efficient care to select patient groups. In urban areas such as Sydney, a Trauma By-Pass system is in place that allows ambulance officers to by-pass smaller hospitals to transport trauma patients to hospitals (usually Major Teaching Hospitals) that offer twenty four hour imaging and on site operating theatre personnel supported by sophisticated Intensive Care Units.

Over 20,000 trauma cases were treated at Major Trauma Centres in NSW in 1992/93, with a further 11,755 treated at large local hospitals whilst most rural districts had significantly higher death rates due to injury. Injury is a leading cause of preventable morbidity and mortality and in 1992/93. Ten percent of all hospital separations were due to injuries (NSW Health Department, 1996).

Scenes of life and death are played out regularly in these departments across
Australia and the skills needed by both medical and nursing staff in the ED are complex and challenging. The list of potential stressors in the ED is large and like “exit-block” not always a result of the type of clinical work the ED engages in. However it is simply not known what it is amongst these potential stressors encountered by emergency nurses in NSW that affects them the most, nor how they cope with these stressors.

PROFESSIONAL DEVELOPMENT

"Emergency Nursing occurs in multiple health care settings including isolated rural areas and busy metropolitan units. Forces impacting on these emergency care facilities originate from within both the hospital and the community, all contributing to creating a unique specialty that is continuing to evolve.

Professional emergency nurses must not only assess the needs of people as well as plan care for the actual and potential health problems, both acute and chronic, but demonstrate the specific expertise of triage and to prioritise large numbers of patients within a multidimensional framework. The emergency department interfaces between the hospital and the community and therefore many skills such as public relations, appreciation of customer focus, team-work as well as flexibility and autonomy are essential”.

(University of Western Sydney, Hawkesbury, 1996 cited in NSW Dept. of Health 1991)

Nurses working in EDs in NSW comprise approximately 3.4 per cent of the total Registered Nurse (RN) workforce, including those qualified and unqualified in
Emergency Nursing (NSW Nurses Registration Board Profile of the Nurse Workforce, 1999).

Until 1978 there was no specific training for nurses working in Casualty (renamed Accident and Emergency departments in 1986 then Emergency Departments in 1990) in NSW. The College of Nursing introduced their first Accident and Emergency Nursing Certificate in 1978.

Professionally, these graduate nurses were being urged to join the Critical Care Nurses Association (C.C.N.A), the professional body of the Intensive and Coronary Care nurses. Increasingly there were a growing number of emergency nurses who believed that this was inappropriate. Yes, their work did involve “critical care” however there was an enormous amount of their clinical practice that did not.

In 1984 a small group of emergency nurses formed the then Accident and Emergency Association of NSW at a meeting at St. Vincent’s Hospital, Sydney. This initial Association had both emergency nurses and other professionals associated with Emergency Department work such as ambulance officers and doctors. In 1994 the Emergency Nurses Association (ENA) was formed following a vote and excluded Accident and Emergency Association members who were not nurses.

At present the ENA has 680 members (T.McCallum, Emergency Nurses Association of NSW, 1998 personal communication), the majority being RNs. They have representatives on all major Government consultative committees concerned with emergency care in addition to membership in advisory committees of professional
colleges and universities. Since formation in 1994, ENA’s professional activities have included a yearly conference (including an International Emergency Nurses Conference in 1994 and 2001 that attracted speakers and delegates from all over the world) and publication of their refereed journal, The Australian Emergency Nurses Journal.

Since the introduction of the first Accident and Emergency Certificate at the College of Nursing, additional training courses have been developed. Graduate Certificates, post Graduate Diploma and Masters Degrees are offered at several universities across Australia and the ENA in particular offer competency based, intensive short courses in trauma care and paediatric emergencies.

Research about and by emergency nurses in NSW remains scant. However, the Emergency Nurses Association of America has a growing body of research based nursing practice. Indeed three out of the four research articles published about stress and emergency nurses in the world wide literature base emanates from Northern America. This paucity in publications is contrasted to their medical counterparts who have established a strong research publication ethos with their Annals of Emergency Medicine and Annual Scientific Congress.

CONCLUSION

In summary, the utilisation of EDs in NSW is increasing. Service delivery is delineated by both geographical location and population trends. The professional development of both emergency nurses and physicians has increased in the past twenty years in NSW with recognition as a sub-speciality. However there remains many
questions yet to be explored about the staff who deliver this emergency care in its various guises.

Some of these questions include the nature of the day to day work of emergency nurses, what attracts them to work in this specialty and what are some of the rewards and challenges that they encounter in their professional role. What is it really like to work in an Emergency Department? Do staff spend all their time with critically ill patients or is that just what the media portrays in high profile television shows like “E.R”? What is it like to work in an environment where life and death scenes are played out on a regular basis? Does that have an affect on the staff who work there and if so, what part (if any) of their work affects them? Does it make a difference if you are employed in a major teaching hospital E.R or in a small rural hospital with no on-site medical support?

The following chapter introduces some of the theories and research accessed via an examination of the literature that will concentrate on various interconnected themes. These themes are based around the psychological phenomena of stress, coping and support. In particular the review will examine the literature as it pertains to nursing.
CHAPTER TWO  LITERATURE REVIEW

INTRODUCTION

The purpose of this chapter is to introduce the reader to the major developments in the literature that affected the author's decision to proceed with the research topic of emergency nurses. The literature review explores several inter-related themes in the psychological and sociological literature and in particular relates these to the research and findings concerning nurses.

The review of the literature was approached from an historical perspective examining the early work on the physiology of stress by Selye, through to the development of the general theories on coping and burnout. A specific search of the literature was conducted exploring the phenomena of stress, coping and burnout on nurses. Following extensive reading the review of the literature was again extended to explore two specific stressors in emergency nursing, violence and the use / misuse of the emergency department. Resources were obtained from the computer literature data bases: Cumulative Index of Nursing and Allied Health Literature (CINAHL), PsychLit and Medline in addition to references cited in particular journal articles.

The psychological phenomena of stress, support and burnout are three terms that were used to study emergency nurses in NSW. The review of the literature of these three phenomena deals with each separately from the other except when the three terms
have been used in combination within the literature as the terms "stress" and "burnout" have often been used interchangeably by researchers.

**STRESS**

**General Theories of Stress and Coping**

Since Selye published his seminal work on stress in 1956, the definitions and theoretical frameworks, relating to causes of, and solutions to stress, have been widely examined in the social science and health literature. Selye (1974) described stress as a non-specific response of the body to any demand made upon it and explored the physiological aspects of the stress response in particular the effects on the endocrine systems of the body. Selyes’ studies culminated in his General Adaption Syndrome theory (GAS) in 1976 (Bailey & Clark 1989).

GAS is divided into three stages of response. The first stage is the alarm reaction, which incorporates the flight or fight response and was first described by Cannon (1932). In this stage the organism prepares itself for action, that is, either to stay and confront or to flee. The flight or fight response entails the release of adrenaline, a powerful vasoconstrictor whereby blood is shunted to the tissues and organs necessary for action, example skeletal muscle, the heart and brain. Stored glycogen in the liver is mobilised to feed the muscles for action and concurrently blood supply to areas such as the digestive system are redirected to allow the body to support itself in this time of stress. The bronchioles in the lungs dilate to allow for increased
tidal volumes of air and the pupils in the eyes dilate to allow for better vision (Bailey & Clark 1989).

The second stage is the stage of resistance when the organism modifies both internal and external variables in their environment to adapt to the original response. This can be as simple as closing a door on a snarling dog, to lying down on the floor in response to a sight that makes the person feel faint. However, the organism is quite vulnerable in this stage as there is a marked decrease in the capacity of the organism to deal with other demands (Bailey & Clark, 1989).

The third stage is the exhaustion stage. This phenomenon occurs when the organism expends all of the available energy in its response to the stressor. Selye postulated (in Bailey et al.1989, p.15) that “when the stressor is continuous and severe enough to induce these stress responses in the GAS, symptoms reappear followed by the death of the organism”.

This phenomenon was also discussed by Wolff and Goodell (1968,p.3) who cautioned about the sustained reaction to threat being more harmful to the organism than the threat itself. The whole purpose of the response is the attempt by the organism to return to the state of homeostasis (that is, 'the same state').

The phenomenon of homeostasis underpinned the development of the coping concept whereby coping mechanisms strive for a balance between the stress response and the individual (Bailey & Clark, 1989). Selye also viewed stress as non-specific. This is explored further in Figure 1 (P.16).
Figure 1  Selyes view of Non Specificity

Explanatory note: Each result (notice this on the left and not the right as in most conventional representations of causality) is a specific manifestation and each causative agent on the right is also specific. Yet they are all simultaneously non-specific. The reason for this is that they must all travel through a common pathway (The GAS). No direct connection between cause and effect is possible. The phenomenon is illustrated in the diagram. Source: Bailey & Clark (1989)

In conjunction with the GAS, Selye also described the Local Adaption Syndrome (LAS), which occurs in a specific part of the body and is also divided into three stages: inflammation, degeneration and subsequent death of cells (Bailey & Clark, 1989). Selye suggested (1956 p.65) that “several of these may go on simultaneously in various parts of the body and in proportion to their intensity and extent, they can activate the GAS mechanism”.

Selye’s work was based on the physiological response to stress however attention was turning to the effects of psychology on the stress response. Richard Lazarus, in particular has been in the forefront of this development. Lazarus (1966)
postulated the theory of appraisal, that is, that the effect of stress on the individual is
only stressful if the individual perceives it to be stressful. This component is the
“primary appraisal”. If the primary appraisal is dismissed as not stressful then that
particular incident is complete (which may explain why some nurses view working in
the Emergency Department as exciting and challenging and other nurses view it as
chaotic and stressful). If, however, there is a perceived threat then the next stage is
“secondary appraisal” whereby “the individual estimates his ability to cope or his
counter-harm resources” (Bailey & Clark, 1989 p.23). This introduces the coping
stage and may include invocation of various strategies such as problem focussed coping
strategies, affective approaches, social support, denial and other behaviours (Lazarus,
1971). The third stage is “reappraisal” which is conceived as a checking process
whereby the individual decides whether the threat or stress has passed and considers
what else may need to be done to return them to homeostasis. Lazarus (1971) viewed
the entire phenomena (stress and coping) as inextricably linked and that neither the
environment nor the individual could be viewed as separate entities.

The analysis of the relationship between stress, appraisal and coping was
further developed in the research work of Folkman, Lazarus, Dunkel-Schetter,
DeLongis and Gruen (1986). Their theoretical framework was the identification of the
two processes of cognitive appraisal and coping as critical mediators of stressful
person-environment relations and their immediate and long-term outcomes. Utilising a
repeated measures approach the results supported the theoretical framework
development of primary and secondary appraisal (Folkman et. al 1986).
Additionally, this research further supported previous theories on the use of coping options and described situations in which different coping methods are used depending on the person's primary appraisal of their situation. If situations are appraised as changeable then focussed coping mechanisms are used in comparison to the distancing and escape avoidance mechanisms that are used when situations are appraised as having to be accepted (White, 1974; Pearlin & Schooler, 1978).

As the theories of stress continued to be developed there was a parallel quest to explore ways in which the effects of stress could be countered, tamed or diminished and to explore the various ways that individuals coped with their perceived stress. In “The Structure of Coping” (1978), Pearlin & Schooler (in White, 1974, p.2) define coping as “the things that people do to avoid being harmed by life strains" and also refer to the variety of conceptual meanings including “mastery, defense and adoption” (White, 1974). Pearlin & Schooler (1978) also distinguished between the types of stressors that people cope with as not major life threatening disasters but as day to day hardships.

Through their analysis of interviews with 2,300 respondents, Pearlin & Schooler (1978) conceptualised three major forms of coping styles across four dimensions of life: marriage, parenting, financial and work. In summary these are:

- responses that change the situation out of which the strainful experience arises;
- responses that control the meaning of the strainful experience after it occurs but before the emergence of stress; and
• responses that function more for the control of stress itself after stress itself has emerged (1978).

Responses that modify the situation were “direct” action ways of coping and were found in only three situations: negotiation in marriage, punitive discipline in parenting and optimistic action at work (Pearlin & Schooler, 1978).

In accordance with the Folkman and Lazarus notion of perceived stressors, Pearlin & Schooler (1978) found that responses which function to control the meaning of the problem were the most common type of individual coping. The use of everyday language in phrases such as “count your blessings” or “we are all in the same boat” illustrate this type of coping and the phenomena whereby people judge the conditions against those faced by loved ones. Pearlin & Schooler (1978) refer to this phenomena as “hierarchical ordering”, which is used to minimise the magnitude of the perceived problem.

Lastly is that style of coping in which neither the stressor itself can be changed nor the perceived stress can be altered. Rather, it is the management of the stressors itself. Coping behaviours here include denial, passive acceptance, withdrawal, magical thinking, blind faith and “the belief that the avoidance of worry and tension is the same as problem solving” (Pearlin & Schooler, 1978, p.7).

Analysis of the coping methods used across the four dimensions of marriage, parenting, finances and occupation revealed that coping works more effectively in
marriage and parenting and less effectively with finances and occupation (Pearlin & Schooler, 1978).

Pearlin and Schooler's (1978) work on the definition of coping stimulated other research into coping theory, some of which will be examined further in this review. Of particular importance however, is their conclusion that occupational stressors were more resistant to change by the individual as they are deeply embedded in both social and economic organisation and as such "that much of our coping functions only to help us to endure that which we cannot avoid" (Pearlin & Schooler, 1978 p.18).

This conclusion goes some way in explaining the failure of other research to prove the beneficial effects of support mechanisms in the workplace, especially that of social support (Kaufmann & Beehr, 1986). Social support was thought to be by definition (i.e. support) to be beneficial to people in their quest to alleviate stress. However, the literature through the seventies failed to demonstrate clearly the strength of the buffering effects with studies such as Pinneau (1975); Andrews, Tennant, Hewson, and Vaillant (1978); LaRocco and Jones (1978); and Lin, Simeone, Ensel, and Kuo (1979) conflicting with the work of Caplan (1972); Cobb and Kasl (1977); and Eaton (1978).

LaRocco, House and French (1980) published an important review of the literature when they replicated earlier work by Pinneau (1975) but utilised a different approach to their statistical analysis. La Rocco et al.’s (1980, p. 204) primary research question was: “When does perceived emotional support from others buffer the impact of perceived occupational stress on job strain and the impact of job stress or strain
on mental and physical health?” La Rocco et al (1980) summarised their review of the earlier literature into two main themes:

- Social support from work related persons such as supervisors and co-workers had negative main effects on levels of perceived job stress and on job related strain such as job dissatisfaction and boredom.
- Support from others outside of work had little or no main effects on job stress and strain and does not buffer the effects of job related strain.

The conclusions of La Rocco et al (1980) fit well with the earlier theories of perceived stress that Lazarus and Folkman (1984) had postulated, in that support systems are mobilised only when the need for them arises, either from an individual request or from others who perceive the need of the individual.

The examination of gender differences and stress and coping was conducted by Pearlin & Schooler (1978) who reported on differences in coping styles by gender. They hypothesised that these differences were a result of the socialisation of women. However, Shinn, Rosario, Morch and Chestnut (1984) found that there were no significant differences between the sexes in individual coping styles whereby women reported higher levels of social support.

Hamilton and Fagot (1988) further explored the question of gender differences when they examined chronic stress and coping styles in male and female undergraduate students. Their theoretical framework was based on the belief that men and women utilise different coping methods. Males use more “instrumental” coping styles (such as
direct action strategies) whilst woman use more "emotion" focused coping styles (such as relaxation). Hamilton and Fagot (1988) also reviewed the coping abilities of students with every day life stressors rather than substantive life changing events to analyse the coping behaviours. Their conclusion however that there were no gender differences in problem solving behaviour contradicted the earlier work of Pearlin & Schooler (1978).

The design of a tool to measure coping was bolstered by Jalowiec and Powers (1981). The Jalowiec Coping Scale was first developed in 1977 and revised in 1987 with the purpose of measuring the use and effectiveness of different coping strategies. The different coping strategies were revised by Jalowiec, Murphy and Powers (1984) from an extensive review of relevant literature using thematic clustering to devise the following subscales: confrontive (constructive problem solving, facing up to the problem), evasive (doing things to avoid the problem), optimistic (positive thinking), fatalistic (pessimistic thinking), emotive (expressing / releasing emotions), palliative (doing things to make yourself feel better), supportant (using support systems), self reliant (depending on yourself to deal with the situation, rather than on others). Further the JCS divides the items into problem- oriented or affective-oriented. Problem oriented items are coping strategies that try to deal with the problem itself and affective-oriented. Problem oriented items are coping strategies that try to deal with the problem itself and affective oriented items are the individuals attempts to deal with the emotions that are provoked by the stressful situation (Jalowiec, 1984).

In addition to the continued exploration of coping styles, other psychological phenomena were being explored. The work of Kobasa and Pucetti (1983) explored the
dynamics of personality that could account for both variations in the stress and coping patterns of individuals and the relationship to successful outcomes. They used the term "hardiness" to describe people who:

- easily commit themselves to what they are doing;
- generally believe they can at least partially control events; and
- regard change to be a normal challenge or impetus for development

(Kobasa & Pucetti, 1983).

Inherent in the continuing exploration of the stress buffering theories was the notion that "social support" was not well differentiated into the various aspects of life such as work and home support systems. Kobasa & Pucetti (1983) therefore researched the social supports of white-collar male executives and combine their findings with their work on hardiness. They researched two hundred and four business executives and measured their stress levels, physical and psychological health and their perceived social supports. Kobasa & Pucetti (1983. p. 848) found that "although perceived support from the boss buffers the illness provoking effects of high stress conditions, perception of support from the family appears detrimental to health for executives without the personality characteristics of hardiness".

Like the concept of hardiness, other psychological factors have been examined in the generation of knowledge relating to stress and coping including personality characteristics (for example, disposition) and has found to predict lower levels of depression (Holohan & Moos 1991).
Other coping theories utilised Rotter's phenomena of "locus of control". Rotter's (1966) theory espouses the concepts of internal and external locus of control. An internal locus of control referred to the belief that events are contingent upon one's own behaviour, whilst an external locus of control refers to the conviction that events are contingent upon luck, chance, fate or powerful others. This description of the two styles appears to 'favour' the internal style as one that is more productive for the individual.


Lefcourt, Martin and Saleh (1984) examined locus of control and social support as variables in the control of stress and concluded that the locus of control was influenced by the degree of social support to the individual. However, Folkman (1984) argued that an individual's belief about their ability to control an event does not always equate to the levels of stress encountered. This is certainly espoused in the different religious philosophies and cultures where believing that a higher power is in ultimate
control can have a calming stress reducing effect. “It’s God’s work”, the "will of Allah" and "Karma" are all examples of an external locus of control whereby individuals place their trust in a higher deity to help explain stress and disasters in their daily lives.

Folkman (1984) also posed the question, “control over what?” and refers to the problems that this definition can pose for an individual when an event is wrongly appraised as controllable. The person may engage in problem-focussed coping activity that gets nowhere. This component of coping again can be traced back to the original "flight or fight" theory posed by Selye (1956) in regard to whether the original appraisal was correct.

Parkes (1986) added to the generation of theory when she examined the role that the environment plays in stress appraisal and coping. Again utilising student nurses Parkes (1986) demonstrated through the use of multiple regression techniques that “…for general coping, environmental factors appeared to account for the largest proportion of explained variance” (Parkes, 1986, p.1288). Referring back to the transactional process of stress and coping theory it is important to consider these contextual factors.

Parkes (1984) analysis does fit with the definitions of locus of control in that individuals who feel responsible and see themselves as responsible for the outcomes of events would indeed benefit by social support that could help lessen those feelings of self blame when events did not turn out as expected. Again common phrases in our
language such as "You gave it your best shot" and "success is the journey not the destination" reflect this phenomenon.

Cohen and Wills (1985) provide us with an excellent summary of the research into social support and the buffering hypothesis. Their lengthy review examined the two major theories of social support and buffering. The first theory postulates that support is only beneficial for persons under stress (the buffering model) and the second (the main effect model) that social support is beneficial regardless of the individual’s stress state.

Reviewing research from 1975 to 1983, Cohen and Wills (1985) pay particular attention to methodological issues and research design in their summary. The major conclusions from this review are:

• Adequate functional support may be derived from one very good relationship but may not be available to those with multiple superficial relationships (p. 315);

• That support may work by increasing self-esteem and personal efficacy (p.332);

• Studies that measure the degree to which support functions were provided in the past have not found buffering effects. However those that measure perceived availability have found evidence for a buffering effect (p.348);

• Specific support functions are responsive to stressful events, whereas social networks integration operates to maintain feelings of stability and well being irrespective of stress level (p.349);
- The perception of support availability continues to operate in chronically stressing conditions and/or provides a good indirect measure of the effective support people are actually receiving (p.349);

- Woman derive satisfaction from talking with intimate friends about feelings, problems and people whereas men derive satisfaction from companionship activities and instrumental task accomplishment (p.350); and

- The most effective support is given and taken in the context of daily social intercourse without being asked for, and without supporters feeling that they are giving anything or supportees feeling that they are receiving something (p.351).

Two other studies by Kaufmann and Beehr (1986) and Ganster, Fusilier and Mayes (1986) also examined the role that social support plays in the work setting. Kaufmann et al. (1986) also utilised nurses on the basis that “there is some evidence that nursing is stressful”. (1986 p. 522) Their main findings contradicted previous work in that social support made the relationships between stressors and strains stronger, not weaker. Kaufmann & Bechrs (1986) explanation for their results especially in the context of the nursing environment are plausible. They postulate that, if the supervisor who is causing the stress offers help to the nurse, then it will still be regarded as stressful and that supportive communication between workers may indeed convince individuals that things are as bad as they seem!

However, Ganster et al. (1986) found that social support from the supervisor showed a consistent relation and should be encouraged.
Browner (1987) used a different research method when exploring the role of social support amongst psychiatric technicians. Comparing four different inpatient psychiatric units, Browner utilised several months of observation (using trained observers) prior to semi structured interviews and specific questions about unit support with the technicians in addition to a classification of the four units dependant on the amount of social support available. Results from this research included that the level of supervisor support and advocacy appeared to make a difference in the individual units social cohesion. Australian studies by Terry, Nielsen and Perchard (1993) and O'Connor and Jeavons (2003) also examine the role of social support in the workplace with similar conclusions to that of Browner (1987).

Selye (1980) eventually reached a more holistic view of stress that incorporated the psychological aspects of the stress response defining the more pleasant, enjoyable, ecstatic and fulfilling aspects of experience 'eustress' and the more unpleasant and disturbing distress. Referring specifically to the role of nursing, Selye argued in 1980 (p.130) that, "from the foregoing it should now be evident that psychological factors can often be the decisive influence both in the causation of disease and in the course taken by an established disorder. In fact, this is where the profession of nursing can make a special contribution, since its practitioners are in direct control of such variables."

**Stress and Nursing**

This section presents traces the development of the research of stress and its specific relationship and application to nursing.
Menzies (1960) described nursing in general as stressful citing issues such as patient suffering and death, heavy demands, frightening tasks and disturbing relations with patients as some of the reasons. Holclaw (1965) further described emotionally high-risk issues for nurses as the inability to restore patients to well being and feelings of loss for patients with a variety of disease and injuries. Other authors such as Gardam (1969), Koumans (1965) and Vreeland and Ellis (1969) warned of the coming “stress epidemic” in health care institutions.

Koumans (1965) studied the Intensive Care Unit (ICU) and concluded that the two most stressful aspects on one ICU unit were rapid turnover of staff and the intensity of the emotions in interpersonal encounters.

Vreeland and Ellis (1969) were the first to deal exclusively with stress in the Intensive Care Unit (ICU) nurse. Using observational data, they concluded that the nurses judged the psychological and physical conditions of the patients themselves as the most stressful area of their work. Another finding in this research was the identification of contradictory personal traits that were required of the ICU nurses: warmth and sympathy were expected as well as objectivity and assertiveness.

Prior to 1972, the stress encountered by ICU nurses was explored and described as external sources of stress. Hay and Oken (1972) described the internal stressors of ICU nursing. These stressors included: heavy lifting; cardiac research; unpredictable schedules; heavy responsibilities; patient anxiety; hectic pace; annoyance
by patients families; severity of patients illness; lack of ample time off; insecurity; patient personalities; and nurse-nurse conflicts.

Interestingly, there is no mention of doctor-nurse relationships and other conflicts that would emerge so strongly in the literature during the eighties. Jacobson (1978) however did report this aspect in research related to paediatric nurses coping methods. Using a sample of eighty seven nurses, Jacobson reported the most frequent stressors as: nurse-physician problems; understaffing; heavy workload; sudden death or relapse of an infant; personal insecurity; and the shock of sights and smells.

Oskins (1979) developed this theme further when exploring the impact on the expanding professional role of the ICU nurse. Oskins (1979) listed the stressors as: patients and their care; ICU unit; patient’s family; administration; ICU personnel; and the ICU nurse. Oskins (1979) confirmed earlier transactional theories (p.960) that as the perception of stressful events increased so did symptoms of anxiety and palliative modes of coping. Similar to Vreeland and Ellis (1969), Oskins (1979), comments on the positive personal attributes that were expected from nurses and contrasts those with negative emotions often exhibited by their patients.

The work of ICU nurses was further examined by Bailey, Steffen and Grout (1980). This research was part of a two-fold project whereby stressors would be identified and then procedures developed to manage stress in the workplace. Two different groups of ICU nurses were used as a sample for the research: one large group (n= 1,238) of nurses from the San Francisco area and the second group (n= 556) from a sample derived from the national membership of the American Association of Critical
Care Nurses. In addition the San Francisco sample was further divided into a smaller group (n= 129) of ICU nurses working at the Stanford University Hospital, which was the site of the pilot study into stress reduction techniques (p. 17). Therefore comparisons were made between three groups of nurses with the Stanford sample derived from the regional survey.

The Stanford University Hospital had three ICUs with one, a 25 bed cardiovascular unit being recently built with well designed work spaces. The other two ICUs were older units that had poor storage space and cramped working conditions. Thus the researchers were able to use these attributes to compare and contrast the three units in addition to the differences in patient acuity and conditions.

The results of the Stress Audit indicated that across the combined national sample of 1,800 responses the following three elements were ranked by the nurses as the source of greatest stress:

1. Management of the unit
2. Interpersonal relationships
3. Patient care

The results of the Stress Audit for the greatest sources of satisfaction were:

1. Patient care
2. Knowledge and skills
3. Interpersonal relationships
Hence the two elements of patient care and interpersonal relationships were both a source of stress and satisfaction.

Stehle (1981) extensively reviewed the nursing and stress literature that had been published in the previous two decades. Stehle (1981) reviewed twenty eight articles representing nineteen investigations of critical care unit stress. She reported on the growth of the nursing stress literature throughout the late sixties and seventies, with four articles published before 1970 and fifteen between 1971 and 1979.

Stehle (1980) also reported on the professional classification of the authors. Describing the shift from medical authors to nursing authors, Stehle concluded, (p. 183) “the shift from medicine to nursing as a professional basis for investigation paralleled the increasing importance of research in nursing”. Stehle (1980) also commented on the lack of adequate description of methodology and the quality of the measures for stress and coping in the literature surveyed.

Numerof and Abram's (1984) research considered variables such as age, nursing role status, length of time since graduation, job tenure, area of nursing and interpersonal needs as factors associated with various dimensions of stress. They reported that RNs experience more stress than Licensed Practical Nurses (LCNs, and equivalent to the Enrolled Nurse in Australia) and that nurses in psychiatry, medicine, surgery and intensive care units reported the highest stress.
Numerof and Abram (1984) further reported that experienced stress was inversely proportional to the length of time since graduation; that years of experience within a specialty area and degrees of stress were inversely related regardless of degree and functional department; that need for wanted control is directly related to experience stress; and that need for expressed and wanted inclusion and expressed and wanted affection are inversely related to experienced stress. Numerof and Abram (1984) concluded that stress was not a single phenomenon but factors such as intensity and frequency had to be considered.

Thus the earlier research into stress and nursing explored several categories of nurses (for example, ICU, paediatric and mental health nurses). None of this early work however refers to nurses working in EDs. Location and context was critical care and 'critical care' meant intensive /coronary care and not emergency care.

One of the earliest references to emergency nurses was from Thompson (1983) in an article that uniquely describes the hectic environment of the busy emergency department. "Thus she may have to talk to bereaved relatives, care for a battered baby, for a girl screaming with the agony of severe burns, or a boy with multiple injuries dripping with blood. She may be doing her best, and yet find that the stressed doctor and sister are short tempered and that the other stressed patients are abusive or violent" (Thompson, 1983 p.23). Thompson's article gives advice about the nature and consequences of stress and how the “Sisters” (read RN) can manage it with student nurses assigned to the ED.
Burns, Kiriloff and Close (1983) published the first research exclusively devoted to stress and emergency nursing. Using the same tools as Bailey et al (1980) the authors surveyed 160 emergency nurses. Results of this research were that emergency nurses identified similar stressors and satisfying events as did ICU nurses in the Stress Management Project (Burns et al, 1983). The results are summarised in Table 2.

**Table 2  Ranked order of items causing greatest stress or satisfaction.**

(Burns et al 1983)

<table>
<thead>
<tr>
<th>Rank</th>
<th>ED nurse</th>
<th>ICU nurse</th>
<th>ED nurse</th>
<th>ICU nurse</th>
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<tbody>
<tr>
<td>1</td>
<td>Unit management</td>
<td>Unit management</td>
<td>Patient care</td>
<td>Patient care</td>
</tr>
<tr>
<td>2</td>
<td>Patient care</td>
<td>Interpersonal relations</td>
<td>Knowledge and skill</td>
<td>Knowledge and skill</td>
</tr>
<tr>
<td>3</td>
<td>Interpersonal relations</td>
<td>Patient Care</td>
<td>Interpersonal relations</td>
<td>Interpersonal relations</td>
</tr>
<tr>
<td>4</td>
<td>Knowledge and skill</td>
<td>Knowledge and skill</td>
<td></td>
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<tr>
<td>5</td>
<td>Physical environment</td>
<td>Physical environment</td>
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<tr>
<td>6</td>
<td>Administrative rewards</td>
<td>Life events</td>
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<tr>
<td>7</td>
<td>*</td>
<td>Administrative rewards</td>
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The satisfaction scale dovetailed with the reasons nurses gave for choosing the ED as their place of work: the intellectual challenge, opportunities for learning, and variety and excitement. The stressors of “unit management” included: inadequate staffing, apathetic and inexperienced physicians and patients not requiring ED care. Within “patient care” the stressors were critical emergencies, cardiac arrests and fatalities, uncontrolled patient volumes and serious injury or death in children or ‘special patients’ (Burns et. al 1983).

Within “interpersonal relationships” the stressors were identified as being unresponsive leadership- nursing or hospital administration, nurse- physician interactions and disagreement with physicians over patient treatment. “Knowledge and skills” identified unfamiliar situations, inadequate knowledge and inadequate staff development /inservice opportunities (Burns et. al 1983).

The third part of the research compared and contrasted the responses in this research of nurses with less than 2 years emergency nursing experience with the more experienced nurses. Ten significant differences were identified (p 334). Those differences were that nurses with less than 2 years experience were less likely to:

- believe that physicians were available when needed;
- feel that a team spirit exists on a shift;
- believe that knowledge is current;
- have confidence in meeting patient’s physical needs;
- have sufficient preparation to operate specialised equipment;
- believe that physicians respect nurse’s knowledge; and
• be confident in their own abilities.

They were more likely to:

• feel clinical judgements were questioned;

• participate in group or individual counselling; and

• feel that time is available for patient care (Burns et al 1983).

The results of the Coping questionnaire indicated no such differences between the groups in methods of coping where both groups used direct coping methods (such as drawing on past experiences, seeking additional information or taking measures to control the situation). The results of this research provided the first glimpse into stress and emergency nurses, however the focus remained with ICU nursing in the stress and nursing literature.

Keane, Ducette and Adler (1985) attempted to clarify the differences between ICU and non- ICU nurses. Their theoretical framework included the phenomenon of control i.e. whether nurses in the study felt that they had control over their work settings as described in earlier literature by Seligman and Maiers (1967) work on learned helplessness; Glass, Reim and Singler's (1971) work on environmental crowding; Lazarus, Deese and Osler's (1952) work on stress and Rotter's (1966) work on locus of control. They attempted to link this with the notion of “hardiness” as described by Kobasa, Maddi and Kahn (1982). Although their work used the word, “Stress” in its title, this research used the term “burnout” interchangeably with “stress” throughout the
paper, thus giving an early indication in which the two terms would be commonly used in the nineties.

Keane et al's (1984) study used a variety of instruments. In addition each of the ninety six nurses who responded to the questionnaires were rated by their supervisors under headings such as level of adjustment in difficult patient care settings, how the nurse “gets along” with other staff and degree of punctuality to work.

Keane et al's (1984) results were similar to other findings in that there were no significant differences between ICU and Non ICU nurses in their degree of burnout. The supervisor's opinion did not correlate with the results and the only factor that was examined which predicted burnout was the rating from the hardiness scale. The researchers then re-analysed their results to ascertain the degree of control that the respondents felt that they had in their work environment. Keane et al (1984) concluded that a sense of control was an important buffer against burnout.

Keane et al’s (1984) conclusion may hold the key to the failure of research to find any significant differences between nurses from the critical care settings and other hospital units. The very nature of the ICU setting implies an environment where multiple factors are controlled - from the type of patient who is allowed into the unit to the number of respirations that we allow patients to have in one minute. Nurses in the ICU setting often have a one to one staff patient ratio and so actually have a great degree of control over their patient's activities and schedules. They will decide schedules for their patients often based upon the individual patient needs rather than a predetermined ward schedule (for example, the patient sponge is always done in the
morning). This varies from emergency nurses who have no control over the numbers or acuity of the patients presenting to their EDs.

Cronin-Stubbs and Rookes (1986) also examined the relationships between occupational stress, social support, work setting and life stress. They compared nurses from four different clinical settings: operating suite, medical wards, psychiatric units and critical care settings in three different hospitals (with Critical Care again excluding nurses working in the ED). Cronin-Stubbs and Rook’s (1986) results revealed no significant differences between groups on measures of frequency of occupational stress, intensity of occupational stress and burnout although there was evidence of the burnout phenomena amongst the sample. However there were significant differences in occupational stress among the work settings with critical care and medical nurses encountering more stress than psychiatric or operating room nurses.

One environmental stressor that attracted attention was noise. Topf and Dillon (1988) investigated the various levels of noise within Critical Care Units as a predictor of burnout. She postulated (using the stress theory framework), that unpredictable and uncontrollable noise is perceived as more stressful than continuous noise. Topf and Dillon (1988) employed regression analysis in her research thus using a more rigorous statistical method in the investigation of stress and nursing. Topf and Dillon (1988) concluded (p.571) that “nurses were bothered most by equipment noises signalling that action should be taken”. In addition, Topf and Dillon’s (1988) findings challenged previous work by Cronin-Stubbs and Rooks (1986), in that occupational stress and demographic variables were not seen to be linked with burnout in nurses.
Chiriboga and Bailey (1986) used the Nursing Stress Model as a theoretical framework to explore the questions of stress amongst critical care and non-critical care nurses. This model was built around several constructs (work environment, social support and so on) and used research methodology that included a large sample size (n=544), six different work locations and regression analysis. Pertinent findings included no difference in stress levels between critical and non critical care nurses although low involvement in decision making was linked to burnout in all nurses regardless of their work setting.

Harris (1989) applied the theoretical framework of coping and adaption to review nursing stress and also summarised the nursing research into ICU and non-ICU nurses which appears in Table 3.

<table>
<thead>
<tr>
<th>Stress greater in ICU</th>
<th>Stress equal</th>
<th>Stress greater in non ICU</th>
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<td>Stress greater in ICU</td>
<td>Stress equal</td>
<td>Stress greater in non ICU</td>
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<td>Harris (1985) *</td>
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Explanatory note: articles marked with an * are reviewed in this literature review.

Like Stehle (1981), Harris (1989) also comments about the lack of reliability and validity among many of the studies cited in Table 3 (p. 39) and questions some of the conclusions drawn from the earlier research. In addition, Harris (1989) uses the term, “burnout” interchangeably with stress to explain the phenomena described by the sample population. Harris (1989) summarised the findings and concluded that nurses who are burned out have less hardiness, higher stress, anxiety, and turnover, are younger, less experienced, more hassled, less educated, less involved with working conditions and less able to anticipate problems at work. Furthermore, they have
feelings of alienation, powerless and a lack of control as well as somatic complaints (Harris, 1989 p.24).

Most of the nursing research cited in this literature review emanated from the USA. However, the Australian nursing culture is based historically in the British system and hence the findings of such authors as McGrath, Reid and Boore (1989) when they compared nurses, social workers and teachers in their levels of stress and burnout may be more pertinent to the Australian context. Both the teaching and social work sample reported more burnout. The nurse’s source of stress included the lack of time to perform duties and the increasing pressure of the rationalisation of resources. This finding is probably applicable world wide as the spread of economic rationalism engulfs health care providers. The main effect of burnout on the nurses was a lack of personal accomplishment in their professional lives (McGrath et al 1989).

The dearth of research into stress and emergency nursing is acknowledged by Hawley (1992) whose research into Canadian emergency nurses results was limited by a small sample (n=69). However the small sample size was bolstered by the use of open-ended questions in the methodology. The five most reported stressors were human resources development, rewards, time pressures, communication and supervisory style (Hawley 1992). Categories of the frequency of stressor and the amount of stress that occurred with them correlated highly in the open-ended questions.

Emergency nurses in this study perceived that stress originated from a variety of sources in their working environment. Staffing practices (for example, insufficient staff during busy periods and unqualified staff) were a source of both frequent and intense
stress. Other sources of stress included the misuse of the ED by “repeaters”, communicating with patients and families described (Hawley 1992) as “irrational, upset, hysterical, unmanageable and out of control...intoxicated, verbally abusive and rude”, role conflict with other health care workers and too many non-nursing tasks. Working with inexperienced and incompetent physicians and the supervisory style of nurse administrators were also reported stressors as well as a lack of beds to move admitted patients into - the modern phenomena of “exit blockade” in Australian urban EDs (Hawley, 1992).

Another stressor described by Hawley (1992) was the “Is that all there is syndrome” - whereby experienced nurses are frustrated in their professional careers by a lack of opportunity to practice advanced nursing skills within their departments. The advent of the Nurse Practitioner role in America and the UK may have allowed those nurses to develop their practice domain to a level whereby this is not such a problem.

In Australia, the Nurse Practitioner debate is emerging into the public domain with the completion of the various Nurse Practitioner Projects that have been sponsored by the NSW Department of Health (McKenzie 2002).

The only other studies into emergency nurses outside the USA were two small scale, hospital based studies by Helps (1997) in the UK and Canadian researchers Moszczynski and Haney (2002). Although both studies sample sizes were small (n=52 and n=19), findings were comparative to the studies conducted in the USA. Like their trans-Atlantic colleagues, the UK and Canadian nurses held similar views on the types of stressors and sources of satisfaction they encountered in their job. Their top three concerns were the lack of staff, relationships with colleagues and physical and verbal
abuse. Their top three satisfiers were saving lives/patients getting better, patients and staff saying thank you and providing a good service. Two of the top three “hassles”- minor irritations of everyday nursing life - were both environmental: the ambient temperature and lighting (Helps 1997).

This finding supports the work previously reported by Topf and Dillon (1988) who used noise as a predictor of burnout in critical care nurses. Their third highest hassle was “too much to do” (Helps, 1997). The results of the MBI revealed that a third of the sample had high levels of burnout (high emotional exhaustion and depersonalisation and low scores for personal accomplishment) however there were no significant differences between nurses in any of the demographic details (Helps 1997).

Finally, an Australian study by Lam, Ross, Cass, Quine and Lazarus (1999) contributes to our knowledge of nurses and work related stressors with their study of work related trauma. This study had some emergency nurses in the sample population and the stressors described in the study were similar to those of Burns et al (1983) and Hawley (1992). Lam et al (1999) reported on the stressors that their respondents were exposed to including that of patient abuse. Lam et al (1999) found that almost 10 percent of their respondents suffered moderate to severe depression and concluded that nurses who are repeatedly exposed to work trauma require ongoing counselling. They also comment on the paucity and unsuitability of most employee sponsored counselling services.
BURNOUT

The phenomena of "burnout" has been described by Price and Murphy (cited in Hare, Pratt and Andrews 1988 p.106) as "an adaption to the progressive loss of idealism, energy and purpose experienced by people working in the human services". The term, coined in the late sixties, described a process whereby health care workers began to leave their chosen field as the effects of the burnout syndrome increased.

Storlie's quote (1979, p.2108) summarises the dilemma:

"Burnout is a highly personal happening inside the nurse - the literal collapse of the human spirit. It would be more useful and certainly more compassionate to ask what goes on in a professional nurse that transforms caring into apathy, involvement into distance, openness into self-protection and trust into suspicion".

Cullen (1995, p.23) adds that the burnout nurse is "... sarcastic and short tempered with patients, and never does more than the minimal amount of work required. With colleagues, she's rude, cynical, and always negative."

Storlie (1982) describes burnout through the philosophy of illusion. Burnout is disillusion - and a resignation to a lack of power - based on a perception that no matter what you do or how hard you try you cannot make a difference in the situation.

Maslach has been at the forefront of the research into the burnout phenomena since she began publishing the results of her research in 1976. As a result of her earlier
work, the phenomena was then classified as a syndrome of symptoms which are described by Maslach, Jackson and Leiter (1996) as:

- Emotional exhaustion - characterised by workers no longer feeling that they can give of themselves at a psychological level;
- Depersonalisation - negative, cynical attitudes and feelings about ones patients; and
- Reduced Personal accomplishment - a tendency to evaluate oneself negatively, feel unhappy about themselves and dissatisfied with their work achievements (Maslach & Jackson 1996, p.4).

These three dimensions are incorporated in the research tool, the Maslach Burnout Inventory or MBI (Maslach 1996). The MBI measures the “burnout syndrome” which is confirmed when an individual has high levels of emotional exhaustion and depersonalisation and low levels of personal accomplishment.

These three dimensions of the burnout syndrome have been extensively investigated by Maslach (1976) Maslach and Pines (1977) ; and Maslach and Jackson (1982) and led them to conclude that the consequences of the burnout syndrome include a deterioration in the quality of care or service provided by staff. It is seen as a factor in job turnover, absenteeism and low morale and is correlated with various self reported coping methods including increased drug and alcohol intake and other symptoms including insomnia, emotional exhaustion and marital and family problems (Maslach, Jackson & Leiter 1996).
One aspect that was examined by Maslach and Pines (1976) was the relationship between the numbers of clients/patients dealt with and the burnout syndrome. They found that dealing with more than 40 clients per day is correlated with high burnout scores (as measured by their MBI), a finding that has serious consequences for emergency nurses who may work in emergency departments that regularly see 150 - 200 patients per day.

The concept of burnout is now well accepted in the various health professions and Maslach and her colleagues expanded their work to investigate other professionals such as teachers. The refinement of the MBI over the last two decades has now yielded the MBI - Educators Survey to specifically target teachers and educators (Maslach et al 1996) Cronin-Stubbs and Brophy (1985) examined the effects of social support on the burnout syndrome rate amongst psychiatric, operating room, intensive care and medical nurses. Like the earlier stress research in nurses, Cronin-Stubbs and Brophy (1985) found that interpersonal relationships, and in particular their stability and duration were the most frequent sources of stress and the second most frequent source of desirable personal stress.

The effect of positive support in the workplace to ameliorate symptoms of burnout is also supported by Firth, McKeown, McIntee and Britton (1987). The setting for their research was chronic nursing environments and their findings were similar to Hare et al (1988), who found that nurses from long stay environments reported more emotional exhaustion than nurses from the acute care setting and reiterate the importance of the effective supervisor in the prevention of burnout amongst their staff.
Another interesting finding noted earlier by McGrath et al (1989) was the correlation between burnout and the amount of time spent with patients. Those nurses with high burnout scores spent significantly less direct contact time with their patients.

High burnout scores were also found by Keller, (1990) in clinical nurses employed in fifteen emergency departments in California, USA (n= 532). The results of the MBI revealed that 65 percent of the sample (n=137) reported medium to high levels of emotional exhaustion and 77 percent reported medium to high on the depersonalisation scale when working with patients. Keller’s findings however, contrasts with Gillepsie and Melby (2003) who reported medium to high levels of emotional exhaustion in only twenty percent of their sample of ED nurses and fourteen percent in the depersonalisation scale.

**Coping and Burnout**

The use of different coping strategies had been reported by Maslach and Jackson (1982) to be significant in burnout, specifically (p.106), “higher levels of burnout have been reported amongst health professionals who utilised withdrawal coping strategies and lower levels among those who used social coping strategies, such as talking about work stress and getting advice”.

Of the other variables under scrutiny, the interpersonal variable (especially relationships at work) was the most powerful predictor of burnout. Maslach & Jackson (1982) also found that the nurse's satisfaction with their social support from family buffered the nurses against burnout. Their conclusion and recommendations focus on
the organisational aspects of their findings acknowledging the impact that the organisation has on the individual rather than the power of the individual over the organisation.

Long term coping methods include direct action (approach) coping methods such as drawing on past experiences and taking definite actions (Jalowiec and Powers, 1981). Keller (1990) reported high levels of personal accomplishment for those nurses whose use of short term coping methods included seeing humour in the situation and getting involved in other activities. However, other short term coping methods were correlated with high levels of emotional exhaustion and included sleeping, crying and using recreational drugs. The earlier work of Maslach and Jackson (1982) supports Keller’s (1990) findings of coping styles when they found that tension releasing coping such as eating and smoking was the strongest positive predictor of emotional exhaustion intensity. Keller (1990) also reported significant correlations between these short term (or avoidance) coping methods and high levels of depersonalisation.

In addition to the research that established the presence of the burnout phenomena amongst various types of health professionals, interest turned to the examination of the psychological variables that may buffer the individual against the burnout symptoms. Rowe (1997) combined the earlier work on other psychological constructs of stress and tested them on a sample who were recruited from a mixture of health care providers including nurses, social workers, physicians, administrators and clinical staff (n= 448). However the results showed that no demographic or interpersonal variables affected burnout although those professionals who reported high
degrees of burnout also reported high levels of stress, a lack of commitment to life and ineffective coping.

McCranie, Lambert and Lambert Jr (1987) used the variables of work stress, the hardiness construct and burnout amongst hospital nurses when they examined whether hardiness affected the perceptions of work stress on the levels of burnout. However, they utilised just one hospital site with various clinical areas with the only exception being the emergency department. The two main findings were that burnout correlated significantly with perceived job stress which was, in turn, related significantly to work overload and that nurses characterised as less hardy experienced higher levels of burnout. However, their findings did not support their research hypothesis in that although hardiness helped to reduce burnout it did not seem to prevent high levels of job stress from leading to high levels of burnout.

This conclusion relates to the previous work by Hare et al. (1988) and supports Shinn et. al (1984) in that job stress is usually the product of the environment and organisational demands rather than being in control of the individual nurse. Some of those job stress characteristics include inadequate staffing, work overload, inadequate information concerning patient treatment, lack of staff support, conflicts with physicians and other nurses (Shin et. al 1984). All of these are potentially amenable to change and importantly nurses themselves can be the catalyst and driving force to implement these changes.

The examination of the burnout literature in nursing was significantly bolstered by Duquette, Sandhu and Beaudet’s (1994) meta analysis of the available research.
Following a review of three hundred articles they retained just thirty six articles that met the following criteria (p. 340):

- a correlative research design
- a population composed mainly of nursing personnel
- a participation rate of over 35 percent
- an instrument to measure variables related to burnout
- sufficient information on the method as well as the validity and reliability of instruments.

From their initial review Duquette et al (1994) collapsed forty five variables into fifteen for scrutiny. These variables were: organisational stressors (general workplace stressors, role ambiguity, workload, type of nursing unit and direct time spent with patients). Sociodemographic factors (age, sex, civil status, number of children, employment title, education and experience) and buffering factors (hardiness, social support in the workplace and coping methods.)

Duquette at al’s (1994) main findings for the three major variables were that general workplace stressors included noise, role ambiguity and workload (however the authors caution that these are not the exclusive domain of the health environment). The type of nursing unit exerts little influence on burnout in nursing personnel and that time spent directly with patients does not seem to be a major factor contributing to nursing burnout. Among demographic factors only age appears to contribute to burnout - younger nurses are more burned out and that no significant relationships exist between
burnout and employment title, education and experience. Duquette et. al (1994) did find that a positive relationship exists between lack of hardiness and burnout in nursing personnel and further that commitment (one of the hardiness constructs) is the best predictor variable of burnout in nursing personnel. Finally they concluded that support from superior and colleagues play an important role in protecting nursing personnel from burnout.

Cullen (1995) describes the 'toxic environment' of health organisations in the United Kingdom. In her reference she alludes to those organisational characteristics that support the burnout syndrome especially in the days of fiscal restraint, health economics and the resultant impact on length of stay. She argues that nurses cannot meet both perceived patient and organisational needs as they are often in conflict with each other. Cullen (1995) also alludes to “oppressed group behaviours” which includes low self esteem, horizontal violence and passive aggressive behaviour.

The following 1979 quote from Dunn (who is not a nurse) supports Cullen’s (1995) view when she commented that “of the many things which puzzled me when I first explored nursing and nurses, two remain a mystery. One is how horrible nurses are to one another - in the form of seniors victimising juniors, or of a mutual refusal to acknowledge stress, or an intolerance of colleagues who crack physically or mentally.”

In conclusion, these two quotes help us to balance the debate about the burnout syndrome in nursing. For although the evidence about burnout points towards “the
organisation” as a significant factor in the development of nursing burnout, it must be acknowledged that nurses’ treatment of their colleagues themselves plays a central role.

**UNIQUE CHARACTERISTICS OF THE EMERGENCY DEPARTMENT**

Following the review of the literature surrounding stress and emergency nursing two characteristics of the emergency department environment will be further explored. They are the themes of violence and aggression and the use (or misuse) of EDs by patients not deemed to require emergency care. These themes have been selected for further review as both were highlighted as a source of stress for emergency nurses in research by Helps (1997), Hawley (1992) and Burns (1993).

**Violence and Aggression**

Although the early nursing literature denied that assaults upon nurses were frequent (Brooks, 1967 and Kalogerakis, 1971), Gosnold (1978) and Winterbottom (1979) began to describe the extent of the problem of violence in EDs in both the U.S.A. and England. In particular, Winterbottom (1979) despaired at the growing crowd violence with soccer games in England and how the team rivalry was imported into waiting rooms creating havoc that was usually only solved with the assistance of the police. Stultz (1993) reviewed incident reports from two hundred and forty eight hospitals and concluded that nurses were the most frequent targets for assault and the greatest number of assaults (25 %) occurred in EDs. She further reported that of the fifty-one homicides, 23 percent were in an ED (Stultz 1993).
By their very nature EDs are vulnerable to violent and aggressive behaviours by patients. (Mahoney 1991, Lavoie, Carter, Danzl & Berg, 1988, Duffin, 2001). Generally they are open 24 hours per day and in Australia in particular are “open” to anyone requiring urgent care. Those in need of that care may be confronted by noisy, chaotic departments that can be intimidating and frustrating.

Mahoney’s (1991) extensive study of emergency nurses (n=1209) reported that 98 percent of the sample reported violence and assault whilst at work with verbal abuse the most frequently encountered form of victimisation. Other key findings from Mahoney (1991) noted that urban nurses reported the highest incidence of violence followed by suburban then country nurses. Male nurses reported greater frequencies for all types of victimisation then did female nurses and that night shift was identified as a high risk time. Night shift nurses also reported a higher number of incidents involving alcohol and other drugs. Thirty six percent of urban nurses reported that weapons were involved in at least one of their assaults and twenty percent of the sample had considered leaving the nursing profession as a result of their experiences with victimisation. Mahoney (1991) concluded that emergency nurses were more at risk of violence and assault than both the general public and parole and probation officers!

The work of Mahoney (1991) was supported by that of Levin, Hewitt and Misner (1998) whose descriptive study of emergency nurses and their insights into violence in their departments reported similar figures to Mahoney (1991). Utilising an ethnographic approach, Levin et al. (1998) interviewed emergency nurses, half of whom had been the victim of assault. Among the important themes that emerged from the analysis were the quality and performance of assigned security personnel and the
process of reporting assaults to management (including repercussions for nurses who reported abusive physicians). Assault injuries which included verbal and physical abuse were often a result of long waiting times and patients in pain and so on. Nurses often differentiated those attacks from patients with psychiatric illness as being more acceptable than those from patients who are drunk or under the influence of other drugs. This research also examined the effects on nurses of the assault and listed the build up of anger, a sense of sadness, a sense of professional loss, flashbacks, nightmares and loss of sleep as the most common reactions given by nursing staff (Levin et. al 1998).

Schnieden and Marren-Bell (1995) surveyed 300 English emergency nurses who reported high levels of violence. Factors thought by the respondents to be related to violence included the department under pressure, waiting times in the department, medications and substance abuse. Similar to Mahoney (1991), Schnieden and Marren-Bell (1995) reported that verbal violence was more prevalent than physical violence and that the verbal violence was most commonly in the form of obscenities, non-specific threats and personal threats.

A survey of 170 emergency departments in the United States by Lavoie et al (1988) reported that forty one departments recorded at least one verbal threat per day and twenty three reported a threat with a weapon at least once per month. (p.1227). Also of note were the seventeen departments who reported that they had significantly injured a patient during restraint with one death recorded and the low level of aggression training for staff. One department that utilised metal detectors confiscated approximately 300 weapons per month (Lavoie et. al.1988).
In Australia, the issue of violence in EDs was explored by Lyneham (1999), Jones and Lyneham (2001) and Jackson, Clare and Mannix (2002). Lyneham (1999) and Jones and Lyneham (2001) reached similar conclusions to the international work of Mahoney (1991) and Schnieden and Marren-Bell (1995) in particular the importance that emergency nurses place in the response of hospital management to nurse assault. Lyneham (1999) reports (p.22) "a general feeling of helplessness and hopelessness" amongst nurses that the problem of aggression is minimised and in some cases trivialised by the health service administration. Indeed, McMillan (1995) reported that line managers were identified as a continual source of violence and bullying. Although the problem appears to be more common in urban areas (Mahoney 1991), nurses in NSW often work in very isolated areas where even local police may be 200 kilometres away.

The response of emergency nurses to violence and aggression include anger, helplessness, loss of control and increased irritability (Mahoney, 1991); insomnia, agoraphobia and depression (Schneiden & Marren-Bell, 1995); flashbacks, nightmares and saddened by a professional loss, a pulling away from the speciality they loved (Levin et al, 1998). A highly personalised (and harrowing) account of a nurse's response to being attacked and stabbed in a NSW urban hospital (Smith 1998) contributes to the findings of Mahoney (2000).

It appears from this short review that violence and abuse in emergency departments is a significant stressor to nurses. Furthermore, it is a stress variable that was not commonly accounted for in the previous review of stress and nursing.
However, the question of why patients are violent maybe understood in the context of the following review.

**Patients not requiring ED care**

The other major theme that is unique to emergency departments are those patients who present for treatment that are deemed "not appropriate" for ED care. Jeffery (1979) described the phenomena of "good" or "interesting" or "bad" and "rubbish" patients. These typifications were embedded in conversations recorded in EDs in England such as (p. 92) "If there's anything interesting this morning we will stop, but there's a lot of rubbish this morning" or "We have the usual rubbish, but also a subdural haemorrhage". Jeffery (1979) classified the "good" patients into three categories. Those that allowed the Casualty officer to practise skills necessary for passing professional examinations, their speciality and those that tested the general competence and maturity of staff.

The word "rubbish" was used interchangeably with the words "dross", "dregs", "crumble" or "grot" to describe patients who were "trivia", (patients who drop in when passing often several days after an injury or when visiting a relative and so on in hospital and who present with complaints that are easily managed by a G.P); drunks (who come in shouting and singing after a fight and "they are sick all over the place"); overdoses, (generally female with a self injury rather than a attempted suicide) and tramps - recognised by their many layers of rotten clothing they wear and their smell. Other categories of patients described in this fascinating study include the "nutcases"
(patients with mental health problems), the smelly, dirty and the obese (Jeffrey 1979, p.97).

Jeffrey (1979) posits that the reason that these patients are considered to be "bad" is that the patients in these categories break unwritten rules that govern the work of Casualty departments. These rules are linked to the work of Parsons (1951) in describing the 'sick role'. The rules include the notion that patients must not be responsible, either for their illness or for getting better: medical staff can only be responsible if, in addition they are able to treat the illness. Thus the "rubbish" patients break the first rule by, for example, getting drunk in the first place or by taking the tablets in the overdose. Patients with mental health problems were less frequently criticised though as staff were undecided whether they were responsible for their mental health illness. Quotes from staff interviewed included

"I think it's all so unnecessary, you know, if you are going to do the job, do it properly, don't bother us!" (Referring to a patient with an overdose) (Jeffrey 1979, p.100).

Furthermore, patients should see illness as an undesirable state and should be restricted in their reasonable activities by the illness. Thus patients with overdoses of self harm magnitude and the tramps seeking a warm bed for the night offend this rule. Patients should also cooperate with the competent agencies in trying to get well. Obviously then, the drunks and the overdoses are both prime offenders as they refuse to stay in the department to be sutured or when the overdose patient continually rips out the naso-gastric tube inserted to administer antidote and chelation agents (Jeffrey 1979).
Jeffery (1979) also discusses the negotiations that take place between staff and patients as decisions are made as to which categories patients will be placed in, and cites an example where, "respect was shown to the man who took an overdose, then slashed his wrists when he came into Casualty and finally drowned himself in the bathroom of the Casualty ward." (Jeffery 1979, p.100). Jeffery (1979) describes the various forms of punishment that staff used in treating "rubbish" patients. These included delaying treatment, putting patients into back rooms of departments and by assaulting overdose patients "who would be held down or sat upon while the patient was forced to swallow the rubber tube used." (Jeffery 1979, p. 103).

However, staff were cautious in refusing treatment from both a medico-legal and bad publicity perspective though the following anecdote cited makes one a little suspicious:

"A tramp who was seen in a Casualty department and discharged. A little later the porter came in and told the Casualty officer that that the tramp had collapsed and died outside on the pavement. The porter then calmed the worries of the Casualty officer by saying 'It's alright, sir, I've turned him around so that it looks as though he was on his way to Casualty.'" (Jeffery 1979, p. 104).

The themes explored by Jeffrey (1979) were supported by the work of Roth (1972) who with other colleagues spent time in EDs across the USA. Their observations were both unsettling and challenging to the professional norms by which nurses and doctors operate. The process of orientation and socialisation of new staff, both medical and non-medical to the ED included that
"patients were not to be trusted and did not have to be treated politely ... and to treat everything they say with suspicion." (Roth 1972, p.842)

Roth (1972) observed that patients who were discriminated against in respect to waiting times and treatment modalities included (p. 842) "dirty, smelly patients, drunks, hippies and certain ethnic groups". When coupled with the patient's presentation with symptoms that are seen as wasting the ED services time (sore throats, chronic and obscure abdominal pain and so on) these patients are the ones referred to by the staff as "garbage, liars, deadbeats and people who come out from under a rock." (Roth 1972 p. 842)

Roth's (1972) major conclusion is that in large service institutions such as a hospital ED, judgements made at one end of the system by, for example, the ambulance service or at triage often shape the judgements at the other end and to challenge the assumption that professional training will succeed in creating a universalistic moral neutrality (Becker, Geer, Hughes & Strauss, 1961). Roth (1972) argues that the professionals will apply the social evaluations common to their culture according to their own norms unless discouraged by the organisational system in which they work.

Kelly and May (1982) reviewed the literature on "good" and "bad" patients mainly in terms of the nurse - patient relationship. They are critical of much of the research on both empirical and methodological grounds stating that much of the data on good and bad patients lack internal and external validity, are inconsistent, and non-replicatory. The use of fixed choice questionnaires were also criticised as is the failure to adequately describe emotive terms used to describe patient characteristics (p. 151)
such as “*dirtiness, un-cooperativeness, anxiety, unappreciativeness and aggressiveness and dependency*” (Kelly & May, 1982).

The issue of the inappropriate patient is of course bound to the staff’s perception of what constitutes the “real” work of the ED. Green and Dale (1990), investigated the views of emergency nurses in the U.K and found that even amongst experienced staff the “*boundary between the appropriate and inappropriate use of the A & E service is often unclear*” (p. 160). Although the “real” work of the ED is often described by the ED staff as being for the treatment of life threatening disease and trauma, patients who present with seemingly trivial complaints are found to be suffering from conditions that contradict initial diagnosis. Green and Dale’s (1990) research supports this view (p.160) in that “*experienced nurses in casualty departments may have seen enough of these patients to be cautious of defining anyone as being inappropriate.*”

Crouch and Dale (1994) used visual analogue scales to identify feelings engendered in nurses during triage assessment. Patient disposition following assessment as either a “*primary care*” patient (patient able to be managed by their G.P) or a “*true accident and emergency attender*” (in need of immediate care and urgent assessment) were studied and they found that more senior nurses triaged more patients to Primary Care than junior staff (58.3 % to 40.9 %) and that the feelings engendered by primary care patients included less sympathy, more irritation and less motivation to help them. This was added to by the duration of the patients symptoms prior to arrival and when as a consequence of health maintaining behaviours (Crouch & Dale 1994, p. 295).
The allocation of patients to triage categories who are not deemed to require urgent care will often result in long waiting periods to see a doctor. (Hanson, Clifton-Smith & Fasher, 1994). These excessive waiting periods have been recognised as a factor in violence and aggression towards ED staff, particularly nurses (Helps, 1997; Hawley, 1992; Levin et al, 1998; and Lavoie et al 1998). The body language of the nurse towards these patients has been recognised by Crouch and Dale (1994) and Mahoney (1991) as being problematic.

Kelly and May (1982) are especially critical of the failure to acknowledge the role and responsibility of the staff’s moral evaluation of patients and how that effects the ways in which patients will therefore respond to the staff in question.

"Acting brusquely, argumentatively, of officiously or using a sharp tone...can easily anger patients...or failing to listen to show respect toward the patient can also potentiate violent behaviour”

(Kurlowicz 1990 p.39).

Thus the themes of violence and the inappropriate patient presenting to ED appear to be linked. This link challenges emergency nurses in their day to day work and can be considered a stressor unique to the ED environment.
SUMMARY

Stress is the relationship between individuals and their environment that is appraised as taxing or exceeding their resources and endangering their well being (Folkman, 1984). The appraisal by an individual of what is stressful is transactional and contextual in nature thus allowing a wide definition of what is stressful to be considered. There is reason to believe that emergency nursing is highly stressful (Hawley 1992) however as this literature review has demonstrated the empirical evidence is scant and the Australian experience yet to be extensively explored.

The mediating factors that allows us on to cope with stress are varied (Pearlin & Schooler, 1978) and can be classified into various types of coping behaviours. Why we use one type of coping mechanism over another may be influenced by intrinsic personality factors such as hardiness and be influenced by age or other variables (Parkes, 1986). Other mediating variables such as support systems that surround us appear to vary in their implied usefulness with social support in the workplace shown to be useful when perceived to be available (Cohen & Wills, 1985).

The phenomena of burnout has been examined and appears to have overtaken the term “stress” to describe a range of emotions and symptoms in the health literature. The emotional disengagement of the individual from their professional work and the subsequent impact on colleagues and patients presents challenges to organisations to recognise the role that management may play in the prevention of the so called “toxic environment” in which the burnt out nurses thrive (Cullen 1995).
The type of work that emergency nurses engage in have been recognised as sources of stress and include caring for trauma victims, suicidal and critically ill patients (Burns et al 1983). However two other characteristics of the ED environment, violence and patients deemed not to require ED care have also shown to be sources of stress that may be beyond the usual description of what emergency work entails.

Thus this Literature Review, although helpful in describing major themes is not inclusive of emergency nurses in Australia providing the impetus for this research to explore the professional work of NSW emergency nurses and in doing so contribute to the small body of knowledge about emergency nurses world wide and in particular the Australian experience. Some of the specific questions that arise from this review include:

- What are the demographic and professional characteristics of NSW emergency nurses?
- What attracts emergency nurses to this area of nursing?
- What do emergency nurses consider stressful in their day to day professional role?
- Do perceived stressors differ between emergency nurses based on their age, gender, employment experience or work location?
- How do emergency nurses cope with the stressful parts (if any) of their work?
- What types of support mechanisms are available to NSW emergency nurses and are they utilised?
- Is there evidence of burnout amongst NSW emergency nurses?
• What are the similarities and differences between emergency nurses who work in the urban hospital environment versus those who work in rural NSW?

• How do the results of this research into NSW emergency nurses differ from that previously published in the international literature?

• Are perceived sources of satisfaction and stress universal in emergency nursing or do Australian emergency nurses identify elements that are unique to the Australian experience?

The following chapter will explore the methodology used to obtain data and proposed subsequent analysis to assist in answering the research questions outlined above.
CHAPTER THREE  METHODOLOGY

This section describes the conceptual framework, proposed sample, design and methods utilised to obtain the data for analysis and discussion. The construction of the questionnaire and the studies, procedures and ethical considerations are described.

CONCEPTUAL FRAMEWORK

Coping styles  \hspace{0.5cm} \rightarrow \hspace{0.5cm} \text{Stressors}  \hspace{0.5cm} \rightarrow \hspace{0.5cm} \text{Support services}  \hspace{0.5cm} \rightarrow \hspace{0.5cm} \text{Burnout}

Employment Location

Demographic details: age, gender, education etc.

EMERGENCY NURSES STRESS, COPING and BURNOUT

Figure 2  Conceptual framework for research design

Informed by the literature, the conceptual framework in Figure 2 illustrates the links between the main tenets that contribute to the research design. The transactional theory of stress as postulated by Folkman (1984) will be used as the philosophical framework to explore the incidence of inter-relationships between several phenomena in the work experience of emergency nurses. Stressors will be defined and measured for both frequency and intensity. Support systems will be quantified for both
availability and perceived usefulness. The rate of burnout will be estimated from the sample population and coping styles of individuals and groups identified. The employment location of the sample population will be utilised as the main independent variable to compare and contrast the emergency nurses response to these phenomena. In addition, demographic and professional details will be utilised to determine the effects (if any) of age, gender, professional status and education.

**DESIGN**

A descriptive exploratory study was used within a comparative descriptive design to compare and contrast various groups of nurses. The decision to use this method was due to the scant body of knowledge in the literature about Australian Emergency nurses and the design of previous international research studies that described emergency nurses, in particular, the work of Burns et al (1983) and Hawley (1992). To comprehensively explore this information, it was important that the sample included not only emergency nurses who work within the urban regions of NSW but also those nurses working in geographically and professionally isolated areas. The use of a questionnaire therefore was considered the most efficient method of data collection due to the large geographical spread of the state of NSW. In addition, because of the sensitive nature of some of the issues explored, data collection via a questionnaire promoted confidentiality for the respondent (Roberts & Taylor, 1998, Beanland, Schneider, LoBiondo-Wood and Haber, 1999).
Population and Sample

The prospective sample comprised all the financial members (n= 600) of the NSW Emergency Nurses Association (ENA) in October 1998 and represented approximately 37 percent of the total number of nurses working in EDs in NSW. (NSW Nurses Registration Board Workforce Survey 1995).

The prospective sample was chosen for several reasons including widespread geographical distribution of the membership of the ENA across NSW. The wide spread distribution assumed that the sample population should include nurses from the four major employment locations used in the research design as a major independent variable: tertiary urban, district urban, rural base and rural district hospitals. In addition, scrutiny of the NSW ENA membership data base assumed access to all professional categories of nurses working in EDs. In addition, membership of a professional association such as the NSW ENA implies a commitment to both the individuals’ professional development and the specialty nursing group to which they ascribe. Finally, as this was largely unfunded research, the offer by the NSW ENA to the researcher to utilise their journal distribution as a cost free vehicle for the research data collection tool was both generous and timely.

Ethical Considerations, Recruitment of Sample and Data Collection Strategies

The planning of this research design incorporated several important ethical considerations. Firstly the principle of beneficence (or “doing good”) was applied to the study aim (i.e. to ultimately produce results which would be of some benefit to the
nursing profession), (Roberts & Taylor, 1998 and Matthews & Venables, 1998). The paucity of research into emergency nurses in Australia would appear to satisfy the principle of beneficence in this matter. The research was thus designed to answer several questions for which there is currently no information available.

The potential emotional consequences for the individuals participating in this study were considered. Roberts and Taylor (1998) and Beanland et al (1999) caution that it can be distressing for participants to recall memories that are painful or stressful. The author reiterated this potential risk in the covering letter to participants and included a contact telephone number for further advice and referral.

The principle of respect for human dignity, which affirms the rights of humans to determine their own actions, was also incorporated into the research design (Matthews & Venables, 1998). This principle includes the right to decide whether to participate, the right to refuse to participate and the right to withdraw from the study at any time. Informed consent has two elements: information and consent (Roberts & Taylor, 1998). A covering letter explaining the aims and objectives of the study was given to each potential participant, which included contact details for those individuals who wished to discuss any aspect of the research aims or design. In other research designs, participants are often required to sign a consent form to participate in the study. However a signature on a questionnaire can invalidate the anonymity of the respondent (Roberts & Taylor, 1998, Matthews & Venables, 1998 and Beanland et al, 1999), hence informed consent in this design was implied by the return of the questionnaire. Participants were also given the opportunity to discuss the research questionnaire with a member of the UWS Ethics Committee if needed, with contact details included in the
introduction. Anonymity was assured by the design of the questionnaire with no individual required to furnish their name or employing hospital.

Formal approval for the study to proceed had been granted by the University of Western Sydney (Macarthur) Ethics Committee. (See APPENDIX B).

The privacy and confidentiality of the participants was assured by the assigning of numerical codes to each completed questionnaire prior to entry into a data base. The safety of the data was assured by the safekeeping of returned questionnaires in a locked fireproof cabinet, the key to which was held only by the researcher.

**Population and The Sample**

The intended population sample comprised all the financial members (n= 600) of the NSW ENA in October 1998 and as stated previously represented approximately 37 per cent of the total number of nurses working in EDs in NSW (NSW Nurses Registration Board 1995).

**DATA COLLECTION PROCESS**

The questionnaire was distributed via the October 1998 edition of the ENA publication, The Australian Emergency Nurses Journal. As previously mentioned, verbal permission had been granted by the editorial committee of the journal for the questionnaire to be inserted by the researcher, with distribution dependent on current financial membership of ENA. Written application to ENA for permission to utilise the
ENA journal was not required. A pre-paid envelope was included in an attempt to maximise the return rate to the researcher. A private Post Office box was hired by the researcher for the return of completed questionnaires and was only accessible to the researcher.

DATA COLLECTION INSTRUMENT

The questionnaire was divided into four distinct components and the entire questionnaire is included in Appendix C. This section of the chapter addresses each of the four components of the data collection instrument including reliability and validity issues and previous uses.

1) The Demographic Survey

The Demographic survey explored the following personal and professional attributes and included biographical details and some themes derived from the literature:

a) Professional classification - Enrolled Nurse, Registered Nurse, Clinical Nurse Specialist, Nursing Unit Manager, Clinical Nurse Consultant, Clinical Nurse Educator and Nurse Manager.

b) Length of time in current position expressed in years.

c) The most recent clinical experience prior to moving to the E.D. For example, medical, intensive care, operating suite to build a professional profile on subjects.
d) A list of statements about what had originally attracted the respondents to emergency nursing that respondents ranked in order of importance: being a member of an effective team, recognition and respect, variety and excitement, proficient use of skills, intellectual challenge, making a difference to patients and a free answer option. These variables were derived from the Intensive Care Nurse Questionnaire (Harris, 1980).

e) Age. Harris, (1989) reported age as a variable associated with higher burnout rates.


g) Marital status. Cohen and Willis (1985) found a strong relationship between social support and the buffer effect for stress.

h) Country of birth and language spoken other than English. The results of this question could be used to estimate the numbers of nurses from non-English speaking backgrounds as compared to the known ethnic population mix, especially in metropolitan Sydney NSW.

i) Qualifications and training including year of registration with the NSW Nurses Registration Board, hospital or university based curriculum and specific post-graduate certificates and awards. Harris (1989) identified education as a variable associated with burnout.

j) Current employment status classified into four groups - major teaching hospital, rural base, urban district or rural district. This variable was used for the main comparative design of the study i.e. to compare and contrast the results amongst the four groups.
k) Types of support service provided by employer - critical incident stress
debriefing, peer support system, access to counselling or other.

l) Types of incidents that have caused the respondent to use the support
service if provided.

m) Comment on usefulness of support service provided. Cohen and Wills
(1985) noted that support can be considered useful just by being available.

n) Listing three sources of greatest satisfaction as an emergency nurse. This
allowed for comparison to the question ascertaining what had originally
attracted nurses to the ED and whether those sources of satisfaction were
still evident. This variable was used in research into ED nurses by Burns et

o) Possibility of leaving emergency nursing in the next year. This variable
estimated the number of nurses who were planning to leave the ED
environment and

p) Possible area of transfer - within the respondents current hospital, current
area, outside of the profession. This element was included to examine the
premise of the uniqueness of the ED environment as to whether those nurses
who consider leaving the ED are content to go back to a normal ward
environment or who choose other destinations.

2) The Stress Survey

A forty-eight factor stress survey originally derived from the Intensive Care
Nurses Questionnaire was used (Bailey et. al 1980). Permission to use the survey was
granted by the authors employing university as the survey designer. The permission letter is contained in Appendix D.

The main reason for the choice of the Stress Audit Questionnaire was the previous use of this research tool by two of the four authors who had studied stress in emergency nursing (Burns et al., 1983 and Keller, 1990). Therefore, this use allowed for comparison between the international research and the results of this study. Content validity had been claimed by the authors, (1,800 nurses participated in the design) although no psychometric measurements of confirmation have been published.

Several modifications of the Stress Audit Questionnaire were made for this research via the inclusion of the following elements that are either exclusive to the ED environment or that had been identified as important elements in the review of the literature:

- triage and triage in babies, children and the impact of culture on assessment.
- patients who present as a result of self poisoning or who are drunk
- exit block and uncontrolled patient volumes
- non-English speaking patients and their different cultural patterns and expressions of bereavement
- chronic attenders
- verbally abusive patients
- physically abusive patients
- death from trauma
In addition some elements were eliminated from the original survey in particular questions about administrative rewards, i.e. pay scales as nurses in NSW are generally remunerated via a centralised wage award system and hence have no individual bargaining power with employers. Minor word changes were also used. For example, ‘physicians’ was changed to ‘doctors’ to reflect the use of the English language in the Australian context.

The Bailey Stress Audit (1980) was comprised of six distinct areas in which the respondents were asked to quantify the intensity of the stress (low = 1, medium = 2 or high = 3) and the frequency of occurrence (never = 1, occasionally = 2, weekly = 3 or daily = 4). Thus each element of the stress survey was capable of scores ranging from 2 to 7. Scores of 2 denoted low stress and low frequency of occurrence through to scores of 7, which denoted high stress and daily occurrence. Different combinations were possible with this scoring method so that an element may occur daily (n = 4) however was assigned a low stress score (n = 1) by the respondent.

Thus analysis of the data included separate scores for each element plus a combined stress total. The combined stress total was derived by multiplying the two scores to increase the power of the combined totals and differentiate those scores that although occurring on a daily basis were not considered stressful by the participant. This computation then had the effect of delineating scores from 1 to 12. Scores were delineated under the following headings:

1) **Unit management**: explored the elements of: staffing, patients not requiring ED care, inexperienced medical officers, rosters and shiftwork, interruptions by
telephones, lack of inpatient beds (exit blockade) and the process of “razzling” whereby staff are rotated out of the ED to staff other units.

2) **Patient care** which explored critical emergencies (cardiac arrests), uncontrolled patient volumes, verbally abusive patients or others, physically abusive patients or others, drug overdose in patients, serious injuries in children, non English speaking patients, triage general, triage in babies, triage in children, domestic violence, documentation and paperwork, chronic attenders to ED, inability to meet patient needs, and patients who are drunk.

3) **Interpersonal relationships** which explored unresponsive administration, nurse-doctor interactions, disagreements with doctors about patient care decisions, lack of respect for skills, lack of teamwork with other in-patient units, lack of support from the Nursing Unit Manager or Nurse Manager, lack of input into unit policies.

4) **Knowledge and skills** which explored inadequate knowledge, inadequate opportunities to attend in-service, unfamiliar situations, impact of culture on assessment, lack of experience, unfamiliar equipment, no in-service provided

5) **Physical Environment** which explored work space size, insufficient equipment, high noise levels, temperature, inadequate staff facilities, and old equipment.

6) **Death and Dying** which explored death from trauma, supporting bereaved families, inadequate area for bereavement support, inadequate knowledge or skills in supporting the bereaved and different cultural patterns or expressions of bereavement.
3) The Jalowiec Coping Scale (JCS)

The JCS was first developed in 1977 and revised in 1987 with the purpose of measuring the use and effectiveness of different coping strategies (Jalowiec, 1988).

Permission to use the JCS was granted by the author and the letter of permission is reproduced in Appendix E. The classification of the items into either problem or affective oriented items was reviewed by an expert panel (Jalowiec, 1998 p. 158) with agreement on 85 percent of the items overall. The problem oriented items had higher agreement (88%) than the affective oriented (83%) however the inter-rater reliability is considered to be acceptable at this range (Jalowiec, 1998).

The JCS consists of forty coping strategies and uses a five point Likert scale of 1 – 5 (where 1 = never, 2 = occasionally, 3 = frequently, 4 = often and 5 = almost always) to describe the frequency of use of the different coping strategies. A Likert scale rather than a binary yes/no choice was preferred by Jalowiec and supported by Billings and Moos (1981) as the binary relationship can confine relationships between coping styles and stress. The transactional theory of stress and coping (Folkman et al., 1986) highlights the ever changing relationship between the two whereby choice of coping styles are effected by the particular stress being faced by the person. However the use of a particular scenario was not used in this research as no particular stressor or scenario had been identified as stressful by Australian emergency nurses. Indeed the purpose of the Stress Audit in Part 2 of this questionnaire was to attempt to quantify what were the stressors that affected Australian emergency nurses and how those stressors differed amongst urban and rural and remote area nurses. The respondents
therefore were asked to reflect on the situations in the Stress Audit and indicate their coping styles by completion of the JCS. The data analysis did not include a judgement by the respondent of the effectiveness of any of their individual coping styles hence data analysis was limited to total coping use, use of the eight different subscales and relative scores that determines how much of an individual's coping behaviour is accounted for by a particular coping style.

Psychometric analysis of the Jalowiec Coping Scale has been addressed following requests for more detailed evidence of the scale (Jalowiec, Murphy & Powers, 1984 p. 157). The following reliability and validity were reported. The coping scale reliability was established by a test - retest period of two weeks with a reported reliability coefficients (Spearmans test) of .79 for the total coping scores, .85 for the problem oriented styles and .86 for the affective oriented (Jalowiec et al, 1984 p. 158). This result was later supported by Langer (1983) with similar scores.

As a major source of error within a tool can be attributed to domain sampling of items (Nunally, 1978), Cronbachs alpha was used in the estimation of the internal consistency reliability. However, Jalowiec (1981, p.158) refers to the work of Billings and Moos (1981) who cautioned that typical reported homogeneity estimates may be of limited value in the measurement of coping styles as the use of a particular coping style often precludes use of others at that time. The reported Cronbachs alpha was .86, later supported by Murphy (1982) who reported an alpha of .85 thus establishing overall homogeneity of the scale content.
Content validity was established by the broad empirical literature review coupled with an empirical construct validity by determining agreement with twenty-five nurse researchers with the authors classification of the 8 subscales. Agreement ranged from 94 per cent on the supportant scale to 54 per cent on the emotive scale. Agreement on all scales was reported at 75 per cent (Jalowiec 1984, p 3). In addition the JCS was compared to the results of a qualitative coping interview with concordance established between the two.

Construct validity was established by the use of factor analysis. Tabachnick and Fidell (1996, p. 635) define factor analysis as

"a statistical technique that is applied to a set of variables where the researcher is interested in discovering which variables in the set form coherent subsets that are relatively independent of each other. Factors are thought to reflect underlying processes that have created the correlations among variables."

Thus a large number of observed variables (for example, 40 items in the JCS) can be reduced to a smaller number of factors by factor analysis. Other benefits of factor analysis may include: providing a regression equation for an underlying process using variables or to test theories about the nature of underlying processes. This can be invaluable in research in psychology, sociology and so on where the interplay of the subconscious mind and diverse social or environmental influences can combine to effect an individual’s response to phenomena such as stress and coping. Tabachnick and Fidell (1996) also comment on the advantage of factor analysis stating (p. 636) that "when scores on factors are estimated for each subject, they are often more reliable than scores on individual observed variables".
The successful use of Principal Factor Analysis depends on several assumptions being met by the data. Coakes and Steed (1997, p.184) state the following requirements:

- Sample size - a minimum of five subjects per variable is required.
- Normality - solutions are enhanced if variables are normally distributed.
- Linearity - as factor analysis is based on correlations between variables.
- Outliers among cases - factor analysis is sensitive to outliers thus they must either be removed from the data set or recoded or transformed.
- Multicollinearity and singularity which can be identified if any of the squared multiple correlations are near or equal to one in which case the inclusion of the particular variable may need to be reconsidered.
- Factorability of the correlation matrix - whereby the correlation matrix should reveal correlations bigger than .3.
- Outliers among variables - where variables with low squared correlations with all other variables may need to be removed.

The data analysis as reported by Jalowiec (1988) does not meet all the assumptions above. In particular, the JCS would require a minimum sample size of 200 to meet the criteria, however Jalowiec (1988, p. 159) calculated the minimum sample size would need to be 100 subjects (Jalowiec sample n = 140 subject), and a factor loading of .26 would be required for significance. A Kaiser criterion (eigenvalue of one or greater) was used to determine which factors could be rotated.

Rotation is used in factor analysis to increase interpretability (Tabachnick & Fidell, 1996). The two general classes of rotation are orthogonal (where all the factors
are uncorrelated with each other) and oblique (the factors themselves are correlated). The JCS would be amenable to an orthogonal rotation due to its construction of its two domains - problem oriented and affective oriented elements. Thus Jalowiec (1988, p. 160) originally ran a two factor solution exploring the two theoretical domains mentioned above. However, this did not provide a satisfactory solution as five items loaded on opposite factors than had been originally classified by the expert panel and nine factors overall did not load significantly on either factor. This result contradicted the earlier results of Lazarus and Folkman (1980) who reported a satisfactory result using a two factor solution in their Ways of Coping Questionnaire which also uses the problem oriented / affective oriented domains.

Eventually a four factor solution was computed using orthogonal rotation in the SPPS (version 6.1) program. The four factors were:

1) **problem oriented coping styles** - information seeking, setting goals, viewing the problem objectively and so on.

2) **tension modulating coping styles** - optimism, humour, prayer and so on.

3) **tension releasing coping styles** - swearing, crying, eating, smoking and so on

4) **support related coping styles** - blaming others, daydreaming, seeking comfort and so on.

Cronbachs alpha on the four factor solution to test homogeneity within each factor were calculated at .86, .73, .75 and .68 - all acceptable levels (Jalowiec 1988, p. 160). However, Jalowiec (1988) conceded that further research was required with larger sample sizes and across other cultural groups.
The use of the JCS in this research would appear to satisfy both of those requests. However, once the coping styles of the emergency nurses are identified it may lead to some obvious questions: How do coping styles relate with the rate and level of burnout amongst emergency nurses? Are nurses who use more direct coping styles attracted to the ED environment knowing that they will “survive” or does the ED environment demand a certain coping response from its employees with those who do not “cope” well with the ED eventually sorted and dispatched back into the more predictable world of the general ward situations?

4) Maslach Burnout Inventory (MBI)

The Maslach Burnout Inventory (MBI) is a well established and valid research tool in the investigation of the burnout phenomena. “Burnout” has been described by Maslach (1996, p. 4) as “a syndrome of emotional exhaustion, depersonalisation, and reduced personal accomplishment that can occur amongst individuals who work with people in some capacity.” The tool is a self administered Likert Scale which takes approximately 10 minutes to complete. The word, "burnout" is not used in the tool so as not to unduly influence individual’s responses. All three parts of the burnout syndrome are measured in the MBI by a separate subscale which are then analysed to gauge a level of burnout for the individual (Maslach 1996).

Permission to use the MBI was granted by the Australian licensing company, Australian Council for Educational Research.
Maslach (1996, p.5) noted that

"Burnout is conceptualised as a continuous variable, ranging from low to moderate to high degrees of experienced feeling. It is not viewed as a dichotomous variable which is either present or absent".

Research into the MBI began in the early eighties and the tool has been modified continuously since that time including the addition of two other scales the MBI - General Survey and the MBI - Educators Survey (Maslach 1996).

The first MBI was conducted with people from the human services industries – such as health care workers, social services and criminal justice (Maslach & Pines, 1977). The research tool (MBI-HSS) was developed following field interviews, surveys and other information gathering. From the initial research, especially that conducted by Maslach and Jackson (1977) came the theoretical framework of the burnout phenomena. The framework includes the following definitions:

"Emotional exhaustion - as emotional resources are depleted, workers feel they are no longer able to give of themselves at a psychological level."

"Depersonalisation - negative, cynical attitudes and feelings about ones clients which can lead staff members to view their clients as somehow deserving of their troubles, and

"Reduced personal accomplishment - refers to the tendency to evaluate oneself negatively, particularly with regard to ones work with client. Workers
may feel unhappy about themselves and dissatisfied with their accomplishments on the job."

Following on from the MBI - HSS, the MBI - General Survey (MBI-GS) was constructed as a recognition of the different needs of wider occupational groups. The aim of the MBI - GS (Maslach et. al, 1996, p. 20) was to adapt the MBI to occupations without direct personal contact with service recipients or with only casual contact with people. Thus the MBI-GS defines burnout as a crisis in one’s relationship with work, not necessarily as a crisis in one’s relationship with people at work. Given the nature of ED work (transient contact with patients, some of whom the staff will never see again), the decision was made to use the MBI - GS in this research.

The MBI - GS parallels the original MBI-HSS in the emotional exhaustion category but with the emphasis on the work and not the people. However the MBI-GS introduced the term cynicism in place of depersonalisation. The cynicism element reflects the attempts made by the individual to distance themselves from their work as a way of coping with exhausting demands. The term personal accomplishment has been replaced with professional efficacy, which assesses an individual’s expectation of continued effectiveness at work (Maslach et. al 1996).

Thus the MBI-GS provides a three dimensional perspective on burnout whereby high rates of burnout are reflected in high scores on the Exhaustion and Cynicism scale and low scores of the Professional Efficacy scale (Maslach et. al 1996)
Development of the MBI-GS included the use of confirmatory factor analysis which reduced the number of items from an original 28 items down to the 16 item, three factor structure scale used today. In addition, confirmatory factor analysis was used to investigate the MBI-GS in four different occupational groups, including nurses. The results confirmed the applicability of the MBI-GS to these groups (Maslach et. al 1996, p.23).

Research by Schaulefi, Leiter and Kalimo (1995) into the use of the MBI-GS showed that there were differences between groups in different countries with nurses having the highest scores on Exhaustion.

Content validity of the MBI-GS was bolstered by the examination of written responses of a sample of 853 hospital staff (Maslach et.al 1996, p. 25). The responses indicated problems within their system of quality of care, management, low morale, personal relationships and job insecurity which correlated with their scores on the MBI-GS. This work added to the original research conducted on the MBI-HSS by Maslach and Pines (1977) and Maslach and Jackson (1982). The latter research focussed on the work of police officers when rated by their spouses on the MBI-HSS. Police who scored high on Emotional Exhaustion and Depersonalisation were rated by their wives as (1982, p. 13) as “coming home frequently upset and angry, tense or anxious, physically exhausted, and complaining about problems at work.” In addition, Maslach and Pines (1977) found that when caseloads were high (more than 40 people per scores were high on Emotional Exhaustion and Depersonalisation.
Additional research has been conducted by other authors distinguishing the state of burnout from other psychological states such as depression (Leiter & Durup, 1994) and occupational stress (Cox, Kuk & Leiter, 1993) thus confirming the MBI’s discriminate validity as a valid tool in the measurement of burnout.

Internal consistency of the MBI were tested by Cronbachs alpha and the reliability coefficients were reported (Maslach et. al, 1996, p. 12) as .90 for Emotional Exhaustion, .79 for Depersonalisation and .71 for Personal Accomplishment. Several test - retest reliability studies are reported: Jackson, Swab and Schuler (1986), Lee and Ashworth (1993) and Leiter (1990) which overall reported a high degree of consistency within each subscale within periods ranging from one month to one year.

Test-retest stability of the MBI-GS was determined by Leiter and Durup (1996) with a longitudinal study over a one year period. They reported similar stability coefficients to the MBI-HSS.

Other important links of burnout with the general theories of stress and coping are found in the work of Pick and Leiter (1991) who reported that the majority of nurses considered their burnout to be the result of interpersonal contact with individuals other than their clients. Landsbergis (1988) found that nurses who had greater control over their work were associated with enhanced scores of Personal Accomplishment.
Additional questions

Six additional statements were derived from the review of the literature and embedded in the MBI survey. These additional statements explored the participant’s perception of: access to on-going educational opportunities, perceived support by their Nursing Unit Manager, perceived adequacy of staffing levels within work units, the adequacy of workplace design and space provided, the provision of quality clinical care, and the perceived competency level of the nurse.

Exploration of the data in this sample would include both nominal, interval and ordinal data that could be subject to a variety of analyses. The demographic component was essentially nominal eg. gender, source of undergraduate training and would be categorised according to the presence or absence of the relevant attribute each item attempted to measure (Argyrous 1996). Chi square analysis would be used to assess the level of significance of the association between variables (Argyrous 1996). Descriptive statistics – frequency distribution, the measurement of central tendency (means) could also yield useful information about patterns and extent of intensity in responses. As this study is interested in the differences between groups, a series of univariate One-Way Analysis of Variance (ANOVA) was proposed to examine if there were any differences between different groups of nurses, the independent variables with post-hoc analysis (Tabachnik & Fidell, 1996).

Data derived from the free answer section (i.e. no forced choice), will be analysed for themes and assigned to the major categories that derive from the Stress Audit: patient care, unit management, knowledge and skills, interpersonal relationships
and death and dying. The aim of this approach is to compliment the qualitative data and reveal some of the day to day experiences of the emergency nurse.

This triangulation of the research method will attempt to enhance diversity of the individual and enrich understanding (Beanland et al, 1999).

SUMMARY

A survey was designed combining three different research tools: the Stress Audit, the JCS and the MBI-GS. Based on the review of the literature, additional variables were inserted to elicit demographic and professional data and information that pertains particularly to the ED environment. Respondents were also given the opportunity to record specific events arising from the individual’s work in the ED. The following chapter presents the results of the survey.
CHAPTER FOUR

RESULTS

This chapter discusses the results of the survey questionnaire including response rates, demographic and professional attributes and significant issues arising from the main tenets of the study: stress, support and burnout.

SAMPLE

The target sample was approximately six hundred nurses. A total of one hundred and seventy-three respondents completed the survey forms, resulting in a return rate of 25 percent. Although this response rate was disappointing, results for a one-pass mail survey with no second pass or follow-up such as this are not unusual (Nay-Brock 1984, Robinson 1995, Bailey 1987). The response rate represents approximately ten percent of the estimated emergency department nursing workforce (NSW Nurses Registration Board, 1999). Table 4 (p. 89) shows the professional categories of staff that were identified in this study compared to the total NSW ED 1996 nursing workforce.
Table 4  Comparison of sample group to NSW sample

<table>
<thead>
<tr>
<th>Professional Category</th>
<th>Survey respondent rate</th>
<th>NSW workforce survey</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td>Registered Nurse</td>
<td>55 %</td>
<td>77 %</td>
</tr>
<tr>
<td>Clinical Nurse Specialists</td>
<td>29 %</td>
<td>17 %</td>
</tr>
<tr>
<td>Clinical Nurse Educators</td>
<td>1.2 %</td>
<td>0.6 %</td>
</tr>
<tr>
<td>Nursing Unit Managers</td>
<td>10.2%</td>
<td>5.5%</td>
</tr>
<tr>
<td>Nurse Managers</td>
<td>5.2%</td>
<td>0.9%</td>
</tr>
<tr>
<td>Clinical Nurse Consultants</td>
<td>3%</td>
<td>1.2%</td>
</tr>
</tbody>
</table>

Demographics

Although the ENA of NSW has enrolled nurses as part of its membership there were no enrolled nurses in the final sample group. All the respondents in this sample were RN’s. The largest professional group represented were staff nurses who comprised over half the sample. The participation rate of the other professional groups is shown in Table 5 (p. 89).

Table 5  Professional categories of sample population

<table>
<thead>
<tr>
<th>Professional Classification</th>
<th>No</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Registered Nurse</td>
<td>95</td>
<td>55.0</td>
</tr>
<tr>
<td>Clinical Nurse Specialist</td>
<td>50</td>
<td>29.0</td>
</tr>
<tr>
<td>Nurse Unit Manager/Manager</td>
<td>21</td>
<td>12.2</td>
</tr>
</tbody>
</table>
Professional Classification

<table>
<thead>
<tr>
<th>Professional Classification</th>
<th>No</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clinical Nurse Consultant</td>
<td>5</td>
<td>3.0</td>
</tr>
<tr>
<td>Clinical Nurse Educator</td>
<td>2</td>
<td>1.2</td>
</tr>
<tr>
<td>Total</td>
<td>173</td>
<td>100</td>
</tr>
</tbody>
</table>

Place of Employment

Respondents were allocated into four major groups depending on their place of employment. Employment locations were defined as: tertiary / major teaching hospital, district urban, rural base and rural district hospitals and are included in Table 6.

Table 6  Employment location of sample

<table>
<thead>
<tr>
<th>Location</th>
<th>No</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tertiary</td>
<td>62</td>
<td>35.8</td>
</tr>
<tr>
<td>Urban district</td>
<td>47</td>
<td>27.2</td>
</tr>
<tr>
<td>Rural base</td>
<td>29</td>
<td>16.8</td>
</tr>
<tr>
<td>Rural district</td>
<td>35</td>
<td>20.2</td>
</tr>
<tr>
<td>Total</td>
<td>173</td>
<td>100</td>
</tr>
</tbody>
</table>

Thirteen percent of those sampled stated that they were employed in a mixture of locations, generally those nurses described as Clinical Nurse Consultants. These nurses are based in large rural hospitals but have professional responsibility to nurses employed in smaller rural hospitals.
Registered Nurses were represented in all four groups. In addition, all groups had Clinical Nurse Specialists and nurses employed in management roles either as Nursing Unit Managers or Nurse Managers. However, Clinical Nurse Consultants were only represented in either the tertiary hospitals or rural settings and Clinical Nurse Educators in district/urban settings. Rural Base hospitals had the smallest number of Clinical Nurse Specialists in this sample.

<table>
<thead>
<tr>
<th>Professional Classification</th>
<th>Tertiary</th>
<th>Urban district</th>
<th>Rural base</th>
<th>Rural district</th>
</tr>
</thead>
<tbody>
<tr>
<td>Registered Nurse</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>Clinical Nurse Specialist</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>Nurse Unit Manager/Manager</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>Clinical Nurse Consultant</td>
<td>*</td>
<td></td>
<td>*</td>
<td></td>
</tr>
<tr>
<td>Clinical Nurse Educator</td>
<td></td>
<td>*</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Previous employment location**

There was a large variation in the length of time that nurses were employed in the ED (0 - 25 years) with the average length of time of employment in their department being seven years. Forty percent of the sample had been employed in emergency nursing for five years.

The average time of employment of nurses in the four locations: tertiary, urban district, base and rural district differed between the four locations (5.7 years vs. 9.2
yrs) with the urban district hospitals showing significant difference ($\chi^2 14.7225$, df. 3, $p<.0021$) to the other three groups

**Previous clinical experience**

There were a range of clinical areas in which the sample group had worked prior to their transfer to the ED, although the length of time spent in these areas has declined in recent years. The clinical areas that nurses had worked in prior to their transfer to the ED in decreasing frequency were: medical, neurological, orthopaedic, surgical, intensive care unit and operating suite.

Previous clinical environments prior to employment within the ED were similar between the four groups with no significant difference between groups. The length of time nurses had worked in other clinical environments prior to their move to the ED showed a large variation (0 - 20 years) with the mean time being three years. Rural hospital nurses had the largest time in other clinical settings prior to their move to the ED.

**Age of respondents**

Again this result had a large variation (20- 65 years) with 58 percent of the sample aged below forty years. The average age of the total sample was thirty eight years which is consistent with NSW state-wide findings that emergency nurses are on average significantly younger than the total RN workforce (NSW Health, 1997). Rural
hospitals had the oldest workforce with an average age of thirty-eight years. The range of age groups is displayed in Table 8.

### Table 8  Age of respondents

<table>
<thead>
<tr>
<th>Age (years)</th>
<th>No</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>20-30</td>
<td>40</td>
<td>23.1</td>
</tr>
<tr>
<td>31-40</td>
<td>59</td>
<td>34.1</td>
</tr>
<tr>
<td>41-50</td>
<td>59</td>
<td>34.1</td>
</tr>
<tr>
<td>51-60</td>
<td>12</td>
<td>6.9</td>
</tr>
<tr>
<td>61-65</td>
<td>2</td>
<td>1.2</td>
</tr>
<tr>
<td>Not stated</td>
<td>1</td>
<td>0.6</td>
</tr>
<tr>
<td>Total</td>
<td>173</td>
<td>100</td>
</tr>
</tbody>
</table>

The rural hospital’s ED nurses mean age differed significantly ($f=6.4, p<.0004$) from the other three groups. The percentage of nurses aged over forty years across the four different groups was also analysed. Table 9 (p. 94) indicates the percentage of nurses aged above forty years.
Table 9  Percentage of nurses aged above forty years

<table>
<thead>
<tr>
<th>Location</th>
<th>No</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tertiary</td>
<td>20</td>
<td>33</td>
</tr>
<tr>
<td>Urban district</td>
<td>21</td>
<td>45</td>
</tr>
<tr>
<td>Rural base</td>
<td>9</td>
<td>31</td>
</tr>
<tr>
<td>Rural district</td>
<td>10</td>
<td>66</td>
</tr>
<tr>
<td>Total</td>
<td>60</td>
<td>100</td>
</tr>
</tbody>
</table>

Gender

Females accounted for 81 percent (n= 140) of the total sample and 18.5 percent (n=32) for males. The proportion of males in this sample is higher than the reported state-wide average (12.3 %) of male nurses in emergency nursing and twice the average (7.9%) of the NSW RN workforce (NSW Health, 1997).

Marital status

The majority of respondents were married (67 %), 28 percent were single and less than 10 percent were divorced or separated from their partner.
Country of birth

The vast majority of emergency nurses in this sample (86.1%) were born in Australia with the next largest group (5.8%) born in England. A small percentage of respondents were born in other countries including the Philippines and India.

Language

The large percentage of Australian born nurses in this survey is reflected in their ability to speak a language other than English. Over 88 percent of the respondents answered "no" to the ability to speak a language other than English with small percentages speaking Hindi, Tagalog and Spanish.

Education and professional qualifications

There was a significant difference ($\chi^2 = 63.2$, d.f = 2, p < .000) between the source of training for the entire sample (n = 173) with over 60 percent of the sample group trained in the hospital based system, 25 percent university prepared and 23 percent not answering this question.

The difference in the source of training between the rural and urban hospitals was also significant ($\chi^2 = 14.7$, d.f = 3, p < .002) with tertiary hospitals having the highest percentage of university prepared nurses (45%) and rural hospitals the lowest (4%). The low percentage in the rural hospital environment may reflect both a stable
work population with fewer employment opportunities available to graduating nurses and the location of most universities in the major cities.

Just over half the sample group possess post-graduate qualifications in emergency nursing with 53 percent (n = 92) having an emergency nursing certificate. This result is higher than the NSW state average (36 %) (NSW Health, 1997). Fifty seven percent (n = 99) of the sample were certified in trauma nursing and 29 percent (n = 50) certified in paediatric emergency nursing. In addition, 41 percent (n =74) hold a degree in either nursing or health sciences and 10 percent (n =19) are prepared to Masters level. Traditional post graduate qualifications in midwifery that was favoured by hospital prepared nurses does not figure prominently in this sample with less than 20 percent holding midwifery qualifications.

Nurses with post-graduate qualifications were employed in all four groups. There was no significant difference between the four groups with 50 percent (n= 31) of nurses employed in tertiary hospitals holding post graduate qualifications in emergency nursing: 65 percent (n= 31) of nurses in urban district hospitals, 41 percent (n=12) in base rural hospitals and 51 percent (n=18) of nurses in rural district hospitals.

Professionally, the number and percentage of nurses with emergency nursing qualifications appear in Table 10 (p. 97).
Table 10  Professional classifications of respondents with emergency nursing qualifications

<table>
<thead>
<tr>
<th>Professional Classification</th>
<th>No</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Registered Nurse</td>
<td>34</td>
<td>35</td>
</tr>
<tr>
<td>Clinical Nurse Specialist</td>
<td>41</td>
<td>82</td>
</tr>
<tr>
<td>Nurse Unit Manager</td>
<td>6</td>
<td>54</td>
</tr>
<tr>
<td>Nurse Manager</td>
<td>8</td>
<td>80</td>
</tr>
<tr>
<td>Clinical Nurse Consultant</td>
<td>1</td>
<td>20</td>
</tr>
<tr>
<td>Clinical Nurse Educator</td>
<td>2</td>
<td>100</td>
</tr>
</tbody>
</table>

Two other post graduate certificates that are increasingly recognised in Australian emergency nursing are the Emergency Nursing Paediatric Course (ENPC) and the Trauma Nursing Care Course (TNCC). Table 11 (p. 98) contains the employment location, number and professional classification of nurses who have undertaken these courses.
Table 11 Percentage of nurses qualified in trauma or emergency paediatric nursing

<table>
<thead>
<tr>
<th>Qualification</th>
<th>TNCC %</th>
<th>ENPC %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tertiary (n= 62)</td>
<td>62</td>
<td>29</td>
</tr>
<tr>
<td>Urban district (n= 47)</td>
<td>51</td>
<td>25</td>
</tr>
<tr>
<td>Rural Base (n= 29)</td>
<td>55</td>
<td>31</td>
</tr>
<tr>
<td>Rural district (n= 35)</td>
<td>57</td>
<td>31</td>
</tr>
<tr>
<td>Registered Nurse (n=95)</td>
<td>51</td>
<td>22</td>
</tr>
<tr>
<td>Clinical Nurse Specialist (n= 50)</td>
<td>63</td>
<td>40</td>
</tr>
<tr>
<td>Clinical Nurse Educator (n=2)</td>
<td>100</td>
<td>50</td>
</tr>
<tr>
<td>Nursing Unit Manager (n= 11)</td>
<td>63</td>
<td>36</td>
</tr>
<tr>
<td>Nurse Manager(n= 10)</td>
<td>50</td>
<td>30</td>
</tr>
<tr>
<td>Clinical Nurse Consultant (n= 6)</td>
<td>80</td>
<td>20</td>
</tr>
</tbody>
</table>

WHAT ATTRACTS NURSES TO EMERGENCY NURSING?

The sample group was provided with six statements derived from the ICU Stress Audit (1980) relating to what had originally attracted them to emergency nursing. Respondents were asked to rank the statements from 1 – 3 with (1) being the most important. The sample results in Table 12 (p. 99) are compared to the sample as identified by Burns et al (1983).
Table 12  
What attracts nurses to emergency work?

<table>
<thead>
<tr>
<th>SAMPLE GROUP</th>
<th>BURN et al 1983 SAMPLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Variety and excitement 39.3%</td>
<td>1) Intellectual challenge 21.0%</td>
</tr>
<tr>
<td>2) Intellectual challenge 16.8 %</td>
<td>2) Opportunities for learning 20.0%</td>
</tr>
<tr>
<td>3) Proficient use of skills 15.0%</td>
<td>3) Variety and excitement 16.0%</td>
</tr>
<tr>
<td>4) Making a difference to patients 10.4 %</td>
<td>4) Opportunities for learning to handle</td>
</tr>
<tr>
<td>5) Being a member of an effective team 8.7 %</td>
<td>emergencies 14.0%</td>
</tr>
<tr>
<td>6) Recognition and respect 1.2 %</td>
<td>6) Member of an effective team 5.0%</td>
</tr>
</tbody>
</table>

The respondents were also asked to list the three greatest sources of satisfaction for them as an emergency nurse. This question was in the form of a free answer with no forced choices. Answers varied amongst the sample, however several themes emerged from the data analysis. The themes included the categories listed above, however patient care emerged as the greatest source of satisfaction. Other themes identified included: teamwork, challenges, variety, teaching and education, skills and respect, and patients and relatives expressing their thanks for a job well done.

A selection of the statements from each category are reproduced below. The full list of responses are contained in APPENDIX F.

Patient Care

"Making a real difference to peoples lives"
“Saving and maintaining a life” (Stated numerous times)

“Ensuring that the patient remains a person not a number a true advocate”

“Helping people in a way that no one else can, that is, the specific ED function.”

“Door to needle < 15 minutes – that’s great!”

Teamwork

“A well run’ rescue’ – even better if the patient survives”

“Cohesive application of skills by a team”

“Working with the best people on earth – hard working little respected or acknowledged the backbone of the hospital”

“Coordinating an effective and efficient unit”

“Being part of a great team- nurses, doctors, ‘ambo’s’, ward clerk and wardsmen”

“Inter- department transfer without a complaint from the other end!”

“Getting it right – when things go the way they are supposed to – everyone working together”

Challenges

“Remaining organised and efficient in conditions that are less than ideal for triage nurses.”

“Empty waiting room”

“Clinical skills- much more responsible than ward work”

“Clean, tidy, well managed department at handover”
Variety

"Each day is a new day"

"Never caring for someone long term"

"High turn over and excitement of not knowing what will happen next"

"The sheer variety of patients- babies to 'oldies'!"

"Adrenaline rush!!!"

Teaching and education

"Watching young nurses and doctors develop"

"Learning something new all the time"

"Being able to teach patients and families about their health"

"So much to know...."

Skills and respect

"Respect and appreciation from medical staff"

"Knowing that I do my job well— and my expertise can make a difference"

"Being able to fully utilise my skills"

"Satisfaction of achieving something within a days work"

Appreciation

"Getting positive feedback from the Base Hospital following a good retrieval"

"Happy, thankful client"

"Knowing I am doing something worthwhile for the community"
"That thankyou as they go out the door – I always love that"

SUPPORT SERVICES

The types of counselling and support services available to staff following either a specific critical incident or for ongoing day to day support were examined. Services available to staff varied with over 40 percent of respondents (n = 74) having access to Critical Incident Stress Debriefing (CISD). Twenty one percent (n = 37) of respondents had access to counselling services however these were usually at the expense of the employee and usually occurred out of work hours. The relatively new organisational strategy of Peer Support Programs was available to less than 3 percent (n = 4) of those surveyed. Only 22 percent (n = 38) of respondents had access to all the identified support systems: CISD, Formal Counselling and Peer Support.

These services were available in each of the four hospital settings, however, nurses from tertiary hospitals were more likely to have all the services available than nurses from the small rural settings, although, the difference was not statistically significant ($\chi^2 = 3.9, d.f = 3, p < .263$).

Despite the widespread services offered by employers only fifty four percent (n = 93) of respondents reported that they had utilised the support services. Nurses across each of the four groups used the services available with approximately 50 percent of respondents within the tertiary (n = 33), district (n = 22) and rural (n = 15) settings stating that they had accessed these services. Almost 80 percent (n = 23) of the
nurses from rural base hospitals accessed services if they were available although this was not significantly different from the other three groups.

APPENDIX G contains the full list of responses about the use and effectiveness of support services by the respondents.

FUTURE PLANS

Respondents were asked about their future plans for employment and whether they intended to remain in the ED environment. Eleven percent (n= 20) of respondents indicated that they intended to leave emergency nursing and just over 20 per cent (n= 36) answered “maybe”. Respondents were also asked to indicate where they would consider working if they left the emergency department environment. Eleven percent (n= 19) indicated that they would remain at their employing hospital, 10 percent (n= 17) indicated that they would remain in nursing but seek a career in education or management. Four percent (n = 7) indicated that they would leave their current hospital but remain within their current Area Health Service and 4 percent (n =7) would leave nursing and/or health all together.

THE STRESS AUDIT

Each item was scored for two variables: 1) Frequency of occurrence (daily, weekly, occasionally or never) and 2) intensity of stress (low, medium or high) to the individual. These two scores were then multiplied to yield a total stress score. Each item was described in a broad category that included unit management, patient care,
interpersonal relationships, death and dying, physical environment and knowledge and skills. The total sample results of the Stress Audit are in Table 13 (p. 104).

<table>
<thead>
<tr>
<th>ITEM</th>
<th>SCORE</th>
<th>CLASSIFICATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exit block</td>
<td>1394</td>
<td>Unit Management</td>
</tr>
<tr>
<td>Interruptions telephone</td>
<td>1358</td>
<td>Unit Management</td>
</tr>
<tr>
<td>Uncontrolled volume</td>
<td>1353</td>
<td>Patient Care</td>
</tr>
<tr>
<td>Inadequate staffing</td>
<td>1296</td>
<td>Unit Management</td>
</tr>
<tr>
<td>Verbal abuse</td>
<td>1192</td>
<td>Patient Care</td>
</tr>
<tr>
<td>Patients not requiring ED care</td>
<td>1178</td>
<td>Unit Management</td>
</tr>
<tr>
<td>Inability to meet patient needs</td>
<td>1143</td>
<td>Patient Care</td>
</tr>
<tr>
<td>Documentation</td>
<td>1092</td>
<td>Patient Care</td>
</tr>
<tr>
<td>Lack of teamwork with inpatient units</td>
<td>1085</td>
<td>Interpersonal Relationships</td>
</tr>
<tr>
<td>Chronic attenders</td>
<td>1061</td>
<td>Patient Care</td>
</tr>
<tr>
<td>Unresponsive admin</td>
<td>1047</td>
<td>Interpersonal Relationships</td>
</tr>
<tr>
<td>Drunk patients</td>
<td>1008</td>
<td>Patient Care</td>
</tr>
<tr>
<td>Inexperienced medical officers</td>
<td>1003</td>
<td>Unit Management</td>
</tr>
<tr>
<td>Supporting bereaved families</td>
<td>932</td>
<td>Death and Dying</td>
</tr>
<tr>
<td>Serious injuries in children</td>
<td>909</td>
<td>Patient Care</td>
</tr>
<tr>
<td>Triage –babies</td>
<td>899</td>
<td>Patient Care</td>
</tr>
<tr>
<td>Physical abuse</td>
<td>897</td>
<td>Patient Care</td>
</tr>
<tr>
<td>Triage – general</td>
<td>897</td>
<td>Patient Care</td>
</tr>
<tr>
<td>ITEM</td>
<td>SCORE</td>
<td>CLASSIFICATION</td>
</tr>
<tr>
<td>-------------------------------------------------</td>
<td>-------</td>
<td>------------------------</td>
</tr>
<tr>
<td>Cardiac arrest</td>
<td>896</td>
<td>Patient Care</td>
</tr>
<tr>
<td>Triage – children</td>
<td>880</td>
<td>Patient Care</td>
</tr>
<tr>
<td>Death from trauma</td>
<td>874</td>
<td>Death and Dying</td>
</tr>
<tr>
<td>Insufficient equipment</td>
<td>844</td>
<td>Physical environment</td>
</tr>
<tr>
<td>Lack of space</td>
<td>797</td>
<td>Physical environment</td>
</tr>
<tr>
<td>Nurse /doctor interactions</td>
<td>796</td>
<td>Interpersonal Relationships</td>
</tr>
<tr>
<td>Arguments with doctors</td>
<td>792</td>
<td>Interpersonal Relationships</td>
</tr>
<tr>
<td>Lack of teamwork</td>
<td>788</td>
<td>Interpersonal Relationships</td>
</tr>
<tr>
<td>Drug overdose</td>
<td>763</td>
<td>Patient Care</td>
</tr>
<tr>
<td>Inadequate opportunities to attend inservice</td>
<td>736</td>
<td>Knowledge and Skills</td>
</tr>
<tr>
<td>Lack of respect for skills</td>
<td>732</td>
<td>Interpersonal Relationships</td>
</tr>
<tr>
<td>Inadequate area for bereavement</td>
<td>728</td>
<td>Death and Dying</td>
</tr>
<tr>
<td>Noise</td>
<td>724</td>
<td>Physical Environment</td>
</tr>
<tr>
<td>Rosters and shiftwork</td>
<td>719</td>
<td>Unit Management</td>
</tr>
<tr>
<td>Old equipment</td>
<td>673</td>
<td>Physical environment</td>
</tr>
<tr>
<td>Domestic violence</td>
<td>661</td>
<td>Patient Care</td>
</tr>
<tr>
<td>Inadequate knowledge</td>
<td>619</td>
<td>Knowledge and Skills</td>
</tr>
<tr>
<td>Unfamiliar situations</td>
<td>602</td>
<td>Knowledge and Skills</td>
</tr>
<tr>
<td>Lack of support from NUM</td>
<td>605</td>
<td>Interpersonal Relationship</td>
</tr>
<tr>
<td>Temperature (too hot/cold)</td>
<td>592</td>
<td>Physical environment</td>
</tr>
<tr>
<td>Inadequate staff facilities</td>
<td>582</td>
<td>Physical Environment</td>
</tr>
<tr>
<td>Inadequate skills supporting the</td>
<td>578</td>
<td>Knowledge and Skills</td>
</tr>
<tr>
<td>ITEM</td>
<td>SCORE</td>
<td>CLASSIFICATION</td>
</tr>
<tr>
<td>----------------------------------</td>
<td>-------</td>
<td>-------------------------</td>
</tr>
<tr>
<td>bereaved</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No inservice</td>
<td>568</td>
<td>Knowledge and Skills</td>
</tr>
<tr>
<td>Cultural patterns of bereavement</td>
<td>555</td>
<td>Death and Dying</td>
</tr>
<tr>
<td>Staffing other units</td>
<td>536</td>
<td>Unit Management</td>
</tr>
<tr>
<td>NESB</td>
<td>528</td>
<td>Patient Care</td>
</tr>
<tr>
<td>Impact of culture on assessment</td>
<td>515</td>
<td>Knowledge and Skills</td>
</tr>
<tr>
<td>Lack of experience</td>
<td>502</td>
<td>Knowledge and Skills</td>
</tr>
<tr>
<td>Lack of equipment</td>
<td>502</td>
<td>Physical Environment</td>
</tr>
<tr>
<td>Lack of input into policies</td>
<td>477</td>
<td>Interpersonal Relationships</td>
</tr>
</tbody>
</table>

The results of the stress questions were then analysed for differences between the four location groups using the five highest stressors as reported in 12 that is, exit block, interruptions (telephones), uncontrolled volume, inadequate staffing and verbal abuse. These results appear in Table 14 (p. 107).
Analysis between groups was also explored for individual stressors. The top fifteen stress scores from each group are displayed and reproduced in APPENDIX I, APPENDIX J, APPENDIX K and APPENDIX L. Analysis of the data showed that "exit block" was the leading cause of stress in both the tertiary and urban district hospitals and was the third highest stressor for the rural base hospitals. However this stressor did not rank in the first ten stressors for the rural district hospitals. Table 15 (p.108) ranks the top ten stressors according to place of employment.
<table>
<thead>
<tr>
<th>STRESSOR</th>
<th>Tertiary</th>
<th>Urban district</th>
<th>Rural base</th>
<th>Rural District</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exit block</td>
<td>1</td>
<td>1</td>
<td>3</td>
<td>Did not rate</td>
</tr>
<tr>
<td>Interruptions –phones</td>
<td>3</td>
<td>2</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>Uncontrolled volumes</td>
<td>2</td>
<td>4</td>
<td>1</td>
<td>9</td>
</tr>
<tr>
<td>Inadequate staffing</td>
<td>5</td>
<td>3</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>Verbal abuse</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>Patients not requiring ED care</td>
<td>8</td>
<td>12</td>
<td>8</td>
<td>3</td>
</tr>
<tr>
<td>Inability to meet patient. Needs</td>
<td>4</td>
<td>10</td>
<td>7</td>
<td>Did not rate</td>
</tr>
<tr>
<td>Documentation/paperwork</td>
<td>15</td>
<td>11</td>
<td>11</td>
<td>4</td>
</tr>
<tr>
<td>Lack of cooperation with inpatient units</td>
<td>7</td>
<td>5</td>
<td>9</td>
<td>Did not rate</td>
</tr>
<tr>
<td>Chronic attenders</td>
<td>14</td>
<td>12</td>
<td>10</td>
<td>2</td>
</tr>
<tr>
<td>Unresponsive administration</td>
<td>9</td>
<td>9</td>
<td>14</td>
<td>13</td>
</tr>
<tr>
<td>Patients who are drunk</td>
<td>Did not rate</td>
<td>11</td>
<td>Did not rate</td>
<td>11</td>
</tr>
</tbody>
</table>

Individual total stress scores were also calculated by adding all the stress items together. The highest total stress score was 422 and the lowest 97. A graph of the mean of total stress scores across the entire sample is displayed in Figure 3 (p. 109).
Figure 3  Total sample mean of stress scores by area of employment

The mean stress scores for each group were calculated and are displayed in Table 16. The mean stress score for nurses in rural district hospitals was significantly lower than the three other groups.

Table 16  Mean stress scores for each hospital group

<table>
<thead>
<tr>
<th>AREA OF EMPLOYMENT</th>
<th>MEAN STRESS SCORE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tertiary / Major Teaching Hospital</td>
<td>209</td>
</tr>
<tr>
<td>Urban District Hospital</td>
<td>209</td>
</tr>
<tr>
<td>Rural Base Hospital</td>
<td>207</td>
</tr>
<tr>
<td>Rural / District Hospital</td>
<td>190 *</td>
</tr>
</tbody>
</table>

Note: *p<0.005
In terms of professional groups, Clinical Nurse Specialists had the highest stress scores with a mean of 239 followed by Nurse Managers with 234. The remainder of the group results appear in Table 17.

<table>
<thead>
<tr>
<th>PROFESSIONAL GROUP</th>
<th>MEAN OF TOTAL STRESS SCORES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Registered Nurse</td>
<td>233</td>
</tr>
<tr>
<td>Clinical Nurse Specialists</td>
<td>239</td>
</tr>
<tr>
<td>Clinical Nurse Educators</td>
<td>223</td>
</tr>
<tr>
<td>Nursing Unit Managers</td>
<td>194</td>
</tr>
<tr>
<td>Nurse Managers</td>
<td>234</td>
</tr>
<tr>
<td>Clinical Nurse Consultants</td>
<td>217</td>
</tr>
</tbody>
</table>

The difference between groups for the mean total stress score was not significant.

**THE JCS**

The JCS was modified for this research with the respondent listing the frequency of use of forty different coping strategies. Respondents were able to choose between five descriptions of use: never, occasionally, frequently, often or almost always. The results of the JCS are shown in Table 18 (p. 111).
<table>
<thead>
<tr>
<th>COPING STRATEGY</th>
<th>SCORE</th>
<th>COPING STYLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Discuss</td>
<td>685</td>
<td>Supportant</td>
</tr>
<tr>
<td>Humour</td>
<td>664</td>
<td>Optimistic</td>
</tr>
<tr>
<td>Use past experience</td>
<td>664</td>
<td>Self reliant</td>
</tr>
<tr>
<td>Maintain control</td>
<td>661</td>
<td>Self reliant</td>
</tr>
<tr>
<td>Seek information</td>
<td>598</td>
<td>Confrontive</td>
</tr>
<tr>
<td>Consider different solutions</td>
<td>589</td>
<td>Confrontive</td>
</tr>
<tr>
<td>View problem objectively</td>
<td>586</td>
<td>Confrontive</td>
</tr>
<tr>
<td>Try different solutions</td>
<td>571</td>
<td>Confrontive</td>
</tr>
<tr>
<td>Look for purpose and meaning</td>
<td>570</td>
<td>Optimistic</td>
</tr>
<tr>
<td>Optimism</td>
<td>546</td>
<td>Optimistic</td>
</tr>
<tr>
<td>Get comfort from others</td>
<td>542</td>
<td>Supportant</td>
</tr>
<tr>
<td>Set goals</td>
<td>533</td>
<td>Confrontive</td>
</tr>
<tr>
<td>Worry</td>
<td>516</td>
<td>Emotive</td>
</tr>
<tr>
<td>Acceptance</td>
<td>503</td>
<td>Fatalistic</td>
</tr>
<tr>
<td>Try to change the situation</td>
<td>493</td>
<td>Confrontive</td>
</tr>
<tr>
<td>Activity and exercise</td>
<td>482</td>
<td>Palliative</td>
</tr>
<tr>
<td>Get mad/ swear</td>
<td>451</td>
<td>Emotive</td>
</tr>
<tr>
<td>Eat / smoke</td>
<td>431</td>
<td>Palliative</td>
</tr>
<tr>
<td>Get nervous</td>
<td>405</td>
<td>Emotive</td>
</tr>
<tr>
<td>Sleep</td>
<td>396</td>
<td>Evasive</td>
</tr>
<tr>
<td>Put problems aside</td>
<td>394</td>
<td>Evasive</td>
</tr>
<tr>
<td>COPING STRATEGY</td>
<td>SCORE</td>
<td>COPING STYLE</td>
</tr>
<tr>
<td>----------------------------------------</td>
<td>-------</td>
<td>--------------</td>
</tr>
<tr>
<td>Settle for the next best thing</td>
<td>384</td>
<td>Evasive</td>
</tr>
<tr>
<td>Try anything</td>
<td>380</td>
<td>Optimistic</td>
</tr>
<tr>
<td>Don’t worry</td>
<td>377</td>
<td>Optimistic</td>
</tr>
<tr>
<td>Handle in a piecemeal fashion</td>
<td>377</td>
<td>Confrontive</td>
</tr>
<tr>
<td>Pessimism</td>
<td>369</td>
<td>Fatalistic</td>
</tr>
<tr>
<td>Pray and trust God</td>
<td>366</td>
<td>Supportant</td>
</tr>
<tr>
<td>Daydream</td>
<td>355</td>
<td>Evasive</td>
</tr>
<tr>
<td>Release tension on others</td>
<td>355</td>
<td>Emotive</td>
</tr>
<tr>
<td>Drink alcohol</td>
<td>341</td>
<td>Palliative</td>
</tr>
<tr>
<td>Isolation</td>
<td>337</td>
<td>Evasive</td>
</tr>
<tr>
<td>Let problem solve itself</td>
<td>331</td>
<td>Evasive</td>
</tr>
<tr>
<td>Withdraw</td>
<td>328</td>
<td>Evasive</td>
</tr>
<tr>
<td>Cry</td>
<td>325</td>
<td>Emotive</td>
</tr>
<tr>
<td>Meditate</td>
<td>325</td>
<td>Evasive</td>
</tr>
<tr>
<td>Let others solve it.</td>
<td>318</td>
<td>Evasive</td>
</tr>
<tr>
<td>Its fate</td>
<td>306</td>
<td>Fatalistic</td>
</tr>
<tr>
<td>Resignation – its hopeless</td>
<td>304</td>
<td>Fatalistic</td>
</tr>
<tr>
<td>Blame others</td>
<td>288</td>
<td>Evasive</td>
</tr>
<tr>
<td>Drugs</td>
<td>203</td>
<td>Palliative</td>
</tr>
</tbody>
</table>

Table 19 (p. 113) summarises the place of employment for the top ten coping strategies for place of employment. The ten highest coping scores for each group are reproduced in APPENDIX M, APPENDIX N, APPENDIX O and APPENDIX P.
Table 19  Place of employment for top ten coping strategies

<table>
<thead>
<tr>
<th>Coping Style</th>
<th>Tertiary</th>
<th>Urban district</th>
<th>Rural Base</th>
<th>Rural District</th>
</tr>
</thead>
<tbody>
<tr>
<td>Discuss</td>
<td>4</td>
<td>1</td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td>Humour</td>
<td>3</td>
<td>2</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Use past experience</td>
<td>1</td>
<td>3</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Maintain control</td>
<td>2</td>
<td>4</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>Seek information</td>
<td>6</td>
<td>5</td>
<td>7</td>
<td>6</td>
</tr>
<tr>
<td>Consider different solutions</td>
<td>5</td>
<td>7</td>
<td>6</td>
<td>8</td>
</tr>
<tr>
<td>View problem objectively</td>
<td>7</td>
<td>6</td>
<td>9</td>
<td>5</td>
</tr>
<tr>
<td>Try different solutions</td>
<td>5</td>
<td>10</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>Look for purpose and meaning</td>
<td>DNR</td>
<td>9</td>
<td>1</td>
<td>DNR</td>
</tr>
<tr>
<td>Optimism</td>
<td>9</td>
<td>DNR</td>
<td>DNR</td>
<td>7</td>
</tr>
</tbody>
</table>

* DNR= did not rate

The rural base group differed from the other three groups in their exclusive use of the optimistic coping strategy of seeking purpose and meaning. The three other groups had similar coping styles that are classified by Jalcowiec (1987) as constructive, positive, self reliant and professional.
MASLACH BURNOUT INVENTORY

The Maslach Burnout Inventory (MBI) is a phenomena that is expressed by the analysis of three scores: personal efficacy (pe), emotional exhaustion (ee) and cynicism (cy). "Burnout" is defined as low scores in personal efficacy and high scores on emotional exhaustion and cynicism. Respondents use a Likert scale (1 = never, 2 = a few times a year, 3 = once a month or less, 4 = once a week, 5 = a few times a week and 6 = every day) indicating how often they respond to the proffered statements. Figure 4 (p. 16) show the total sample scores for personal efficacy.

![Figure 4: Total sample scores of personal efficacy (p.e)](image)

Note that the results in Figure 4 are clustered towards the right of the figure, which shows that the majority of the sample had medium to high scores of personal efficacy. Twenty six of the respondents (15%) scored the maximum total of thirty six points.

Figure 5 (p.115) shows the total sample scores for emotional exhaustion.
There were some (10/173) high scores (a score of 28 or more) in the emotional exhaustion scale however the median scores are clustered around the middle of the scale.

**Figure 5**  Total sample scores of emotional exhaustion (e.e)

**Figure 6**  Total sample scores of cynicism (c.y)
It can be seen in Figure 6 (p.115) above that of the total sample only (n=13) showed high rates of cynicism, a score of 24 or more. As in Figure 5 (p.115), the majority of the sample are clustered around the low to moderate range.

The three phenomena were also analysed for differences between groups. The mean of each score was used to compare groups. A one way analysis of variance using Tukey-HSD and Scheffes test showed no significant difference between groups with each of three scores.

A high degree of “burnout” is reflected in high scores in emotional exhaustion and cynicism and low scores on professional efficacy. Although some individual scores were high on cynicism (see Figure 6, p.115) and emotional exhaustion (Figure 5, p. 115) and other scores low in personal efficacy, (p.114) there were no cases of burnout amongst this sample. Table 20 shows the mean scores of the sample compared to a sample of Canadian nurses (Schaufeli et.al 1995).

<table>
<thead>
<tr>
<th>DOMAIN</th>
<th>CANADIAN SAMPLE (Maslach)</th>
<th>SAMPLE POPULATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emotional Exhaustion</td>
<td>2.98</td>
<td>3.51</td>
</tr>
<tr>
<td>Cynicism</td>
<td>1.80</td>
<td>2.69</td>
</tr>
<tr>
<td>Professional Efficacy</td>
<td>4.41</td>
<td>5.17</td>
</tr>
</tbody>
</table>

The difference in mean scores of the three subscales were then analysed using other variables. A series of one way ANOVA was performed to test significant differences
between groups using Tukey-HSD test at the 0.05 level. There were no significant differences between professional groups, age, gender, or employment locations for any of the MBI scores. The individual ANOVA's are reproduced in APPENDIX Q, APPENDIX R and APPENDIX S.

Seven other statements were embedded within the MBI using the Likert MBI scale. The statements asked about staffing, access to in service education, camaraderie, clinical care and management attitudes. Less than 1 percent (n=3) agreed with the statement, "Staffing allows me to attend continuing education events every day" with a further 11 percent (n=20) reporting that they accessed continuing education once a week or more. Twenty one percent (n= 37) reported that they accessed education once a month or less and 57 percent (n=100) reported that they either never accessed continuing education or only a few times per year. Nurses from Tertiary hospitals had a higher mean score than the three other groups, which may reflect the additional resources available to these EDs, for example, Clinical Nurse Educators and Clinical Nurse Consultants. Table 21 shows all scores from this statement.

Table 21  Statement 1: "Staffing allows me to attend continuing education events every day"

<table>
<thead>
<tr>
<th>Hospital grouping</th>
<th>Mean</th>
<th>Std Dev</th>
<th>Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tertiary / major teaching</td>
<td>2.8226*</td>
<td>1.1668</td>
<td>62</td>
</tr>
<tr>
<td>District/urban</td>
<td>2.0000</td>
<td>1.0215</td>
<td>47</td>
</tr>
<tr>
<td>Base/rural</td>
<td>2.0690</td>
<td>7036</td>
<td>29</td>
</tr>
<tr>
<td>District/rural</td>
<td>2.3143</td>
<td>.9322</td>
<td>35</td>
</tr>
<tr>
<td>Total</td>
<td>2.3143</td>
<td>.9322</td>
<td>173</td>
</tr>
</tbody>
</table>

Tukey-HSD test with significance level 0.050
Statement 2, (Table 22) "A feeling of team spirit exists between shifts" had a higher total score (847) than Statement 1 (410), although no significant differences were found between groups.

<table>
<thead>
<tr>
<th>Hospital grouping</th>
<th>Mean</th>
<th>Std Dev</th>
<th>Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tertiary / major teaching</td>
<td>4.9839</td>
<td>1.2738</td>
<td>62</td>
</tr>
<tr>
<td>District/urban</td>
<td>4.7660</td>
<td>1.5067</td>
<td>47</td>
</tr>
<tr>
<td>Base/rural</td>
<td>4.9655</td>
<td>1.4264</td>
<td>29</td>
</tr>
<tr>
<td>District/rural</td>
<td>4.8571</td>
<td>1.1668</td>
<td>35</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td>173</td>
</tr>
</tbody>
</table>

Statement 3 in Table 23 (p.119) "I feel I can provide quality nursing care to my patients, was analysed for significant differences both between place of employment and professional groups. The purpose of this additional analysis was to ascertain any perceived differences that this statement elicited from the professional groups surveyed.

Again the sum of the total scores for Statement 3 (906) in Table 23 below was higher than Statement 2 (847) reflecting a more positive response to this question. Nurses from the rural district hospitals had a significantly higher mean score for this statement than the nurses from the other three locations.
Table 23  Statement 3: “I feel I can provide quality nursing care to my patients”

<table>
<thead>
<tr>
<th>Hospital grouping</th>
<th>Mean</th>
<th>Std Dev</th>
<th>Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tertiary / major teaching</td>
<td>5.2581</td>
<td>.9398</td>
<td>62</td>
</tr>
<tr>
<td>District/urban</td>
<td>4.8723</td>
<td>1.3771</td>
<td>47</td>
</tr>
<tr>
<td>Base/rural</td>
<td>5.2759</td>
<td>1.0315</td>
<td>29</td>
</tr>
<tr>
<td>District/rural</td>
<td>5.6517*</td>
<td>.8023</td>
<td>35</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td>173</td>
</tr>
</tbody>
</table>

Tukey-HSD test with significance level 0.050

There were no significant differences between professional groups for Statement 3.

Table 24 shows that Statement 4, “I feel comfortable making patient care decisions” had a higher total sum score (990) than Statement 3 and there were no significant differences between groups.

Table 24  Statement 4: “I feel comfortable making patient care decisions”

<table>
<thead>
<tr>
<th>Hospital grouping</th>
<th>Mean</th>
<th>Std Dev</th>
<th>Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tertiary / major teaching</td>
<td>5.7258</td>
<td>.5774</td>
<td>62</td>
</tr>
<tr>
<td>District/urban</td>
<td>5.4681</td>
<td>1.2997</td>
<td>47</td>
</tr>
<tr>
<td>Base/rural</td>
<td>5.8966</td>
<td>.3099</td>
<td>29</td>
</tr>
<tr>
<td>District/rural</td>
<td>5.9143</td>
<td>.2840</td>
<td>35</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td>173</td>
</tr>
</tbody>
</table>
Examination of differences between professional groups revealed no significant differences.

In Table 25, Statement 5, "There is adequate staffing in my unit", had a total score of 725. Only 17 percent (n= 29) believed that their units were adequately staffed on a daily basis. However, over half the sample (n= 94) believed that staffing was adequate once or a few times a week. Eighteen percent believed that there was either never adequate staffing or only a few times a year. A series of one-way ANOVAs showed no significant differences between groups either for place of employment or professional status for Statement 5.

<table>
<thead>
<tr>
<th>Hospital grouping</th>
<th>Mean</th>
<th>Std Dev</th>
<th>Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tertiary / major teaching</td>
<td>4.3710</td>
<td>1.4169</td>
<td>62</td>
</tr>
<tr>
<td>District/urban</td>
<td>3.7234</td>
<td>1.7901</td>
<td>47</td>
</tr>
<tr>
<td>Base/rural</td>
<td>4.2759</td>
<td>1.3335</td>
<td>29</td>
</tr>
<tr>
<td>District/rural</td>
<td>4.4286</td>
<td>1.4407</td>
<td>35</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td>173</td>
</tr>
</tbody>
</table>

In Table 26 (p. 121) Statement 6, "A lack of work space adds to the pressure", was added to the questionnaire to explore the dimensions of adequacy of ED space and design. The total sum for Statement 6 was 578. Nurses from the Rural
Base Hospitals had a significantly higher score on this variable than nurses from the other three major groups.

<table>
<thead>
<tr>
<th>Hospital grouping</th>
<th>Mean</th>
<th>Std Dev</th>
<th>Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tertiary / major teaching</td>
<td>3.2742</td>
<td>1.9347</td>
<td>62</td>
</tr>
<tr>
<td>District/urban</td>
<td>3.0638</td>
<td>1.9382</td>
<td>47</td>
</tr>
<tr>
<td>Base/rural</td>
<td>4.6552*</td>
<td>1.3437</td>
<td>29</td>
</tr>
<tr>
<td>District/rural</td>
<td>2.7429</td>
<td>1.6688</td>
<td>35</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td>173</td>
</tr>
</tbody>
</table>

Tukey-HSD test with significance level 0.050

The last statement embedded into the MBI Table 27 (p. 122) Statement 7, "My Nursing Manager respects my clinical judgement," had a sum of 876 with 62 percent (n=107) stating that this happened every day. There were no significant differences between means for either place of employment or professional status.
Table 27  Statement 7: “My nursing manager respects my clinical judgement”

<table>
<thead>
<tr>
<th>Hospital grouping</th>
<th>Mean</th>
<th>Std Dev</th>
<th>Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tertiary / major teaching</td>
<td>5.0323</td>
<td>1.5037</td>
<td>62</td>
</tr>
<tr>
<td>District/urban</td>
<td>4.9149</td>
<td>1.8157</td>
<td>47</td>
</tr>
<tr>
<td>Base/rural</td>
<td>5.1379</td>
<td>1.4072</td>
<td>29</td>
</tr>
<tr>
<td>District/rural</td>
<td>5.2571</td>
<td>1.4821</td>
<td>35</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td>173</td>
</tr>
</tbody>
</table>

The significance of the results in Chapter Four and the recommendations that arise from these findings will be discussed in Chapter Five.
CHAPTER FIVE
DISCUSSION AND CONCLUSION

This chapter will provide a synthesis of the data analysis presented in Chapter Four utilising the main research questions derived from the literature review. The discussion will be presented as discrete responses to the research questions with a summary that pertains to the philosophical framework presented in Chapter Three - Method. Implications of the study results together with limitations of the study and recommendations for further research will also be presented.

SAMPLING ISSUES

The decision to utilise the Emergency Nurses Association of NSW as the vehicle for the distribution of the questionnaire was based largely on convenience of access to respondents. The questionnaires were distributed with the October 1998 issue of the Journal of Emergency Nursing Australia and posted to approximately six hundred nurses, the majority residing in NSW. The return rate of 25 percent (n= 173) is acceptable for a postal survey (Nay-Brock 1994).

A limitation in the choice of the E.N.A journal was the relatively limited number of emergency nurses that are members of the NSW Emergency Nurses Association. The NSW Nurses Registration Board Emergency Department Workforce Profile in 1999 estimated (p.24) that there were 1,589 nurses both qualified and unqualified in emergency care nursing in the NSW workforce. Thus the 600 members
represented only 37 percent of all possible respondents to this survey. In addition, one questions whether the results from a sample that has been derived from nurses who belong to a professional association can be safely extrapolated to a larger group who do not share the sample group’s motivation for membership of their professional group.

The choice therefore of the E.N.A, NSW journal as a vehicle for survey distribution did have limitations – the main problem being the inability to access all emergency nurses in NSW and utilising a group who may be intrinsically different from the larger group.

**RESEARCH QUESTIONS**

**Question 1: What is the demographic profile of the emergency nurses in this study?**

The one hundred and seventy respondents represent approximately 10 percent of the total Emergency Department nursing workforce in NSW (NSW Health 1997). With the exception of the Enrolled Nurses and a lower percentage of Registered Nurses, all other professional categories of emergency nurses are well represented in this sample group but not in the same proportion as those respondents in the NSW Workforce Survey.

As mentioned in Chapter Four (Results), the ENA of NSW has Enrolled Nurses in their membership and, as a professional group, ENs account for 5.8 percent of the NSW ED workforce (NSW Nurses Registration Board, 1999). However, there were no
ENs in this sample. Reasons for this discrepancy are not readily discernable. There may have been a misperception that this study was only orientated to registered nurses.

The distribution of professional categories across the four sample settings, (tertiary, urban district, base rural and rural district) was evenly spread except for the number of Clinical Nurse Specialist’s in the base rural hospital setting. Although not statistically significant, the lower number of nurses in this category may reflect the individual hospital grading process or individual nurse reluctance to accept the additional work that the grading confers. In addition, other reports have highlighted the difficulties that rural nurses encounter with access to specialist postgraduate courses and training (NSW Health, 1997). The main NSW provider of post-graduate emergency nursing certificate courses remains the College of Nursing based in Sydney.

The stability and maturity of the ED nursing workforce is already under scrutiny by government authorities and the results of the length of time employed variable highlights some of the known problems with the ED nursing workforce. For nurses working in the tertiary sector the average length of time employed was 5.7 years compared to the urban district hospitals of 9.5 years. The wastage rate for ED nurses currently does not match resupply with a projected shortfall of approximately 400 positions for the year 2001 (NSW Health 1997).

Respondents in this survey reported a range of previous clinical experience prior to their transfer to the ED with both the medical and Intensive Care Unit settings yielding the majority of transfers. The average time employed in these clinical environments prior to their move to the ED was three years. Direct entry into the ED
environment from undergraduate training has been discouraged by the structure of post
graduate transitional programs which mainly utilises the traditional medical / surgical
environment for beginning RN. In addition, the inclusion of a term in the ED within the
new graduates intern year is not always offered by health services. This is despite the
2001 NSW Health New Graduate Consortium Report that reveals (p.23), the ED
environment the most frequent first choice in new graduate’s clinical preferences. The
lack of opportunities for the new graduate nurse to enter the ED in their first year may
lead to them being lost to ED nursing forever as they settle into different clinical
environments.

This dilemma is further compounded by the traditional essential criteria for
employment in the ED environment. For example, “minimum of one year post graduate
experience”. However, as the number of vacancies increase in the ED nursing
workforce this traditional approach to recruitment may need to be modified. It is
obvious that beginning RN are willing to go to ED but conversely it is also true that the
ED up till now is unwilling to accept them.

Direct entry recruitment of new graduates does impact on existing staff members
by increasing existing staff responsibilities. Compounding this situation is the
traditionally low number of support nursing staff employed in the ED environment eg.
CNE. This survey only yielded two Clinical Nurse Educators in the sample group, both
of whom were employed in urban district hospitals. Table 4 (p 89) shows that as
professional group CNE's only account for 0.6 percent (approximately 5 positions)
across NSW.
The aforementioned figures are discussed in the 1997 NSW Health Nursing Workforce Planning Study for Emergency and Mental Health Nurses report. One quote below summarises the dilemma.

"...there are a number of RN's who are seeking work in the ED, but not a lot of experienced people moving around at the moment......training the inexperienced is probably the most vital issue.....very difficult to attract staff. Can only attract staff with limited or no experience" (NSW Health 1997 p.20).

This dilemma is further highlighted when analysing the age profile of the survey respondents. As reported in Chapter Four - Results, approximately 44 percent of the total sample group were aged forty years or over, including 66 percent of the rural district workforce. These figures differ from the 1997 Nursing Workforce Planning Study for Emergency and Mental Health Nurses, which reported (p.24) that that 69.3 percent of the total ED RN workforce were less than 40 years of age and were significantly younger than the total RN workforce.

Obviously the rural district figure is of concern especially when this area is unable to provide the number of training positions to the beginning RN compared to their urban counterparts. The 1999 NSW Health Department Consortium report showed that of the 1,174 positions available in NSW hospitals for new graduates only 161 or 13 percent were available in the rural areas. Ongoing professional development remains problematic as most post-graduate training remains in the large metropolitan areas.
Gender

Male nurses represented approximately 18 percent of this sample group. This percentage is higher than the traditional numbers of male nurses (7.9 %) in the total RN workforce (NSW Health, 1999). Why more males are attracted into this area of nursing than other areas remains unclear.

Marital Status

The percentage of divorced or separated respondents was 6.4 percent with the majority of respondents (66.5 %) married.

Country of birth

The vast majority of respondents were born in Australia with 88 percent reporting that they spoke only English. Only eighteen respondents could speak another language with no community language predominating. Other languages spoken included: Tagalog, Chinese, Spanish and Hindi. Only five nurses from the major teaching hospitals spoke another language and six in the urban district hospitals. Six nurses from the Rural base hospitals spoke another language and one from the rural district hospitals. As with other areas of nursing, the ED workforce does not reflect the community profile, especially in New South Wales where the 1995 census data reveals that approximately 26 percent of residents are born overseas and that 50 percent of
these residents speak a language other than English at home (Australian Bureau of Statistics, 1996).

**Question 1a) What are the professional characteristics of the respondents?**

The source of professional training for the entire sample showed over 60 percent of the sample group trained in the hospital based system, 25 percent were university prepared and 23 percent not answering this question. As mentioned, the difference between the rural and urban hospitals was significant ($\chi^2 = 14.7$, d.f. = 3, $p > .002$) with tertiary hospitals having the highest percentage of university prepared nurses (45%) with rural hospitals the lowest (4%). This difference may reflect the employment patterns of the new graduate nurses whereby the majority are employed by urban hospitals where turnover is higher and more job opportunities exist. As undergraduate nursing education moved to the tertiary environment in 1985, the trend in these figures will continue to change as more university prepared nurses commence employment.

This sample group had a higher rate of speciality emergency nursing qualification (53%) compared to the rest of the NSW E.D nursing workforce where only 36 percent are reported to hold post-graduate (PG) qualifications (NSW Health 1997, p. 25). This higher rate of qualification amongst the sample group may be one characteristic of professional association membership whereby membership is drawn from those nurses who are professionally qualified and active in other educational activities such as attendance at conferences and educational days.
The percentage of nurses with emergency nursing certificates across the four different employment areas showed no significant difference. Although the College of Nursing remains the peak provider of NSW PG emergency nursing qualifications, changes both to their course structure - a four week residential school versus their earlier fourteen week residential school has increased access for students from rural areas. In addition many tertiary institutions offer post-graduate emergency nursing qualifications in a variety of distance learning modes thus not disadvantaging students from rural and remote areas. However the tertiary courses are usually fee paying which is an obvious disincentive for some nurses.

The relative importance of PG emergency nursing qualifications to professional groups is reflected in the percentage of nurses who hold the qualification. Only 35 percent (n=34) of RNs in this survey hold the qualification compared to 82 percent (n=41) of CNSs and both of the CNEs. Nursing management is also well represented with 66 percent (n=14) of the sample qualified in emergency nursing. Surprisingly only 20 percent (n=1) of the CNCs in this survey hold PG emergency nursing certificates. This may reflect the generic nature of some CNC titles whereby some are referred to as Critical Care Consultants thus allowing Intensive Care/ Coronary Care certification to be considered appropriate as an essential criteria for the job description.

The 25 percent (n=44) of respondents who received their undergraduate training in a tertiary institution (therefore exiting the tertiary system with a Bachelor of Nursing or Health Science) does not account for the forty one percent (n=73) of respondents who hold an undergraduate degree. The difference in these numbers represents those
nurses who have acquired other tertiary qualifications since their original hospital based training. The relatively low percentage of Masters prepared nurses (10 %) may reflect the relative newness of the emergency nursing specialty and the gradual introduction of emergency nursing Masters level programs into the tertiary institutions.

The Trauma Nursing Care Course (TNCC) has a higher qualification rate (57%) compared to emergency nursing qualifications (53%). This result is not surprising as the TNCC has been actively promoted by the ENA, NSW and is unique in that the course is taken to the students, often in rural and remote centres. In addition, the course (which consists of pre reading materials and face to face didactic and experiential learning) is completed within two days. This is an obvious attraction to nurses in rural areas and is reflected in the spread of the TNCC qualifications. Over 50 percent of nurses in each of the four employment settings hold the TNCC.

The TNCC is open to any RN whereas the College of Nursing emergency nursing certificate is largely employer sponsored. Places are limited to particular health services, priority is given to hospitals with low numbers of qualified nurses and places are allocated through a priority bid system at Area Health Service level. Although replacement funding is provided by NSW Health to support the particular unit whilst the student is attending the course, anecdotal evidence suggests that nurses are often denied the opportunity to apply as the employer finds it impossible to arrange replacement staff.

Professionally, RNs have a higher uptake of the TNCC with 51 percent (n= 49) of RNs qualified in trauma nursing compared to 35 percent (n = 34) with emergency
nursing qualifications. However, this higher uptake is not reflected in the other professional groups with sixty three percent (n = 32) of CNS TNCC trained compared to the 82 percent (n = 41) with emergency nursing certification and 57 percent (n= 12) of the Nurse Managers compared to their 66 percent (n= 14) in emergency nursing. Again both CNEs hold the TNCC and 80 percent (n= 4) of the CNCs compared to their low rate (20 %, n= 1) of emergency nursing certification.

The percentage of nurses who hold the Emergency Nursing Paediatric Course (ENPC) was lower then the TNCC with only 29 percent (n= 50) of the respondents holding the ENPC. The course structure is identical to the TNCC and one can only speculate that ED nurses see the skills and competence acquired in the TNCC in trauma nursing as a higher priority. This is surprising given that most ED’s treat children (with the exception of Westmead and Prince of Wales hospitals in Sydney which have specialised Children’s hospitals located nearby). The sample reflects a lower representation of those with ENPC qualifications. Only 22 percent (n = 21) of RN’s, 40 percent (n=20) of CNSs and only one of the CNCs (20%) and CNEs (50 %) being certified in ENPC nursing.

Question 2: What attracts nurses to the ED?

The very nature of the ED environment with its ever changing casemix and flow patterns was the most attractive element with nearly 40 percent (n = 68) of the respondents choosing variety and excitement as the main reason for originally wanting work in ED. This result contrasted slightly with the American study by Burns et al.
whose results showed that the element with the highest importance was intellectual challenge (p.333).

Additional data collected was then analysed to compare and contrast the above results by asking the respondents to list the three greatest sources of satisfaction for them now in ED nursing. Several themes emerged from the free answers (i.e. no forced choices) and not surprisingly the issue of patient care emerged as the theme most commonly referred to by the sample group. Burns et al (1983) also reported (p.331) that patient care was the greatest source of satisfaction amongst their sample group. Team work and recognition emerged as the second and third most satisfying elements in this sample which compared closely to knowledge and skills and interpersonal relationships in the Burns et al (1983) sample. Other themes that emerged were the skills utilised in emergency nursing and the variety and excitement of the ED environment.

Many of the comments in the patient care section referred to the emergency component of the work of emergency nurses. Emergency nurses appear satisfied when they save lives and the following examples were common throughout the data set:

“Saving a critically ill patient.”
“Seeing acutely ill persons responding to emergency treatments.”
“Stabilising a critically ill patient.”
“A good save – patient returns to our rural hospital from retrieval hospital with a good prognosis.”
“Positive outcome on resuscitation of patient”
“Successful outcomes in resuscitation and smooth transfer to base hospital”

However, not all patients survive. Some patients do die and not all can be saved. Paradoxically, some respondents also see this as a source of satisfaction as long as certain conditions are met. This paradox is illustrated by this phrase, “a well run resuscitation - regardless of the patient outcome” which was reported by some of the respondents. The acceptance by nurses that an event can be judged to be successful although the patient did not survive reveals the reality of working in such an environment. This theme is also referred to in the following two comments:

“Saving or trying to save a life feeling you have given a situation all you could.”

“Knowing that you have done your best for the patient even if the patient dies.”

The realisation of this paradox is further described by nurse’s commenting on the work that continues even after the patient is declared deceased.

“Making a difference at the coalface- helping people begin “good grieving” at times of sudden death.”

“Being able to assist in times of need whether that is life saving or dignifying a death and supporting relatives.”

Additional comments in the patient care section refer to the process of helping and assisting patients and families in a variety of ways – timely treatment, analgesia,
and referral to appropriate social support networks and emotional support in times of great stress.

The concept of teamwork and camaraderie were also repeated throughout the data. The ED is an environment that demands a well functioning team. The team needs to function well interpersonally as they are often in highly stressful situations and working in close personal proximity. Thus communication, especially between nurses and doctors is imperative. The following two comments allude to this need.

"Teamwork – not an individual person’s job – must work and cooperate with each other."

"Being efficient – running a good and caring dept.- the challenge of effective interpersonal skills."

The smooth functioning of the team in ED is also a common theme in the data, however the comments below allude to the difficulties that do exist in its implementation.

"Getting it right – when things go the way they are supposed to – everyone working together."

"Team work- medical, nursing, social work and so on – when it works well!"

Although teamwork is practised throughout other areas of the hospital system, one nurse believed otherwise:
“Teamwork – doctors, nurses combined working together and communicating- this doesn’t happen in the wards in my hospital.”

Teamwork with units and wards outside the ED environment and working with administrative and other support staff is also seen as a source of satisfaction for some ED nurses:

“Inter-department transfer without a complaint from the other end.”
“Working with a wonderful disciplinary team as a member from cleaners, caterers, volunteers, RN’s to staff specialists to senior surgeons.”
“Being part of a great team – nurses, doctors, ‘ambo’s’, clerks and ‘wardies’!”

Good teamwork also appears to engender positive feelings in ED nurses and is seen as a source of satisfaction and recognition:

“Working with the best people on earth – hard working, little respected or acknowledged – backbone of the hospital!”
“Teaching, helping, sharing knowledge and feelings with colleagues.”
“Working with a team of people who are supportive, generous and have the ability to laugh.”
“Being part of an effective team and being a valued member of that team.”
“The teamwork and collegiate support within a close unit.”
“Being involved in decision making, being part of a team.”
“Cohesive application of skills by a team.”
"Being a member of an effective team."

The positive comments above are also reflected in the 79 percent (n= 137) of respondents who believed that a feeling of team spirit frequently exists between shifts within their departments. Conversely, 12 percent experienced team spirit less than once per month, a few times per year or never.

The theme of acknowledgment and recognition also emerged from analysis of the data. Recognition was divided into two broad categories, that is, recognition from patients and their significant others and recognition by peers and other colleagues.

"People saying thank you – patients and their families who really appreciate what you have done for them."

"Having people say thank you to appreciate what you have done for them."

"A patient says thanks regardless of the task performed."

"The respect I get from my colleagues because of my skills and experience."

"Being treated with respect and having other health care professionals listen to you."

"Having my knowledge and skills accepted by my peers and medical officers."

"Acknowledgment and respect of medical staff."

"Being continually complemented by my colleagues throughout the hospital for having such a good team of nurses."
However, not all patients or their families express their appreciation to the ED staff as the following comments state:

"The occasional thanks from patients and colleagues."

"Recognition of my skills by my patients – it sometimes happens."

"Making a difference to someone's life and being thanked for it – the few who do!"

The attainment and application of skills and knowledge were also a source of satisfaction in emergency nursing:

"Being able to fully utilise my clinical skills."

"Usage of skills eg cannulation, venipuncture and defibrillation."

"Making a difference, using high level of skills necessary to manage our patients well."

"Broad knowledge and skill base required in ED."

Clinical skills are not limited to the actual tasks performed but also to the ability of nurses in the ED environment to instigate treatment. Several nurses mentioned this autonomous role:

"Using your initiative, actively doing things without having to await direction."

"To have a say in the treatment of my patients – instigate care and treatment."
"Certain level of autonomy as your practice becomes respected and valued by peers and medical staff."

"The opportunity to diversify and increase my skills – much more responsible and skilled than ward work."

The above comments are supported by the 90 percent (n= 140) of respondents who felt comfortable making patient care decisions on a daily basis with only 4 percent (n = 5) once a week or less.

Whilst the ability to instigate treatment appears to be important to nurses working in the ED, for the nurses working in the rural setting this autonomy is crucial to the well being of their patients.

"Instigating emergency protocol when a patient presents – we have no resident doctor."

"Working independently in the rural and remote setting."

"Providing appropriate treatment initially according to nursing diagnosis for the patient not on site – telephone orders."

"Lone practitioner."

The role of education and knowledge attainment by both staff and patients were also seen as a source of satisfaction:

"Influence and teaching less experienced nurses and doctors."

"Teaching someone something new."
"Knowing that my contributions to education and the organisation of the unit has helped the other team members."

"Staff education, inservice, support and training. Implementing new effective policy."

The final theme to emerge from the data analysis was the variety and excitement inherent within the ED environment. Nurses appear to relish the opportunity to be involved in resuscitation and other seemingly stressful situations.

"The variety of emergency presentations provides so much motivation and challenges."

"Exciting work – adrenaline rush!"

"Variety, excitement, adrenaline buzz!"

The variety of presentations and the apparent lack of routine were also a source of satisfaction for ED nurses.

"Variety of patient conditions – very well to very sick people."

"Challenging routine – unknown quantity of what will come in next."

"Variety – each patient is a challenge and a mystery."

"Not knowing what the day holds – variable routine."

"The high turnover and excitement of not knowing what will happen next."
The final comment, although not sitting comfortably within the five major themes adds to our understanding of the satisfaction nurses feel about working as an emergency nurse:

"That I still enjoy coming to work most days which is more that I can say for a lot of my family and friends."

Question 3: What do emergency nurses consider stressful in their day to day work?

Results of the stress audit differed from the analysis of the free choice answers. The incidents cited by the nurses in the use of services were of a critical care nature or involved personal violence or interpersonal conflict. However the construct of the Stress Audit examined not just the intensity of the stress (low, medium or high) but also the frequency of the event (never, occasionally, weekly or daily.) When these results were analysed it provided a different picture than the scenarios above.

Differences emerged (see Table 14, p.107) between the four groups (tertiary, urban district, rural base and rural district) with the Stress Audit results. There was agreement however between tertiary and urban district nurses in their ranking of the lead stressor, exit block. Overall, nurses from rural district hospitals had quite different results with exit block and inability to meet patient needs not rating in their top ten stressors identified. Only one group, the rural district group rated resuscitation procedures within their top ten stressors (6th out of ten) with the other three groups rating them below the tenth variable. So although critical care events were cause for
emergency nurses seeking assistance and support, the frequency of occurrence for these events forced their overall stress rating downward.

Although not statistically significant, nurses working in urban district hospitals had a slightly higher mean stress score than the other three groups with the nurses from the rural district group having significantly lower scores than the other three groups.

The significance of the results of the overall stress score suggests that there are more similarities between the tertiary, urban district and rural base hospitals than differences. Nurses working in the rural district hospitals treat less number of patients, are not troubled by the lack of in-patient beds and consider that they can meet their patients needs.

The two stressors identified in the Stress Audit were exit block (no in-patient beds) and interruptions by telephones and can be described as the “day to day” hassles of everyday life. These findings are similar to those described by Chiriboga and Bailey (1986) and the 1992 research findings of Hawley. Both of these variables are classified as “unit management” and hence one can argue that they are both amenable to change by the hospital administration. The interruptions by phones were also identified earlier by Topf (1988) who investigated stress in ICU nursing and concluded that machinery that demands action (pick up the phone, especially the emergency phone link to the ambulance service) and noise (ring, ring) were both a source of considerable stress. Rural district hospitals rated interruptions by telephones as their main source of stress. This maybe due to the fact that there is often only two staff available within the rural
ED (one RN and one EN) coupled with the paucity of administrative/ clerical support staff employed within these units.

Exit block has become increasingly recognised politically in NSW with tabloid press quick to publish the stories of the patients waiting four days in an ED to be moved into a “proper” in-patient bed. Exit block is also the main reason for a hospital going onto “by-pass” thus denying access by NSW ambulance except for the life threatening only (LTO) patients. The number of ambulance by-pass incidents is now part of performance management agreements between NSW Health and senior Area Health administrators hence the problem of exit block is not caused by a lack of recognition by those people that could effect lasting solutions to the problem. Anecdotal evidence by hospital staff suggests that performance agreements have exacerbated the exit block problems as particularly stringent criteria must now be met before senior health staff grant permission to go LTO.

The dilemma for health administrators is that the other demand for their hospital beds comes from the “elective” waiting lists which detail the number of patients and the length of time that they are waiting for elective surgery in NSW hospitals. This data is also used by the political party in opposition and makes for more sensational headlines. Thus if the wards are full of elective admissions then the ED is forced to wait until an empty bed becomes available and the exit block continues.

The majority of EDs were not designed to hold patients for any extended period of time. The physical layout of ED i.e. large open receiving rooms, usually only one toilet and work practices eg. lots of noisy phones, crying babies, 24 hour lights and
activity is not conducive to in-patient care, especially for those patients who may have suffered a heart attack or other life threatening event. In addition, EDs often physically run out of beds, that is, there is nowhere to actually lay the next patient down except for the floor. All beds, trolleys and wheelchairs can be full of patients awaiting transfer to a ward bed. It is easy to understand then if this is a daily occurrence, why many emergency nurses consider exit block to be their greatest source of stress.

Although exit block was identified by the total sample as the highest stressor there were some differences between sites with tertiary, urban district and rural base hospitals rating exit block in their top three but not rating within the top ten variables for rural district hospitals. The pressure of inadequate beds appears to be largely an urban and major rural city phenomenon.

The third highest stressor identified was that of uncontrolled volume of patients. Unlike in-patient units and as discussed previously with exit block there is no such thing as a “full” ED. Multiple patients arriving in a short time frame test the skills of all ED staff from the Triage nurse who must make the decision about which patient is seen first, to the medical staff responsible for their treatment. Uncontrolled volumes can be viewed as a lack of control over work practice and this lack of control has been identified as a source of stress by the findings of Seligman and Maiers (1967) and Glass et al (1971). Again this stressor did not rate highly with the rural district hospitals in the Stress Audit (9th on top ten list) however was mentioned by rural nurses as a reason to access counselling and support services when it occurred.
Not surprising then, the fourth highest stressor for the total sample population was inadequate staffing. Distinction was not made between the levels of staff such as medical officers, nurses or administrative support staff. Nurses employed in the urban district hospitals were more likely to disagree with the statement that there was adequate staffing within their unit however this difference was not significant. Chronically understaffed EDs must place even more stress on staff to deliver timely care to their populations.

The perception of inadequate staffing is reinforced by the sample response to the statement, “Staffing allows me to attend continuing education events”. Over 63 per cent of the sample stated that they access education events either a few times a year or never, and 21 percent once a month or less. Only 1.7 percent (n = 4) of the nurses surveyed were able to attend daily inservice events.

This belief is reinforced by the result that only 17 percent of respondents believed that there was adequate staffing within their units on a daily basis. Six percent felt that there was never adequate staffing. Staff who held this belief were predominantly from tertiary and urban district hospitals.

The problems of overcrowding and understaffing may contribute to the rate of verbal abuse suffered by emergency nurses and was rated by the total population sample as the fifth highest stressor for emergency nurses. Nurses also cited verbal abuse as a reason to seek counselling and or peer support. Again anecdotal evidence suggests that nurses receive the brunt of most verbal abuse, especially at triage where they are more likely to announce delays to treatment or to make decisions about a
patient’s place in the queue to see a doctor. Alcohol and other substance abuse probably add to the frequency and verbosity of abuse although “patients who are drunk” rated out of the top ten stressors for the total sample group.

The concept of who does and who does not require ED care has been identified in earlier work by Jeffrey (1979), Green and Dale (1990) and Crouch and Dale (1994). This concept was again confirmed in this study’s results where patients not requiring ED care rated highly across the four groups. If the ED is overcrowded with patients awaiting in-patient beds and there is inadequate staff to care for those already in ED it is not surprising that the perception by nurses that the patient does not require the services of the ED is considered a stressor.

Of course the only perception that matters is the patient’s (and or their family) about what they consider to be worthy of a visit to the local ED especially as they seek reassurance that their symptom or sign is not an emergency! The availability of General Practitioners (GPs) after hours (especially one that does not require cash up front) may be other reasons patients seek out the ED. The lack of access to GPS in particular geographical locations, especially in rural areas of NSW may account for this variable rating the third highest stressor for rural district nurses.

The inability to meet patients needs is again linked to workload and staffing levels. Nurses in tertiary hospitals in particular rate this variable highly (4th out of ten). Documentation and paperwork though not rated in the top ten by tertiary, urban district or rural base nurses rated 4th by rural district nurses. This higher rating may be due to the small number of staff on duty at any one time and the need for quality documentation
that is required to accompany patients on inter-hospital transfers. It must be difficult to resuscitate arrange transfers and so on and write about the critically unstable patient all at the same time. Of course, the role of documentation is crucial in all others EDs, however staffing during resuscitation procedures in the larger hospitals usually allows for a dedicated “scribe” to record details of medications, defibrillation attempts and so on.

Lack of teamwork with in-patient units also rated highly overall amongst the sample population. The lack of teamwork can be exacerbated by exit block as ward areas are loathe to quickly discharge their more stable patients to make room for a more acute patient waiting in emergency.

The final stressor identified in the top ten was the “chronic attender”. Unlike patients not requiring ED care, the chronic attender is more likely to be patients suffering from a variety of chronic illness’, for example, angina or obstructive airways disease that necessitate oxygen therapy or other interventions. Chronic attenders also may include patients with repeated overdose attempts using pharmacy that though not life threatening, may require hospital attention. These patients, referred to as “rubbish” by Jeffrey (1979) represent a substantial workload for nurses who already feel overworked and stressed by their “real” patients.

Overall, CNSs had the highest stress score total and NUMs the lowest. As the name implies, the role of the NUM is to effectively manage the various functions of the ED and although probably involved in patient care in some instances, the position is essentially one of administration. This lack of involvement in patient care matters may
be the buffer from the higher stress scores seen in other professional roles, especially that of the CNS.

No professional or demographic attributes accounted for the differences in the total stress scores. The only variable that was significant was the slightly higher scores for nurses who had accessed support services. It is impossible to ascertain from this research whether this effect is the result of how these individuals cope with their stress or if it is the result of the event itself.

**Summary of satisfaction and stress in emergency nurses**

- Emergency nurses rate patient care as both a source of satisfaction and stress.
- Other sources of satisfaction for emergency nurses were teamwork, camaraderie, autonomy, use of skills and the variety and excitement of emergency department work.
- Death and dying, resuscitation verbal abuse and unit management were reasons that emergency nurses sought assistance and support.
- Exit block was rated as the highest source of stress by the total population sample.
- There are differences between population subgroups in their stress ratings with nurses from rural district hospitals rating several items differently to nurses in tertiary, urban district and rural base hospitals.
- Nurses from rural district hospitals had statistically significant lower stress scores than their urban or rural city colleagues.
- Nurses with CNS status had higher mean stress scores and NUMs the lowest.
The only factor that was significant in the stress score was the previous use of support services.

**Question 4: How do emergency nurses cope with the stressful parts of their work?**

The results of the JCS show that overall, this sample of nurses utilised coping styles associated with direct and confrontive styles including discussion, use of humour, use of past experiences, maintaining control and seeking information. In addition, to the top five coping skills used, nurses from rural district hospitals also looked for purpose and meaning. These five major coping styles are referred to by Jalowiec (1987) as supportant, optimistic, self-reliant and confrontive styles and was found by Keller (1990) to be related to high levels of personal accomplishment – which negatively predicts burnout. Maslach and Johnson (1982) also report (p 106) that:

"Lower levels of burnout among those who used social coping strategies, such as talking about work stress and getting advice".

The use of discussion as the main form of coping by emergency nurses is supported by the 49 percent of the sample population reporting that they accessed peer support every day and a further 14 percent who use it a few times a week. This frequency of support and coping styles was referred to earlier by Cohen and Wills (1985):

"The most effective support is given and taken in the context of daily social intercourse without being asked for, and without supporters feeling that they are giving anything or supportees feeling that they are receiving something (p.351)."
This premise was later supported by Duquette et al (1994) meta analysis which concluded (p.349) that:

"Support from superior and colleagues play an important role in protecting nursing personnel from burnout."

The use of humour in emergency nursing is probably well known within their circles, however from an outside perspective may appear morbid or perverse. The referral to multiple trauma patients as a "Sussan's" job (from a popular clothing chain advertising song- "this goes with this, goes with this, and with this etc") is just one example that may offend. Humour during tense resuscitation's or a similar event is referred to as "gallows humour" and is explained as "laughing in the face of danger" to relieve tension and stress.

**Question 5: What types of support mechanisms are available to NSW emergency nurses and are they utilised?**

Sixty four percent (n=115) of the sample group had access to some form of employer provided support services with forty percent (n=73) having access to Critical Incident Stress Debriefing. Frequency of use differed amongst the sample with almost 49 percent (n= 84) stating that they accessed peer support or counselling every day. Fourteen percent (n= 24) accessed support a few times a week and 6 percent (n= 10) once a week or once a month or less. Fourteen percent (n= 24) accessed a few times a year and 10 percent (n = 17) had never accessed support services.
Respondents who had previously accessed services were asked to comment in a free answer (no forced choices) question on the types of incidents that had given them cause to use the services. The data was then examined for major themes that emerged.

The types of incidents that nurses encountered in their work were varied with the majority of incidents surrounding death and dying. In particular, nurses mentioned the death of babies and children as the incident that caused them to access services.

"Death of a two year old."

"Attempted resuscitation of drowned baby."

"Traumatic death of an 11 month old."

"Two paediatric deaths in dept. from same family."

"Two paediatric deaths in one shift."

In addition to the deaths of children, other major themes that emerged from the data analysis included resuscitation that was lengthy or involved multiple victims.

"Multiple casualties involving deaths of 2 high school students."

"M.V.A with multiple victims – 4 adults, 4 children – 3 died. All the rest had major injuries."

"Unsuccessful 8 hour attempt to resuscitate patient."

Deaths from suicide were also mentioned, in particular, when adolescents were involved:
“Youth suicide – hanging.”

“Fatal 12 year old multiple trauma victim.”

“5 hour resuscitation of suicide victim.”

“Sudden unexpected death in young people.”

“Dealing with the number of youth suicides in the small community in which I live.”

Other deaths that were mentioned amongst the data were deaths that involved fellow staff members or people who were known to the staff in the department. This is of particular concern to staff who work in the small rural communities where “everybody knows everybody”.

“People known to you.”

“Two cases of suicide of a staff member’s young adult children.”

“Death of Co-workers relative in department.”

“Death of a staff member.”

“Death of a child – our ED Director’s own son.”

“Colleague committing suicide at work.”

This factor does not explain however the higher percentage of staff in the rural Base Hospitals (80 percent) who have accessed services versus approximately 50 percent in the three other groups. What may explain the higher figure is the following comment made by a rural base hospital nurse:
"We have organised a counsellor to come to our department once a month however the hospital overall does not provide any support. They view our debriefing sessions as a sign that we are not coping. To realise everyone in our department experiences the same problems and it helps us to support each other and brings us closer together. It also helps us to discuss our performance in major cases."

This introduction of a regular debriefing session into the department does explain the higher access figures for the base hospital staff. Other themes that emerged from the data involved resuscitation—incidents that did not specifically mention the death of a patient and were subsequently classified as resuscitation incidents not as death and dying.

"Young man who attempted suicide but survived with horrific injuries."

"Retrieval and treatment of patient who attempted suicide by jumping under a train."

"Severe burns."

"Major trauma involving dismemberment."

As in the death and dying section, accidents involving multiple casualties were also mentioned by respondents:

"Multiple victims with multiple trauma."

"Being in charge of a shift when multiple, multi-trauma patients arrived."
Other aspects of resuscitation that were of concern to nurses were again those that involved children:

"Sick or injured children."

"Major resuscitation of young patients outside the usual rescue."

"Paediatric trauma."

Thus it was the critical care aspects of emergency department work that provoked the use of support services available to staff. These critical care incidents, although common may not be experienced on a daily basis by staff in EDs except in the major tertiary referral hospitals who function as receiving hospitals for patients across a large geographical area.

The critical care aspects of emergency work as a source of stress is supported by the earlier findings of Vreeland and Hoskin (1968), Oskins (1979) and Burns, Kiriloff and Close (1986).

The third major theme to emerge involved violence in the ED, both verbal and physical assault. Violence in the ED has been identified as a source of stress by Mahoney (1991), Schnideden and Marren- Bell (1995), Levin, Hewitt and Misner (1998), Lyneham (1999) and Jones and Lyneham (2001).

"Extremely violent incident at triage."

"Physical assault"

"Threatening behaviour from the general public."
" Violent patients."

"Continual abuse by public."

Although a degree of aggression is inevitable in a setting that is often stressful and chaotic, the following comment illuminates the further frustration some nurse’s feel:

"Verbal assault by patient and family exacerbated by lack of support from police and supervisor."

The above comment also relates to the final theme that emerged: unit management and interpersonal relationships. Being overwhelmed with too many patients is a fact of life in most EDs some of the time. Combined with low staffing levels and problems accessing in-patient beds this element of ED work is seen by some nurses as a critical incident. Although intrinsic to the work of nursing, only 51 percent (n= 89) of respondents reported that they could provide quality nursing care to their patients on a daily basis.

"Staffing levels."

"Problems with senior medical officers."

"Workload- no support from other areas of the hospital."

"A shift of total chaos with no administration support."

"Three really bad shifts in a row as in charge – snake envenomation, fatal MVA and double child immersion."
In addition to the reasons that nurses gave about why they had accessed their support services, they were asked to reflect upon the usefulness of the services provided. The majority of replies were positive and emphasised the sharing of like feelings with colleagues:

“To see the emotions and feelings as a normal reaction.”

“Talking with peers to realise that one is not alone with their fears or anger or frustration.”

“Debriefing and talking with fellow workers.”

“ Able to verbalise feelings, recognise other people also emotionally affected.”

“Talking about the situation helped- very beneficial.”

Others commented on the use of these debriefing sessions to examine the clinical aspects of the event:

“It was helpful to talk about the shift and the actions I performed and thereby I lost some of the guilt and responsibility I was carrying.”

“To be able to debrief—allay fears of knowing all that could be done was done—understanding of clinical applications.”

“Interesting listening to others feeling/experience of situation and reflect on how well everyone (including ward staff) worked together.”

However, although the employer may offer support services, the comments below shed light onto the problems encountered by their implementation and use:
“Great to be able to offload at work and not take it home with you. Criticised by other staff (Intensive Care) for having to have counselling – ED staff seen as having “a problem”

“A great help but was not available on site. I had to travel 100 kilometres to the Employee Assistance Program.”

“Didn’t do very much because it was attended to 4–5 days after the event.”

“The services are not consistent and need refinement and better organisation – they start a job but fail to see it through.”

“Not much- we were having counselling when the arrest bell went.”

Other comments revolved around the use of peers and colleagues as support rather than any formal program offered by employers. These comments are related in the teamwork aspects of what satisfies emergency nurses and are supported by the findings of Cohen and Willis (1985).

“I find us, as staff members tend to debrief ourselves in private sessions which are more effective than formal debriefs.”

“Some- but main help has been from fellow workers support.”

“Peer support in our hospital is for me the greatest way to cope with any situation, which arises.”

There were a smaller number of negative comments including:
“I have doubts and also recent research casts doubt on the effectiveness of CISD, especially if it is seen as a compulsory exercise.”

“Not at all – the debriefing was of no use.”

“I did not find them particularly helpful. My peers were actually more supportive just through unofficial debriefing.”

The above comments are also supported by the 1985 findings of Cohen et al. in particular, their following conclusion (p.351):

“The most effective support is given and taken in the context of daily social intercourse without being asked for, and without supporters feeling that they are giving anything or supportees feeling that they are receiving something (p.351).”

In summary, some emergency nurses do seek assistance with debriefing. Critical care incidents were cited in addition to violence, unit management and interpersonal relationships as the main reasons for seeking help. However, their own colleagues and peers provide some of the assistance. Although peer support is frequently accessed, formal assistance, for example, Critical Incident Stress Debriefing is only used for major incidents or events. But is it these “major events” that cause the most stress for emergency nurses?
Question 6: Is there evidence of burnout in NSW emergency nurses?

The positive and healthy coping methods utilised by the respondents towards perceived stressors, that is, talking it through with colleagues and the use of humour and past experience may go some way in explaining the results of the MBI. Approximately 7.5 percent (n = 18) of respondents had high scores on the exhaustion subscale; five percent (n = 14) had high scores for the cynicism subscale and 4 percent (n = 5) had low scores for the professional efficacy subscale. However, only 1.7 percent (n=3) of the population sample had scores that predicted burnout i.e. high scores on cynicism and emotional exhaustion and low scores on professional efficacy in this survey. The three individuals, all females aged below forty shared no other demographic or educational attributes that differed from the population sample.

The means of the individual burnout scores for cynicism and emotional exhaustion (see Table 16, p. 109) were higher than those reported for nurses in Canada (Maslach et al. 1996.p 23). However the mean scores for personal efficacy was also higher than those recorded in Canada. Why this sample population show such low numbers of burnout is a question awaiting further analysis. The sample population was drawn from nurses who are members of the Emergency Nurses Association of NSW. This and the fact that they have a higher than average post-graduate qualification rate than other emergency nurses in NSW (53 percent versus 35 percent) appear the only differences between the two groups. The opportunity to repeat the MBI with nurses who are not members of the ENA of NSW may show that nurses who join professional associations are more motivated, educated and so on and thus are less likely to suffer
from burnout than other nurses who do not see any professional or personal advantage in being members of their professional group. Conversely it may be argued that membership of a professional association helps to buffer individuals against the phenomena of burnout.

**Question 7: What are the similarities and differences between emergency nurses who work in the urban hospital environment versus those who work in rural NSW?**

The main differences between rural and urban emergency nurses in this study have previously been discussed in relation to stress and coping and can be summarised as follows:

- Urban hospitals have a higher percentage of university prepared nurses.
- Rural nurses are significantly older than their urban colleagues.
- Rural district nurses describe very different stressors than their urban or rural base colleagues.
- Rural district nurses use slightly different coping mechanisms than urban nurses.
- There was a lower percentage of CNSs employed in rural hospitals.
- Rural nurses were more likely to access support services than their urban colleagues.

**Question 8: How do the results of this research into NSW emergency nurses differ from that previously published in the International literature**

The differences between the results of this study compared to the published
work of Burns et al (1983), Hawley (1992) and Helps (1997) can be summarised in the following points:

- Nurses in this and the other studies cited above both agree on what originally attracted them to emergency nursing.
- Both nurses in this study and Hawley (1992) study use direct coping styles to cope with stress.
- All studies cited described similar stressors that related to critically injured patients, patients that die in ED, inadequate staffing, verbal abuse and patients not requiring ED care.
- However NSW emergency nurses differed from their international colleagues in their description of “exit-block” as their main source of stress.

Hence the answer to the last research question, “are perceived sources of satisfaction and stress universal in emergency nursing or emergency nurses identify elements that are unique to the Australian experience?” is that sources of satisfaction and stress do appear universal in emergency nursing.

**LIMITATIONS**

The relatively low response rate to the mail survey was an obvious limitation in this study. Due to financial constraints however, a follow up survey was not possible. In addition, the survey may have attracted responses from individuals whom felt strongly about the subject matter and may have been ignored from those individuals who did not (De Vaus. 1991; Polit & Hungler, 1995; Seaman, 1987).

Other limitations as previously mentioned was the choice of ENA NSW as the
group from which survey respondents were drawn. Although the professional
categories of respondents reflected the profile of emergency nurses in NSW, the final
sample may not be representative of the population. The low rate of burnout found in
this survey may indeed reflect this problem as those nurses who are professionally
burnt out may be the very ones would not see membership of a professional association
as either helpful or desirable.

The four year lag time between survey sampling (1998) and completion of data
analysis (2002) may have led to some results being now redundant. Staffing in
individual NSW EDs have increased markedly as a result of government interventions
hence the increased level of support staff e.g. CNEs and this may have had some impact
on the survey results if this survey was conducted in the present.

Finally, the phenomena of exit block in NSW EDs is increasingly acknowledged in
media and government reports hence the stress survey result may be even stronger if the
survey was to be repeated in the present time.

CONCLUSIONS AND RECOMMENDATIONS FOR FUTURE STUDY

This study suggests that the ED environment is a challenging place of work for
nurses. The need to balance the needs of the critically ill or injured with those requiring
more routine care can, at times, lead to extremely stressful conditions. This work is
made even more difficult when, as this study suggests, there is a lack of inpatient beds
to move admitted patients. However, as exit block is beyond the control of the ED it
emerges as a stressor that ED nurses cannot change. Indeed, it is a stressor that they
must endure.
Abusive patients and visitors, both physically and verbally demand a high level of suspicion from staff to ensure both their and others safety within the ED. This threat to staff must cloud their vision of the work they hope to achieve on a daily basis to the occasional ungrateful clientele.

The reported lack of staff, in both clinical and support roles was seen by nurses as contributing to their perceived inability to provide adequate care to patients. In rural areas of NSW, the unanswered telephone ringing in their departments demonstrates the need for additional administrative support. Rural nurses face the additional stressor of frequently treating people that they know (sometimes close family and friends) and being privy to a small community’s loss and grief.

Despite these challenges, the ED nurses in this survey emerge as a robust group of health professionals. Their reliance on each other for support and debriefing after a “lousy” shift, and their exhilaration after a successful resuscitation speaks of a group of nurses who appear to be prepared to take the good with the bad. The variety and excitement that originally drew them to the ED also gives them the knowledge that the next shift may be completely different to the shift just gone.

The development of ED nursing in NSW as a sub-specialty is reflected in the growth of education and training courses, professional associations and refereed journals. The importance of ED nurses to the smooth functioning of the modern ED is without question. From the emergency delivery in the back of the car; to the 5-hour resuscitation; to the quarrelsome drunk after a football game; the work of ED nurses provides an ever-changing clinical kaleidoscope.
The challenge for health administrators is to somehow provide the support required for ED nurses to continue in their chosen careers (enough inpatient beds, a safe working environment and appropriate levels of staff to name a few). Although this survey did not suggest worrying rates of burnout, it is the ED nurses not captured by this survey that really hold the key to that issue.

Therefore the main recommendations for this study include that:

- This study to be repeated utilising all possible emergency nurses in NSW, not just those that are members of the Emergency Nurses Association of NSW. The major findings of this study i.e. the main sources of stress for emergency nurses be made known to those hospital administrators who may be in a position to effect change.

- Support services available to emergency nurses to be audited by NSW Health to ensure that they are easily accessible, available twenty-four hours per day and at no cost to the individual. Health care administrators are aware of the signs and symptoms of burnout and become pro-active in their approach to its prevention.
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