

Back from the edge: reducing stress among remote area nurses in the Northern Territory

Sue Lenthall

RN, RM, BTeach, MPH&TM

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Centre for Remote Health
School of Medicine
Faculty of Medicine, Nursing & Health Sciences
Flinders University

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CERTIFICATE OF AUTHORSHIP / ORIGINALITY

I certify that the work in this thesis has not previously been submitted for a degree nor has it been submitted as part of requirements for a degree except as fully acknowledged within the text.

I also verify that the thesis has been written by me. Any help that I have received in my research work and the preparation of the thesis itself has been acknowledged. In addition, I certify that all information sources and literature used are indicated in the thesis.

Signature of the Candidate

ABSTRACT

Occupational stress among remote area nurses is an emerging and important issue. Nurses working in very remote areas are the mainstay of health services in these regions. They work in complex and isolated settings that are often cross cultural, and for which they are usually inadequately prepared. The 'Back from the edge: reducing occupational stress among remote area nurses in the Northern Territory' study utilised an adapted 'participatory action research/organisational development' model to develop and implement occupational stress interventions.

From the considerable data gathered throughout the study, information was obtained that contributes to new knowledge in three main areas. Firstly, the development and attempted implementation of interventions provides a blueprint for action to reduce occupational stress among remote area nurses. The major job demands identified included emotional, the high responsibilities and expectations expected by the community and employers, social issues and the high workload.

The main interventions developed involved ensuring adequate staff, particularly additional Aboriginal staff, improving continuity of staff, and improving orientation and education of remote area nurses. To improve education, the employment of additional educators was seen as necessary by study participants as well as the development of a career structure for remote area nurses with an educational pathway. To improve infrastructure an increase in accommodation and appropriate vehicles were seen as important interventions.

Secondly, there were significant improvements in occupational stress among hospital nurses that did not occur for remote area nurses. The key differences between the two projects were the level of resources, with the hospitals allocated an additional budget of A\$9 million due to the commitment by management and the level of political and public pressure. These triggers for change were not present in remote Northern Territory.

Thirdly, the process of developing the intervention and the implementation was evaluated with regard to the factors influencing the success or failure of the participatory action research/organisational development process. While employees were concerned about the issue of occupational stress and demonstrated a commitment to change, there was limited capacity for change within the Northern Territory Department of Health and Families. The study lacked resources and trust between staff and management. This was further complicated by the Northern Territory National Emergency Response?.

The study generated important evidence that will be of use to State, Territory and Commonwealth governments, employers and professionals groups, and will help to reduce occupational stress among remote area nurses and, by doing so, improve the health outcomes for residents of remote Australia.

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Greg Rickard, who at the time of the project, was the Principle Nursing Advisor for the Northern Territory. He has worked in a variety of settings including human resource management and professional development. Greg provided the key link between the study and the NT Department of Health and Families.

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ABBREVIATIONS

ACCHO	Aboriginal Community Controlled Health Organisation
AGI	Australia Government Intervention
AHW	Aboriginal health worker
AIHW	Australian Institute of Health and Welfare
AMOS	Analysis of Moment Structures
AMS	Aboriginal Medical Services
AMSANT	Aboriginal Medical Services Association of the Northern Territory
ANF	Australian Nursing Federation
AR	action research
ARC	Australian Research Council
ARIA	Accessibility/Remoteness Index of Australia
ARIA+	Accessibility/Remoteness Index of Australia +
ASGC	Australian Standard Geographical Classification
ASM	area service manager
BFTE	Back from the edge
BSS	Bush Support Services
CA	Central Australia
CARPA	Central Australia Rural Practitioners Association
CCT	coordinated care trials
COPSOQ	Copenhagen Psychosocial Questionnaire
CPD	continuing professional development
CPE	continuing professional education
CRANa <i>plus</i>	Council of Remote Area Nurses of Australia plus
CRH	Centre for Remote Health
DHAC	Department of Health and Aged Care
DMO	District Medical Officer
DON	Director of Nursing
EHSDI	Expanded Health Services Delivery Initiative
FIH	Framing Indigenous Health
GHQ	General Health Questionnaire
HCM	health centre manager
HF	health facility
HLRG	high level reference group
GP	general practitioner
ICN	International Council of Nurses
JCQ	Job Content Questionnaire
JD-R model	job demands–resources model
KWHB	Katherine West Health Board
MBI	Maslach Burnout Inventory
MBS	Medical Benefits Schedule
MEC	Maternity Emergency Care
MVA	motor vehicle accident
NHHRC	National Health and Hospitals Reform Commission
n/s	not significant

NHPPD	nursing hours per patient bed day
NSS	Nursing Stress Scale
NSW	New South Wales
NT DoH	Northern Territory Department of Health
NT	Northern Territory
NTGPE	Northern Territory General Practice Education
OATSIH	Office of Aboriginal and Torres Strait Islander Health
OD	organisational development
OH&S	occupational health and safety
p	probability
PAR	participatory action research
PBS	Pharmaceutical Benefits Scheme
PCL	PTSD Checklist
PHC	primary health care
PHCAP	Primary Health Care Access Program
PHCC	primary health care clinics
PSC	psychosocial safety climate
PTSD	post-traumatic stress disorder
QLD	Queensland
RAHC	Remote Area Health Corp
RAN	remote area nurse
RANSS	remote area nursing stress scale
RANP	Remote Advanced Nursing Practice
REC	Remote Emergency Care
RRMA	Rural, Remote and Metropolitan Area
SA	South Australia
SLA	Statistical Local Area
SPSS	Statistical Package for the Social Sciences
TAS	Tasmania
TE	Top End
Tran2RAN	Transition to Remote Area Nursing
UWES	Utrecht Work Engagement Scale
WA	Western Australia

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CHAPTER 1

INTRODUCTION



Ali Curung
Northern Territory
Photo - Ciara O'Sullivan

Introduction

Nurses working in very remote areas, determined by the Accessibility/Remoteness Index of Australia (ARIA+) are the mainstay of health services in these regions (Lenthall et al. 2011). They work in complex and isolated settings that are often cross cultural, and for which they are usually inadequately prepared. For some time, there have been concerns about their alleged high levels of stress and psychological distress. To date, however, there is little empirical information to inform strategies to attend to this important issue. Addressing the lack of non-anecdotal information about this problem requires a range of skills and a thorough understanding of the research context.

This chapter introduces me and outlines my experience as a remote area nurse (RAN) from the first remote community in which I worked, where I began to develop concerns about the levels of occupational stress, burnout, and post-traumatic stress among RANs. It describes the origins and development of the research study 'Back from the edge: reducing and preventing occupational stress in the remote area nursing workforce' and outlines the structure of this thesis.

I have worked extensively as a RAN in Queensland and in the Northern Territory (NT), principally in Central Australia (CA). I first worked as a RAN at Doomadgee, a relatively large (population 1200) Aboriginal community in north west Queensland. I had no plans to work in remote areas, but when I returned from travelling overseas in the early 1980s I had little money and registered for unemployment benefits. Two days after I registered, I received a phone call from the Queensland Department of Community Services asking whether I was interested in a nursing position in a remote community. They invited me to attend an interview scheduled for the next day. At the interview I suggested that they really needed someone with more experience than I had. Their response was that they 'were desperate'. When the interviewer enquired when I could start, I replied 'Anytime'. Their response was 'Great! There's a plane going out at 7 am tomorrow morning'. I went home and tried unsuccessfully to find Doomadgee on the map. The next day, after a six-hour

trip in an old DC3 aircraft, I arrived with another nurse in what seemed to be the middle of nowhere.

This was 1984; Joh Bjelke-Petersen was the premier of Queensland and Patrick Killoran headed the Department of Community Services (previously the Department of Native Affairs). That year saw the beginning of self-government for Indigenous peoples in Queensland with the passage of the *Community Services (Aborigines) Act 1984*, which allowed for the establishment of community councils. However, when I arrived at Doomadgee, a non-Aboriginal manager was in place and all senior positions were held by non-Aboriginal people. It was the general feeling of many non-Aboriginal people that Aboriginal community members were not capable of doing anything themselves. Aboriginal people at Doomadgee had almost no control over their own lives. They lived in small tin sheds, which often leaked in the rain. There was a great deal of poverty with many families not having enough to eat. The health status of the population was poor. There were a small number of people with chronic diseases such as diabetes and renal disease but there were also widespread infectious diseases, including acute rheumatic fever, leprosy, and gastroenteritis. Violent trauma was prevalent. The health services consisted of three registered nurses, four Aboriginal health workers, and a visiting medical service from the Royal Flying Doctor Service (RFDS).

Although I had been brought up in Cairns and had associated with many Indigenous people, I had little knowledge about Indigenous issues in Australia. I also had no idea that communities like Doomadgee existed. I was shocked and appalled at the conditions of the community, the poor health of the population, and the inadequacies of the health services. I was also unprepared for the advanced practice role I was expected to undertake. I diagnosed illnesses and prescribed medications with some support from the RFDS doctor. There were no protocols or treatment guidelines available at the time. Aside from the weekly visiting RFDS clinic, advice for any medical problems was via two-way radio. I relied heavily on a couple of textbooks in the clinic. Cramer (2005) described the gulf between normal nursing practice and what was practiced at the remote Aboriginal community of Warburton as unregulated advanced nursing practice which contributed to poor

health outcomes for Indigenous peoples and would not be tolerated by non-Indigenous people.

We had several tragic deaths in my first six months at Doomadgee. Although I was not responsible for these deaths, I felt that a better-resourced, more professional health system could have prevented at least some of them. In the 18 months I worked at Doomadgee, I experienced numerous emergencies and some extraordinary situations. These included evacuating an old, very large, unconscious woman from the coast in a two seater stock helicopter; reclaiming from the river the body of an 18-year-old male who had been murdered; and dealing with several rapes and child abuse cases. There were also other more positive experiences, such as sitting with the women and listening to their stories about their lives, and learning about a rich, very old, culture. I began to recognise the level of racism that existed in Queensland, in particular in the stories people from Doomadgee told me about their experiences with the health systems in Mt Isa and Cairns. My experiences in Doomadgee forced me to examine my own beliefs and values. I developed an anger towards the conditions Aboriginal people experienced and towards the racism that existed.

After 18 months at Doomadgee, I left to complete my midwifery training. I then spent three years as a RAN in the Torres Strait. The Torres Strait is one of the most beautiful areas in the world with a vibrant and fascinating culture. I was fortunate to be mentored by Torres Strait Islander health workers and community members who taught me the importance of working with community members as partners. Some were very strong people and quickly corrected my residual paternalistic attitude. I came to understand and value the concept of primary health care. I gradually became more involved in health promotion and concentrated less on acute care. In the Torres Strait, I again had some extraordinary experiences, many positive. The health services there, however, were also poorly resourced. I was based on Yorke Island with one other nurse. We serviced seven central and eastern islands, with a total population of approximately 2000. In three years in the Torres Strait, I received a single one-week in-service on pre- and post-test HIV counselling. I came to view education or any continuing professional development as a highly

valuable commodity. The lack of appropriate education for RANs is well recognised in the literature (Hanna 2001; Kennedy 2003; Lenthall, Wakerman & Knight 2009).

I also had a number of negative experiences and, along with other RANs; I became more active in trying to lobby for improved health services. I was often on-call 24 hours a day, seven days a week, sometimes for months on end. Communication was poor. There was only one public telephone on each island, often at some distance from the health centre. We could not do any night evacuations because of the poor airstrips and the dangers of flying over water. There was no mains electricity and while some clinics had small generators, we generally did not have any medical equipment that required electricity. I was often left at night with a very sick patient, hoping they would survive until daylight. Several times, I was unsupported for days, as the one telephone on the island was inoperable. For assistance we sent a boat to another island, but often we had to wait for the weather to calm before doing so. I usually spent only one week out of four on my base island. The other weeks I travelled by small aircraft, or boat, or occasionally by barge to the other islands. Airplane accidents were common, and after a number of incidents I developed a fear of flying, or more accurately, of crashing. I was also assaulted several times. At the time I knew little about post-traumatic stress, although later I realised I did suffer post-traumatic stress disorder (PTSD). I also did not recognise it in my colleagues. Two colleagues were in an airplane that crashed into the ocean off Yorke Island. All passengers survived, but one colleague who could not swim started acting and talking strangely. Now I recognise she suffered from PTSD. There was no counselling offered after any of these incidents. My experiences of critical incidents including violence are not uncommon among RANs. A report into violence and RANs found that most (82%) RANs who were surveyed had experienced instances of violence, including verbal aggression, physical violence and sexual assaults (Fisher et al. 1996).

When I left the Torres Strait, I believed that the people who could really influence the health of Indigenous communities were the Aboriginal and Torres Strait Islander health workers. I joined the Aboriginal and Islander Health Worker Education Program as a remote trainer, based in Cairns. Aboriginal and Torres Strait Islander health workers came into Cairns four times a year for two-week workshops. We

also had one-week workshops in communities with health workers taking it in turns to host the group. I also visited health workers in their communities between the blocks of workshops. I found going to communities as a health worker educator very different to going in as a 'white' nurse. In many ways, I was in a privileged position and learnt more than I taught.

After leaving the health worker education program, I returned to work as a RAN and worked in many of the Cape York communities in Far North Queensland as a reliever/support RAN. I left after becoming increasingly disillusioned with the Queensland Health Department.

In my work as a RAN I suffered occupational stress, burnout, and post-traumatic stress. I recovered, but I watched colleagues who left remote areas, and sometimes the nursing profession, damaged. Sometimes they never recovered. I am in contact with past colleagues who were still seeing psychologists years after they left remote communities. Generally, before they left they became 'a problem' for their employers and rather than try to help them, the employers wanted to get rid of them.

For a year I worked as the Executive Officer of the Council of Remote Area Nurses of Australia (CRANA). My concern about stress among RANs was shared by a number of colleagues and CRANA members. After lobbying for some time, we received money to establish a counselling service. Eventually this became the Bush Crisis Line, which is now Bush Support Services. For some months, before a psychologist was employed, I answered telephone calls on this line. This experience increased my concern about the stress levels of RANs.

For the last twelve years I have been involved in the postgraduate education of RANs. The education of RANs and other health professionals working in remote areas has been my passion. There has been a satisfaction in including in the course all the things I had really wanted and needed to learn when I worked in remote communities. Nevertheless, teaching RANs has not reduced my concerns about their stress levels. I noted an unusually high level of serious illness and mental health issues among students. The reasons for extensions were sometimes extraordinary. For example, one RAN experienced fire, flood and an armed hold up

in a two-week period. All three events were confirmed on the news. When students attended blocks of teaching in Alice Springs, many were stressed and needed support. I was often in the position of debriefing students and assisting to arrange general practitioner or psychologist appointments.

CRANA members and others at the Centre for Remote Health (CRH) where I worked were concerned about the stress levels of RANs. However, there was no empirical evidence that RANs had higher than usual levels of stress. There was also no solid evidence to guide strategies to improve the situation.

Development of the study

As a result of discussions with CRANA*plus* (previously CRANA) and the NT Department of Health (formerly Department of Health and Families), the CRH director and others on the research team developed an Australian Research Council (ARC) Linkage Project grant application titled 'Back from the edge: reducing and preventing occupational stress in the remote area nursing workforce'. Our submission stated:

This study aims to reduce and prevent occupational stress in the toughest health work environment in Australia. Away from the population concentrations on the continental edge, remote area nurses are the mainstay of health service provision. This study will identify and measure the stressors of remote area health work and develop, implement and evaluate stress-reducing interventions. This is the first systematic examination of work stress in the remote area nursing workforce and the first to involve staff and managers in developing interventions in a remote context. The study will improve staff retention with economic savings for employers, improved service effectiveness and contribute to improved health outcomes in remote Australia. (Wakerman et al. 2007)

The objectives of the broader 'Back from the edge' research study were to:

1. describe stressors and measure levels of occupational stress in remote area nurses
2. compare and contrast remote area nurses' experience of occupational stress with other nursing contexts
3. develop, implement and evaluate interventions that reduce and prevent the impact of occupational stressors in the remote area nursing workplace. (Wakerman et al. 2007)

The research team combined strengths in remote health services research, work stress research, nursing research, remote area nursing, and nursing management, and constituted a multidisciplinary team consisting of a public health doctor, a psychologist, and nurses with the range of quantitative and qualitative skills required to address these complex problems. The broader research study was in two parts. Part 1 aimed at meeting the first objective and second objectives. It described stressors and measured levels of occupational stress in remote area nurses. This part of the study involved developing a remote area nursing specific stress scale, administering the scale, analysing the results, and validating the scale. It also involved comparing remote area nurses' experience of occupational stress with other nursing contexts.

Part 2 focused on the third objective and was the primary focus of this thesis. However, there was an overlap between the two parts, particularly in relation to describing job demands. Job demands were documented in part 1 but were explored in detail in the workgroups of RANs and health centre managers, which was part of this thesis. Table 1.1 clarifies the relationship between the two parts of the broader project.

Table 1.1 'Back from the edge' study outline

<i>Objectives</i>	<i>Methods</i>	<i>Data</i>
Part 1		
Describe stressors and measure levels of occupational stress in RANs	Literature review RAN stress Very remote nursing database Delphi method Survey 1	Characteristics of nurses in very remote Australia Identification of occupational stressors/job demands/resources Levels of occupational stressors
Compare and contrast RANs' experience of occupational stress with other nursing contexts	Analysis of surveys one and two	Comparison between NT RANs and nurses working in NT hospitals of levels of occupational stressors
Part 2		
Develop, implement, and evaluate interventions that reduce and prevent the impact of occupational stressors in the remote area nursing workplace	Literature review of participatory action research and organisational development Survey 2 Focus groups/workshops	Clarification of job demands/resources Occupational stress interventions Evaluation of the impact of occupational stress interventions Comparison of the changes in occupational stress levels between NT RANs and hospital nurses

The research question I sought to answer was:

What occupational stress interventions will reduce and prevent the impact of occupational stress in the remote area nursing workplace?

The theoretical framework underpinning this thesis is critical theory. Critical theory suggests that researchers examine how power functions in society (McIntyre 2008). Critical theory also relates to issues such as domination, power differentials, inequity, and social change (Davidson et al. 2006). Criticalists find the contemporary society to be unfair, unequal, and both subtly and overtly oppressive for many people. 'We do not like it, and we try to change it' (Carspecken 1996, p. 7).

The methodology is based on a participatory action research/organisational development (PAR/OD) model. Both concepts are closely linked to power and to change. The methodology is detailed in Chapter 5.

Thesis structure

The first chapter establishes the context for the study by introducing myself, outlining my experiences as a RAN, and describing my developing concerns about the levels of occupational stress, burnout, and post-traumatic stress among RANs. The chapter also describes the origins and development of the research study 'Back from the edge: reducing and preventing occupational stress in the remote area nursing workforce'. Finally, the chapter outlines the structure of this thesis and offers a précis of each chapter.

Chapter 2 examines the context in which RANs work. It describes remote health, and the poor health status of people living in very remote areas, paying particular attention to the health outcomes and social determinants of health of Indigenous Australians. The chapter also describes health services in remote areas of Australia and outlines environmental enablers and essential service requirements for an effective and sustainable primary health care health service. It details the supply of

health professionals, in particular RANs, and describes the characteristics of this group.

Chapter 3 reviews the literature on psychological stress: the impact of stress on the individual and the organisation, and the occupational stresses experienced by RANs. It details the job demands-resources model that underpinned the wider research study of occupational stress among RANs and the results from the first survey. The chapter also examines occupational stress interventions, and details how these interventions have been classified and evaluated. This information about occupational stress interventions was utilised in the development and implementation of the study. It provided a basis to evaluate the process of developing and implementing the organisational interventions in the results section.

Chapter 4 describes the literature pertaining to the methodology, which involves major related theories, participatory action research (PAR), and organisational development. The chapter reviews the action research literature as the foundation of PAR. It discusses what PAR is, its major principles, and outlines some criticisms. It also reviews the literature pertaining to organisational change, and the key values and steps involved with organisational development.

Chapter 5 details the methodology used in the study. A new PAR/organisational development (PAR/OD) model was utilised. Workgroups of RANs and health service managers working in remote Indigenous communities in CA and in the Top End (TE) of the NT discussed the results from the national survey, then developed occupational stress interventions (presented as action plans) aimed at organisational rather than individual changes. These plans were further workshopped with implementation committees of middle managers in CA and in the TE. Some interventions were implemented at this level; others were referred to the high level reference group, which contained senior managers, for further consideration and implementation. Three cycles of this action research were conducted over a 12-month period. Workshops were also conducted with staff at remote clinics managed by Katherine West Health Board. Occupational stress

interventions (presented as a draft action plan) were referred to the Katherine West Health Board managers.

Chapter 6 is the first of two chapters that presents the results of the study. This chapter presents the results of working with the workgroups of RANs, health centre managers, the implementation committees and the high level reference group to develop occupational stress interventions aimed at decreasing job demands and improving job resources.

Chapter 7 presents the results of the evaluation of the study. Process evaluations were collected at workshops and committee meetings, and the results of questions asked only of the intervention group in Survey 2. To evaluate the outcomes of the study, data were analysed to determine if there had been any decrease in job demands, increase in job resources, or improvement in system capacity between Survey 1 and Survey 2. The results from the hospital samples were also compared with the NT RAN samples.

Chapter 8 discusses the results of this study. It discusses the developed occupational stress interventions in relation to the interventions' operational level, individual, clinic, operational unit CA or Top End or organisation and the five essential service requirements that underpin an effective and sustainable PHC health service: (1) workforce organisation and supply; (2) management/leadership and governance; (3) funding and financing; (4) infrastructure; and (5) linkages.

This study has made a notable contribution to an otherwise empirically limited knowledge base regarding occupational stress in remote area nurses. It has clarified the levels of psychological stress among RANs and, utilising a new combined PAR/OD model, developed occupational stress interventions of use to policy makers and RAN employers.

CHAPTER 2

THE RESEARCH CONTEXT, REMOTE HEALTH AND REMOTE AREA NURSING

Parts of this chapter have been published under the following title:

Lenthall, S, Wakerman, J, Opie, T, Dunn, S, MacLeod, M, Dollard, M, Rickard, G & Knight, S 2011, 'Nursing workforce in very remote Australia, characteristics and key issues', *Australian Journal of Rural Health*, vol. 19, no. 1, pp. 32-37.



Areyonga
Northern Territory
Photo - Ciara O'Sullivan

Introduction

Working as a nurse in very remote Australia, as defined by the Accessibility/Remoteness Index of Australia plus (ARIA+) (Australian Institute of Health and Welfare [AIHW] 2004), is very different to working as a nurse in urban or rural areas. Remote practice is advanced and extended practice. RANs are isolated from family, friends, and professional colleagues (Lenthall et al. 2011). To understand the occupational stress of RANs it is necessary to understand the context in which RANs work.

The target group for this study was registered nurses working in very remote areas of the Northern Territory (NT) employed by the NT Department of Health and Families (DoH&F) and the Katherine West Health Board. This chapter examines the context in which these nurses work. It describes remote health, and the health status of people living in very remote areas, paying particular attention to the health outcomes and social determinants of the health of Indigenous Australians. The chapter also describes health services in remote areas of Australia and outlines environmental enablers and essential service requirements for an effective and sustainable primary health care service.

Participants for this study were drawn from all registered nurses in very remote NT, as defined by ARIA+ classification. The ARIA classification is based on a continuous measure of remoteness developed by the National Centre for Social Applications of Geographic Information Systems (GISCA). In this classification, an ARIA category is allocated on the basis of the average ARIA index score between 0 and 12. It is based purely on geographical measures as they relate to larger centres (AIHW 2004).

The most commonly used classification today is the successor of ARIA, ARIA+, developed by GISCA. The ARIA+ index values (between 0 and 15) are based on road distance from a locality to the closest service centre in each of five classes of population size, instead of the four classes used in ARIA (Table 2.1). From ARIA+, the Australian Bureau of Statistics (ABS) developed its five-level classification, the Australian Standard Geographic Classification (ASGC). This categorises areas as

‘major cities’, ‘inner regional’, ‘outer regional’, ‘remote’, and ‘very remote’ (AIHW 2004).

Table 2.1 **ARIA+ classifications**

<i>Class</i>	<i>Abbreviation</i>	<i>Index value range</i>
Major cities of Australia	MC	0–0.2 (a)
Inner regional Australia	IR	0.2–2.4 (b)
Outer regional Australia	OR	2.4–5.92 (c)
Remote Australia >	R	5.92–10.53 (d)
Very remote Australia >	VR	10.53–15 (e)

Adapted from table 3 (AIHW 2004, p. 11)

For the purpose of this research the population of interest is ‘very remote’ with ARIA+ index values between 10.53 and 15. This is shown diagrammatically with the shading on the map in Figure 2.1. This is equivalent to ASGC ‘very remote’.

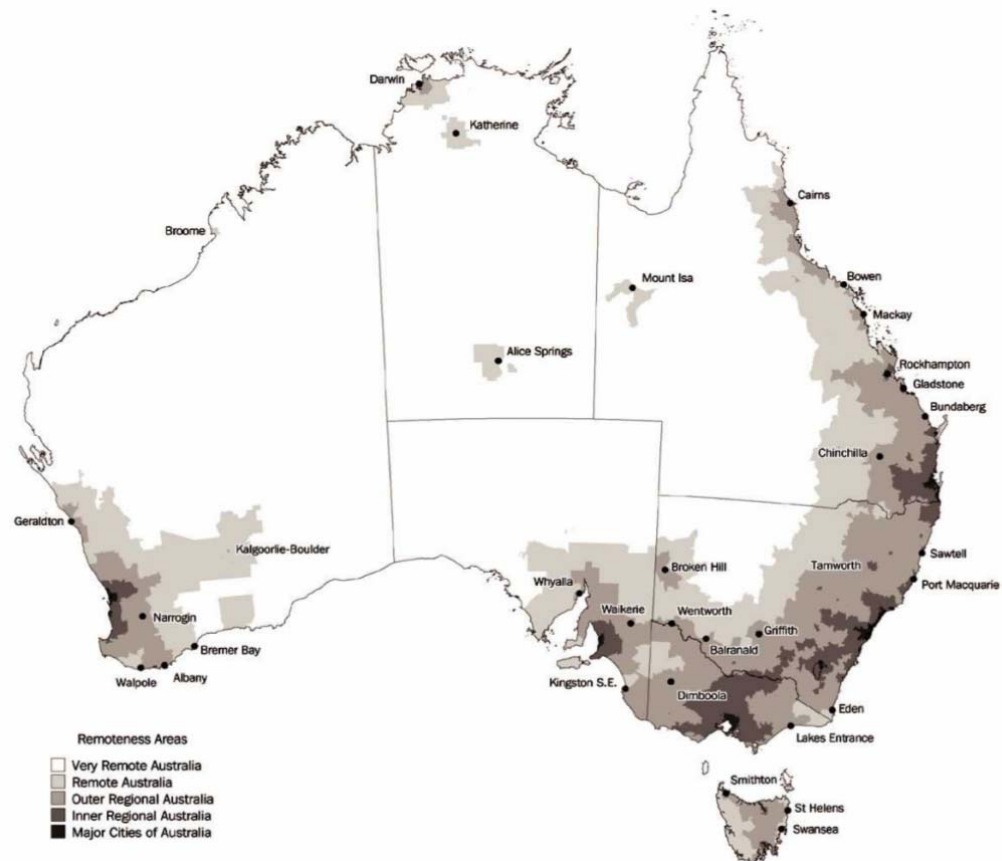


Figure 2.1 **ASGC Remoteness Areas of Australia**
(AIHW 2004, p. 12)

Defining remote health

For many years, the terms 'rural' and 'remote' were used interchangeably or the rural was used to describe both rural and remote. However, the populations and the delivery of health services in rural and remote areas are quite different. Much of rural Australia consists of small country towns. The delivery of health services is based around small private general practices and small State or Territory hospitals (Dade Smith 2007; Wakerman et al. 2006). In remote, in particular in very remote Australia, there are fewer general practitioners than in other areas (ABS 2010). Most of the health service delivery is through small collaborative health teams mainly comprised of registered nurses and Indigenous health workers (Lenthall, Wakerman & Knight 2009; Lenthall et al. 2011). Wakerman (2004) offers this definition of remote health, which focuses on the nature of practice and its context rather than a geographical classification.

Remote Health is an emerging discipline with distinct sociological, historical and practice characteristics. Its practice in Australia is characterised by geographical, professional and, often, social isolation of practitioners; a strong multidisciplinary approach; overlapping and changing roles of team members; a relatively high degree of GP substitution; and practitioners requiring public health, emergency and extended clinical skills. These skills and remote health systems, need to be suited to working in a cross-cultural context; serving small, dispersed and often highly mobile populations; serving populations with relatively high health needs; a physical environment of climatic extremes; and a communications environment of rapid technological change. (Wakerman 2004, p. 213)

Remote health status

Australians living in regional and remote areas generally experience poorer health than their major city counterparts do. In 2002–2004, death rates in regional and remote areas were between 10 and 70% higher than in major cities. Life expectancy decreases with increasing remoteness. Compared with major cities, the life expectancy in regional areas is one to two years lower and in remote areas is up to seven years lower (Australian Bureau of Statistics [ABS] & Australian Institute of Health and Welfare [AIHW] 2008b).

People living in remote areas are more likely than those in major cities to report an acute or chronic injury, to drink alcohol in quantities risking short-term harm, or to

be overweight or obese (ABS & AIHW 2008b). People living in remote and very remote areas are also disadvantaged with regard to educational and employment opportunities, income, access to goods and services and in some areas, access to basic necessities such as clean water and fresh food (ABS & AIHW 2008b).

A major contributor to elevated mortality rates in remote areas is Indigenous Australian mortality, primarily because Indigenous Australians constitute a large proportion of remote area populations, and the death rate for Indigenous Australians is generally over three times higher than for non-Indigenous Australians (AIHW 2007). While the Indigenous population does not completely account for the poorer health of people living in remote areas, it does account for much of it (ABS & AIHW 2008b). The major burden of disease is borne by Indigenous Australians.

Remote Indigenous health

Most RANs work in remote Indigenous communities (Lenthall et al. 2011). They are confronted by the widely recognised poor health status of Indigenous peoples (ABS & AIHW 2008b; Australian Human Rights Commission 2008; Dade Smith 2007). To understand the context in which RANs work, an understanding of remote Indigenous health and the underpinning social determinants are necessary.

Demography

In 2010, the Australian Aboriginal and Torres Strait Islander population was estimated at 563,101. They comprised 2.6% of the total Australian population, but only 15.2% of the population in remote areas, and 48% in very remote areas. An estimated 32% of Indigenous people lived in major cities, 43% in regional areas and 25% in remote areas (AIHW 2011a).

While a small proportion of all Indigenous Australians lived in the NT (12.2%) in 2010, it was the State or Territory with the highest proportion (30.2%) of Indigenous peoples in its total population (AIHW 2011a).

Social determinants of health

While there has been some improvement in the social determinants of health for Indigenous Australians over the last 10 years, they remain poor compared to non-Indigenous Australians. Education levels are lower for Indigenous students (AIHW 2011a). The NT have the lowest number of Aboriginal students reaching Year 7 reading benchmark; 62% in provincial schools, 45% in remote schools and 15% in very remote, compared to non-Indigenous rates of 89% (Australian Human Rights Commission 2008).

Unemployment rates for Indigenous people is three times the rate for non-Indigenous people and incarceration rates in prison are 13 times that of non-Indigenous people (ABS & AIHW 2008b). Average household income is much lower for Indigenous people and Indigenous Australians were 3.4 times more likely to report food insecurity compared with those in major cities. This was true across all areas and particularly striking for those in all remote areas (ABS & AIHW 2008b).

The rate of home ownership for Indigenous households has increased in the last few years but is still low compared to non-Indigenous Australians. Poor housing and overcrowding is a continuing problem. Some houses, particularly those in more remote areas, are poorly maintained and without essential infrastructure such as a supply of safe drinking water or effective sewerage systems (ABS & AIHW 2008b).

Compared with other Australian children, children living in Indigenous households were less likely to be living with a parent, had lower weekly household income, were more reliant on income support, were more likely to have parents who left school early and were less likely to have a parent in paid employment. Indigenous children living in very remote areas were more disadvantaged than in less remote areas (ABS & AIHW 2008b).

Indigenous health status

While there have been improvements in Indigenous life expectancy, there is still a large gap. In 2007, life expectancy was 17 years less for Indigenous than non-Indigenous Australians and the infant mortality rate was 1.5 to 3 times greater than

the national average (ABS & AIHW 2008b). Indigenous Australians suffer higher rates of chronic diseases, particularly diabetes, renal disease, cardiovascular and renal diseases (ABS & AIHW 2008b). Indigenous people are much more likely than are non-Indigenous people to be victims of violence and to be hospitalised for injuries arising from assault, and twice as likely to report high or very high levels of psychological distress with 27% of Indigenous adults reporting high or very high levels in 2004–2005.

The proportion of low birth weight babies born to Indigenous mothers is highest among mothers living in remote and very remote areas (13% and 14% respectively). In very remote areas, babies born to Indigenous mothers are almost three times more likely as babies born to non-Indigenous mothers to be of low birth weight (AIHW 2011a). Western Australia has reported an increasing disparity in the infant mortality rate between Aboriginal and non-Aboriginal women, with higher rates in remote areas and higher numbers of teenage mothers under 16 years (Northern Territory Department of Health and Families [NT DoH&F] 2009).

There have been some reported improvements: Indigenous mortality rates for infants have fallen in Western Australia, South Australia and the NT, and mortality rates for children have fallen in the NT. There has been a narrowing of the gap between Indigenous and non-Indigenous infant mortality rates in South Australia and the NT (ABS & AIHW 2008b). The improvements while small are promising.

Comparison with other countries

Comparing Australian Indigenous health with Indigenous health of other similar countries gives a global picture of the situation RANs face. Canada, New Zealand and the United States of America (USA) have significant health disparities between Indigenous and non-Indigenous populations. However, the improvement in Indigenous health in Australia has been slower than these other countries. Mortality rates for Indigenous Australians are almost double those of Canada, New Zealand and the USA (AIHW 2009). Table 2.2 summarises the Indigenous statistics of the four countries (AIHW 2009). While all demonstrate a disparity between Indigenous

and non-Indigenous peoples, the health of Indigenous peoples in Australia is markedly poorer.

Table 2.2 Comparison of international Indigenous health

	<i>Australia</i>	<i>Canada</i>	<i>New Zealand</i>	<i>United States</i>
Life expectancy	M 59 years F 65 years	<i>First nations</i> M 70.4 years F 75.5 years <i>Inuit</i> M 64.4 years F 69.8 years	M 69 years F 73.2 years	72.5 years*
Difference in life expectancy compared to non-Indigenous peoples	M 17 years less F 17 years less	<i>First nations</i> M 6.7 years less F 6.7 years less <i>Inuit</i> M 12.4 years less F 12.4 years less	M 8.2 years less F 8.7 years less	2.4 years less
Infant mortality per 1000 live births	I 11.5 deaths N 4.1 deaths	I 6.4 deaths N 5.2 deaths	I 8.1 deaths N 5.0 deaths	I 8.7 deaths N 6.8 deaths
Low birth weight	I 13% babies N 6% babies	I 5.7% babies N 5.5% babies	I 6.6% babies N 5.5% babies	I 7.4% babies N 8.2% babies

M = males; **F** = females; **I** = Indigenous; **N** = non-Indigenous

*Estimated by Indian health service, no figures available for males and females (AIHW 2009)

Remote health services

Health services in very remote Australia include primary health care services provided by general practitioners (GPs), nurses, Indigenous health workers and allied health professionals; acute care provided in hospitals; and visiting specialist services. These services are provided in a range of settings that can be defined by eight categories (Lenthall et al. 2011):

- very remote clinics which provide primary health care services where there are no in-patients (excluding mines, tourist facilities, and general practices)
- very remote hospitals where there are in-patients
- community health units in communities where there is a small hospital, including population health centres

- Aboriginal community controlled public health nurses in communities with very remote clinics
- private general practices
- aged care facilities
- mines
- tourist centres.

The federal government developed indicators examining nine dimensions that evaluated health systems performance. These included the following:

- 3.1. Effective (intervention achieves desired outcome)
- 3.2. Appropriate (care is relevant to the client's needs and based on established standards)
- 3.3. Efficient (desired results achieved cost-effectively)
- 3.4. Responsive (service has respect for people and is client orientated)
- 3.5. Accessible (ability of people to obtain health care at the right place and right time irrespective of income, cultural background or physical location)
- 3.6. Safe (avoidance or reduction of harm associated with health care management)
- 3.7. Continuous (service can provide uninterrupted, coordinated care)
- 3.8. Capable (skilled and knowledgeable workforce)
- 3.9. Sustainable (capacity to provide infrastructure, such as workforce, facilities and equipment, and to be innovative and respond to emerging issues, such as through monitoring and research)

(AIHW 2008b, p. 7)

In nearly all dimensions, health service performance is poorer in very remote Australia (AIHW 2008b). Effectiveness, measured by participation in breast cancer screening among women in the target age group (50–69 years) is lower in very remote areas. Indigenous Australian women are significantly less likely to participate in breast screening (35%) than for non-Indigenous women (56%) (AIHW 2008b).

With regard to the appropriateness of health services, with the exception of dialysis, hospitalisation rates for common procedures are notably lower for people in very remote areas than for those living in major cities. Separation rates for

procedures used in the management of heart disease are also lower for people living in remote areas. After adjusting for differences in the age structures, angiography and revascularisation rates for Aboriginal and Torres Strait Islanders were 40% lower than the rate for other Australians (ABS & AIHW 2008b). Considering that death rates from coronary heart disease were markedly higher in remote areas, this is a major issue. In regards to accessibility, the per-person supply of employed medical practitioners and dentists decreases with remoteness, although the numbers of nurses were evenly distributed. Prescription rates are lower in remote areas for the majority of pharmaceutical groups. For example, lipid modifying drugs prescription rates were significantly lower in remote and very remote areas, 10% and 40% respectively (AIHW 2008c).

In regards to safety, rates of hospital separations that treated and/or involved a surgical or medical misadventure in 2005–2006 are higher for people living outside major cities (AIHW 2008c).

Accreditation of health services is used as a measure for health service capability, safety, and sustainability (AIHW 2008c). While 99% of public hospitals and beds in major cities were accredited, in very remote areas only 70% of public hospitals and 81% of public hospital beds were accredited. There is also increasing evidence that the healthcare resources available to remote populations are substantially less than those available in urban areas (AIHW 2008c).

The National Hospital and Health Reform Commission (2009) summarised the situation of health and health services in remote and rural areas of Australia thus:

The almost one third of Australians living in remote and rural areas are at risk of poorer health status, shorter lives, higher rates of accident and injury, greater levels of illness, and lower rates of certain medical treatments. There are often fewer health services for them to choose from and a lack of basic necessities that contribute to good health such as fresh food and clean water. They must often travel long distances at great expense to themselves to access health care services only available in metropolitan centres. (p. 52)

Indigenous Australians experience lower levels of access to health services than the general population (AIHW 2012). The three main barriers to accessibility of health

services were language, lack of public transport, and lack of telecommunications (ABS 2010).

Major environmental enablers

Wakerman et al. (2006) completed a systematic review of primary health care delivery models in rural and remote Australia. They identified three major environmental enablers and five essential service requirements that, if met, would result in improved PHC access and an effective and sustainable PHC health service. This analysis is useful to gain a better understanding of PHC services in the remote context. The three major environmental enablers identified were: (1) supportive policy, (2) Commonwealth–state relations, and (3) community readiness.

Supportive policy

Wakerman et al. (2006) argue that appropriate government policy is a prerequisite to sustainable government funding for service delivery. They point out, however, that some national policies have not been effective in meeting the needs of people in remote areas. One of the key policies that have impacted on remote health services is under-expenditure as compared to other geographical areas on the Medical Benefits Schedule (MBS) and the Pharmaceutical Benefits Scheme (PBS) resulting from the lack of medical practitioners and pharmacists (AIHW 2011b). There have been some policies developed to address this, for example, the Primary Health Care Access Program and the Aboriginal Coordinated Care Trials have allowed for cashing out of MBS and PBS funds and pooling of funds from different government sources (Menzies School of Health Research 2000). However, these have been slow, and some policies have been impacted by poor implementation, such as, failure to identify the timeframe for action, the roles and responsibilities of agents involved in policy rollout for service provision, inadequate attention to resource implications and appropriate financing streams, and lack of an appropriate organisational structure or framework (Wakerman et al. 2006).

Commonwealth–state relations

The most significant factor limiting policy implementation relates to existing political relationships and bureaucratic structures. Effective delivery of health

services is difficult to implement with the current divided responsibility between the states and territories and the federal government.

The National Health and Hospitals Reform Commission (2009, p. 57) stated that Australia has a 'fragmented health system with a complex division of funding responsibilities and performance accountabilities between different levels of government'. The divided responsibilities between the state governments and the federal government has 'created tensions, inconsistencies and misalignment of reward and effort' (National Health and Hospitals Reform Commission 2009, p. 58).

Community readiness

Community involvement is essential to a primary health care approach. A top down approach has been identified as a barrier to successful primary health care implementation and sustainability (Auld 1995). The level of community readiness required is variable depending on the type of primary health care service.

Community controlled services require a greater level of community participation and significant investment of time and resources in training and capacity building for boards and health committees. However, Wakerman et al. (2006) note that this can be a 'two way sword'. There should not be a 'burden of unrealistic expectations' on communities, particularly small remote communities, to run their own services in a context of 'relative poverty and denied access to the basic social and community service infrastructure that other Australians regards as a right' (Flick et al. 2000, p. 350).

Essential service requirements

The five essential service requirements that underpin an effective and sustainable primary health care health service identified by Wakerman et al. (2006) are:

(1) workforce organisation and supply, (2) funding, (3) governance, management, and leadership, (4) linkages, and (5) infrastructure.

Workforce organisation and supply

Many small communities throughout rural and remote Australia experience a shortage of health workers, high levels of staff turnover, and significant problems in

recruiting new health workers (Productivity Commission 2006; Wakerman et al. 2006). The supply of health workers typically declines with remoteness (Table 2.3).

Registered nurses are the largest and most evenly distributed geographically of all the health disciplines (AIHW 2007). They thus play a critical role in the delivery of services in very remote regions.

Table 2.3 Supply of health workers per 100 000 population, by ASGC Remoteness Area, 2001–02

<i>Occupation</i>	<i>MC</i>	<i>IR</i>	<i>OR</i>	<i>R</i>	<i>VR</i>
GPs	118	92	85	76	81
Specialists	108	48	30	16	7
Registered nurses	886	836	753	731	756
Enrolled nurses	172	273	303	303	200
Pharmacists	82	63	52	37	28
Physiotherapists	62	37	32	38	14
Podiatrists	11	9	4	4	2

Note: 'GPs' includes general practitioners and other primary care medical practitioners.
Source: AIHW Labour Force Surveys (AIHW 2007)

The provision of essential services requires both adequate supply (recruitment and retention) and the appropriate roles and mix of health professional staff. While there is evidence in the literature of the need to address workforce problems such as retention issues, on-call, burnout, and need for continuing professional education, there is little discussion of workforce supply, particularly succession planning or back-fill arrangements (Wakerman et al. 2006). This may be particularly relevant for nurses in very remote Australia (Lenthall et al. 2011).

Other than RANs, the major workforce group in very remote Australia is Indigenous health workers. Education and training for this group is made more complex by limited availability of appropriate education, especially given low rates of literacy and numeracy. Lack of appropriate education and training is one factor preventing Indigenous health workers from gaining senior or influential positions in many health services (Hudson 2012; Wakerman et al. 2006).

Job dissatisfaction among Indigenous health workers is exacerbated by high demands and community expectations of the position; high clinical load preventing community focused health promotion activity; problematic working relationships, particularly with nurses, and poor and inequitable working conditions (Karasek 1992; Si et al. 2006).

Funding and financing

On a per person basis, average health expenditure for Indigenous people in 2005–2006 was \$5568.50, 31% higher than the expenditure for non-Indigenous Australians (\$4247.00) (AIHW 2008a). Much of the expenditure was on four areas: community health services, patient transport, public health and public hospitals. However, the average health expenditure on services provided outside of public hospitals for Indigenous Australians was half that of non-Indigenous Australians. Expenditure was higher overall for Indigenous people in remote and very remote areas compared to their counterparts in urban areas; however, MBS expenditure for Indigenous people was lower in remote and very remote areas (AIHW 2011a). In remote Australia, there is a greater reliance on the public health system and salaried services, and a lower usage of MBS and the PBS (Productivity Commission 2006). In the NT, Territorians on average receive six Medicare services a year, compared to the Australian average of 11 (Productivity Commission 2006). An individual can only access Medicare where there is a doctor and only access PBS through a pharmacist. The more remote the community, the lower numbers of doctors and pharmacists relative to the population (Wakerman et al. 2006).

Adequate ongoing funding is a critical factor underpinning any sustainable primary health service (Wakerman et al. 2006). The National Health and Hospitals Reform Commission in their final report recommended that under-served remote and rural communities be given ‘top-up’ funding to an equivalent amount of funding on a per capita basis as communities with better access to medical, pharmaceutical, and other primary health care services. They also supported increased funding for patient travel and accommodation, strategies to improve health workforce supply, and clinical training opportunities in remote and rural areas (National Health and Hospitals Reform Committee 2009).

Governance, management and leadership

Rural and remote communities, although areas of high health need, often lack sufficient depth of management and governance experience. In small communities, in particular, there is a relatively small pool from which managers and leaders are drawn, and without which services remain vulnerable. There is a need for management with strong, central, systemic support and local flexibility (Bailie et al. 2004). Strong systemic support relates particularly to staff training, clearly defined and documented staff responsibilities, and clear practice guidelines (Wakerman et al. 2006).

A study of RANs managed from a distance highlighted poor management and found that nurses would feel better supported and may remain longer in remote practice if their managers and employing organisations:

- recruited skilled, well prepared, culturally aware people for the community
- provided cultural orientation, a structure to build capacity of local Indigenous staff
- supported equity with other professionals in terms of provision of incentives
- assisted nurses to attend continuing professional development activities by ensuring relief staff were available
- improved infrastructure (Cramer 2005; Weymouth et al. 2007).

Linkages

Linkages, both 'integration' linking up within an organisation, and 'coordination' linking up with related external agencies, are essential to rural and remote areas because of the geographical reality of distant and dispersed sites and services (Stewart, Lohoar & Higgins 2011; Wakerman et al. 2006). There is a wide range of linkage strategies that include integration of distinct services, co-location, memoranda of understanding, cross-referrals, common assessment procedures, and shared records (Wakerman et al. 2006). These authors also noted the importance of developing effective linkages with agencies outside of the health area.

Infrastructure

In general, infrastructure is lacking in remote areas. For some services, this has necessitated longer planning and implementation periods in order to ensure adequate infrastructure is in place prior to the rollout of services. For example, with the coordinated care trials, remote community housing was a prerequisite for recruitment of community-based staff and visiting staff (Wakerman et al. 2006). Housing, although not normally included in the health budget, is a key infrastructure element to recruit and retain health professionals in remote communities.

Remote area nurses

The remote area nurse (RAN) is a registered nurse whose day to day practice encompasses all or most aspects of Primary Health Care. This practice most often occurs in an isolated or geographically remote location. The RAN is responsible, either solely or as a member of a small team, for the continuous coordinated and comprehensive health care in that location. (Knight 1992 in Eckermann & Dowd 2001, p. 6)

A picture of nurses working in very remote Australia is of an ageing, mainly female workforce, who works long hours, and take little time off for physical or mental health issues. There is a very high turnover rate, with more than half the workforce leaving each year. The workforce has relatively high levels of occupational stress and emotional exhaustion. Many nurses find the high workload and type of work, emotionally demanding, and the levels of responsibilities and expectations from employers and communities are unrealistic. The isolation, the remote context and the often cross-cultural environment makes a difficult job more difficult (Lenthall et al. 2011).

Key features of remote area nursing can be grouped into professional, social and community factors.

Professional factors

The practice of remote area nursing is advanced and collaborative. RANs are required to treat emergencies; to diagnose, prescribe, and dispense medications; to

undertake community development and health promotion activities; and to conduct public health activities for a population with the worst health status in Australia. While being challenging, the high level of autonomy and flexibility is often cited as a positive attribute by many RANs (Kruske et al. 2008).

A more negative factor is lack of access to other health professionals and colleagues. Professional isolation is commonly cited as a barrier to recruitment and retention of health practitioners (Hegney et al. 2002a). For new graduates or those new to the discipline of remote or rural health, it may be difficult to access the ongoing supervision and mentoring necessary for advanced practice development and adjustment to their new role.

There is also a lack of boundaries between home and work. In urban and regional areas, there are distinct boundaries between work and homes, friends, family, and clients. These boundaries are blurred in remote areas. RANs are required to provide a 24-hour service, so are on-call routinely and may socialise with community members who they see in the clinic (Hegney et al. 2002b; Kruske et al. 2008).

With the high levels of on-call and the high levels of morbidity commonly found in many remote areas RANs can be exposed to significant illness and trauma not witnessed by other nurses working outside the emergency or intensive care setting (Kruske et al. 2008). Self-care is an important consideration.

Social factors

There is often a lack of social and human services infrastructure in very remote communities (Kruske et al. 2008). There are generally not the sporting facilities, restaurants, or cafes that you would find in urban and rural areas. However, many communities are in areas of Australia where activities like fishing and camping are attractive.

Community factors

RANs provide care to a small, dispersed, and highly mobile population that, although it makes up just 3% of the Australian population, covers most of the land mass in Australia. A large proportion of this population is Indigenous with the

remaining involved mainly in pastoral, mining, and fishing industries. Most communities are in areas of climatic extremes such as the deserts in CA, Western Australia and the tropical areas in northern Australia. The cross-cultural environment where many RANs work is an added complexity. Many RANs work in Indigenous communities, others work in small towns or mining camps, which can also have cultural challenges (Kruske et al. 2008; Lenthall et al. 2011).

Competency standards

The *National RAN competencies* (Eckermann & Dowd 2001), reflect the range of required abilities. They are divided into five domains.

1. Remote area nursing practice

Competencies in this domain reflect skills, knowledge and attitudes related to safe and effective PHC which includes the management of emergency situations, public health programs, advanced clinical skills and awareness of the political context in which health care is provided, as well as effective self-care. (Eckermann & Dowd 2001, p. 10)

2. Ethical and legal practice

... these competencies ... describe the abilities of RANs in community based practice, to advocate for the community as well as individual/family rights, to negotiate care and to demonstrate empathy and respect for cultural differences. (Eckermann & Dowd 2001, p. 18)

3. Reflective practice

... these competencies are related to abilities required of RANs to practise in a range of settings including those which are cross cultural. They require in-depth self-knowledge, awareness of differing perceptions of health and community based health resources, respect for cultural differences and development of strategies for creating culturally safe environments for clients, colleagues and self. (Eckermann & Dowd 2001, p. 24)

4. Management and teamwork

... these competencies include the wide range of management/teamwork skills required of remote area nursing practice. They encompass the application of models for negotiation of shared management, developing collaborative working relationships with other health professionals, resource management in remote environments, development and support of health teams and mutual recognition and sharing of skills in partnership situations which are frequently but not exclusively cross cultural in nature. (Eckermann & Dowd 2001, p. 32)

5. Communication and negotiation

... these competencies reflect the diverse and complex levels of communication and negotiation which are the backbone of remote area nursing practice. They identify RAN capabilities associated with cross cultural communication, developing communication networks, dealing effectively with conflict and negotiating strategies for community participation in health care programs. (Eckermann & Dowd 2001, p. 38)

There are two underlying frameworks highlighted in the above competencies: *primary health care* and *cultural safety*.

Primary health care

Primary health care (PHC) is an approach to health that was established at the International Conference on Primary Health Care by the World Health Organization (WHO) and the United Nations Children's Fund (UNICEF) at Alma Ata in the Soviet Union in 1978. The declaration of Alma Ata includes this definition of PHC:

Primary health care is essential health care based on practical, scientifically sound and socially acceptable methods and technology made universally accessible to individuals and families in the community through their full participation and at a cost that the community and country can afford to maintain at every stage of their development in the spirit of self-reliance and self-determination. (WHO 1978)

PHC is a philosophy permeating the entire health system, a strategy for organising health care, a set of activities and a level of care (Chamberlain & Beckingham 1987). As a philosophy, PHC emphasises social justice, equity, community participation, socially acceptable and affordable technology, improvement in the root causes of ill health and working with people to enable them to make their own decisions.

WHO (1978) highlights a minimum set of activities required for effective PHC:

- education concerning prevailing health problems and prevention
- promotion of food supply and proper nutrition
- provision of an adequate water and sanitation
- maternal and child health care
- immunisations
- prevention and control of endemic diseases

- appropriate treatment of common diseases and injuries
- provision of essential drugs.

As a strategy for organising health care, these activities provide a balanced system of treatment of illness, rehabilitation, disease prevention and health promotion (WHO 1978). PHC can also describe a level of care: primary or first level of care. However, if the first level of care is provided without the underpinning philosophy, it is only primary care, not primary health care.

However, PHC as outlined by WHO was quickly criticised as being too broad and idealistic (Cueto 2004). At a Rockefeller Foundation sponsored conference in 1979, 'Health and population in development', the term 'selective primary health care' was established. It was argued that the selective approach to controlling disease in the developing countries was the most cost-effective intervention (Walsh & Warren 1979). These interventions developed into what is known as GOBI (growth monitoring, oral rehydration techniques, breastfeeding and immunisation). Most countries followed the selective PHC path and few attempted to implement comprehensive PHC.

In the last decade, there has been an increasing focus on the social determinants of health, and it has been argued that:

The focus on "selective primary health care" and on "vertical programmes" was disruptive for the development of a horizontal primary health care approach, taking care of individuals, their families and the communities they live in. (De Maeseneer et al. 2007, p. 15)

Selective PHC has also been criticised as having multiple shortcomings. There is generally low or no community participation, which is essential to drive change and maximise relevance. It tends to be donor-driven, and takes a technocratic approach. It relies on outside experts, and has an emphasis on prompt, measurable results. It preserves the status quo with little impact on equity and there is little coordination between vertical programs (Haq et al. 2009).

Over the past few years, there has been a move back towards comprehensive PHC. The Health Systems Knowledge Network, appointed by the WHO Commission on

the Social Determinants of Health, commissioned a literature review into PHC as a strategy for achieving equitable care, and concluded that:

... primary health care has potential to address the social determinants of health through universal access and through its contribution to empowerment and social cohesion. The multidisciplinary team (nurses, family physicians, social workers,...) and the involvement of the local community is essential for the development of intersectorial action for health. (De Maeseneer et al. 2007, p. 5)

In Australia, PHC has been implemented most noticeably by Aboriginal community controlled health services. Government health services in remote NT also follow the principles of PHC and RANs have been some of the strongest supporters of PHC in Australia.

Cultural safety

Cultural safety is a phrase originally coined by Maori nurses and nursing students who felt that they and their people were unsafe in the mainstream health system. They defined cultural safety as nursing practice where there is no assault on a person's identity (Papps & Ramsden 1996) and as:

The effective nursing practice of a person or family from another culture, and is determined by that person or family. The nurse delivering the nursing care will have undertaken a process of reflection on their own cultural identity and will recognise the impact their personal culture has on their professional practice. Unsafe cultural practice comprises any action which diminishes, demeans or disempowers the cultural identity and well-being of an individual. (Nursing Council of New Zealand 1996, p. 18)

Cultural safety involves recognition of power balances and historical, political, social and economic structures. Rather than treating people regardless of their ethnic and social background, cultural safety requires that patients are treated respectful of their backgrounds. Culturally safe practice requires first and foremost a respect for the differences that exist between people, individually and collectively (Papps & Ramsden 1996). It is an important challenge for health professionals in the remote context to provide professional care and services that respect both the safety of the individual client and the community to which they provide those services.

Characteristics of registered nurses in very remote Australia

The first BFTE survey in 2008 gathered data on the number of health facilities and of registered nurses in very remote Australia, the demographics, hours worked, qualifications, orientation received, how long RANs stayed in their positions, and their resilience levels as compared to nurses working in hospitals in the NT. This section discusses these findings, as well as key professional, social, and community factors.

Registered nurses work in very remote settings in all states and territories other than Victoria and the Australian Capital Territory, where there are no very remote areas. In total, 1076 registered nursing positions at 301 sites in very remote Australia were identified (Table 2.4). These positions are in a variety of settings that were grouped into eight mutually exclusive categories (Lenthall et al. 2011).

Table 2.4 **Number of health facilities by category and registered nursing positions in very remote Australia**

	<i>AustTerr</i>		<i>NSW</i>		<i>NT</i>		<i>QLD</i>		<i>SA</i>		<i>TAS</i>		<i>WA</i>		<i>Total</i>	
	<i>HF</i>	<i>RN</i>	<i>HF</i>	<i>RN</i>	<i>HF</i>	<i>RN</i>	<i>HF</i>	<i>RN</i>	<i>HF</i>	<i>RN</i>	<i>HF</i>	<i>RN</i>	<i>HF</i>	<i>RN</i>	<i>HF</i>	<i>RN</i>
Very remote hospitals with inpatient facilities	2	25	1	8	2	70	15	190	3	32	1	7	13	186	37	518
Very remote primary health care (PHC) clinics without inpatient facilities	2	4	7	13	66	157	48	96	18	34	2	4	47	85	190	393
Community health in facilities where there is a small hospital	-	-	1	5	6	9	4	16	1	2	-	-	14	38	26	70
Health facilities at mines	-	-	-	-	2	6	3	7	1	1	0	-	19	37	25	51
Aged care facilities	-	-	-	-	1	1	4	5	1	4	-	-	5	9	11	19
Health facilities at tourist centres	-	-	-	-	1	2	5	9	-	-	-	-	-	-	6	11
Aboriginal community controlled health organisations in communities with very remote PHC clinics	-	-	-	-	4	10	-	-	-	-	-	-	-	-	4	10
Private general practices	-	-	-	-	1	2	-	-	-	-	-	-	1	2	2	4
Total	4	29	9	26	83	257	79	323	24	73	3	11	99	357	301	1076

HF, health facilities; RN, registered nurse positions; AustTerr, Christmas Island, Keeling Islands
(Lenthall et al. 2011)

Most (85%) nursing positions are in small hospitals (health facilities with inpatients) or primary health care (PHC) clinics (health facilities without inpatients, excluding other categories). Western Australia (WA), Queensland (QLD), and the NT have the largest number of registered nursing positions in very remote Australia. The NT has the largest number of very remote PHC clinics and nursing positions in this category. All nurses in this category work in teams of six or less, except for one Indigenous community in the NT which has nine nurses, and two Indigenous communities in QLD, one with nine and one with thirteen nurses respectively (Table 2.5).

Table 2.5 Number of registered nursing positions in very remote primary health care clinics

	<i>AustTerr</i>		<i>NSW</i>		<i>NT</i>		<i>QLD</i>		<i>SA</i>		<i>TAS</i>		<i>WA</i>		<i>Total</i>	
	<i>PHCC</i>	<i>RN</i>	<i>PHCC</i>	<i>RN</i>	<i>PHCC</i>	<i>RN</i>	<i>PHCC</i>	<i>RN</i>	<i>PHCC</i>	<i>RN</i>	<i>PHCC</i>	<i>RN</i>	<i>PHCC</i>	<i>RN</i>	<i>PHCC</i>	<i>RN</i>
0 nurse	–	–	–	–	7	–	7	–	5	–	–	–	4	–	23	–
1 nurse clinic	–	–	3	3	11	11	22	22	1	1	1	1	21	21	59	59
2 nurse clinic	2	4	3	6	25	50	11	22	5	10	–	–	12	24	58	116
3 nurse clinic	–	–	–	–	12	36	1	3	5	15	1	3	3	9	22	66
4 nurse clinic	–	–	1	4	4	16	–	–	2	8	–	–	4	16	11	44
5 nurse clinic	–	–	–	–	3	15	3	15	–	–	–	–	3	15	9	45
6 nurse clinic	–	–	–	–	2	12	2	12	–	–	–	–	–	–	4	24
8 nurse clinic	–	–	–	–	1	8	–	–	–	–	–	–	–	–	1	8
9 nurse clinic	–	–	–	–	1	9	1	9	–	–	–	–	–	–	2	18
13 nurse clinic	–	–	–	–	–	–	1	13	–	–	–	–	–	–	1	13
Total	2	4	7	13	66	157	48	96	18	34	2	4	47	85	190	393

PHCC = Primary health care clinics, RN = Registered nurse positions

AustTerr = Christmas Island, Keeling Islands

Source: Lenthall et al. (2011)

Many of the identified nursing positions (43%) are in remote Indigenous communities. The majority in very remote PHC clinics without in-patient facilities (78%) are in remote Indigenous communities. There are 532 nurses working at 146 Indigenous communities (Indigenous people > 50%) in very remote Australia. Fifty-nine single nurse PHC clinics were identified. The majority of nurses in single nurse PHC clinics are employed by state or territory governments. The main employers are Queensland Health with 22 (37%) single nurse PHC clinics and Aboriginal Community Controlled Health Organisations with 20 (34%). The majority of respondents of the national survey of occupational stress of registered nurses in very remote Australia were female (89%); their mean age was 44 years, median age was 46, and 40.2% were aged 50 years or over. The mean hours worked per week

by nurses in very remote Australia was 47.6. Mean hours lost because of physical or mental health concerns in a 4-week period was 2.8 (Lenthall et al. 2011).

The majority of RANs had nursing degrees, although 38% were hospital trained. While 11% of RANs had master's degree, only 5% had postgraduate qualifications in rural and/or remote health (Table 2.6).

Table 2.6 RAN education qualifications, BFTE Survey 1, 2008

	<i>Number</i>	<i>%</i>
Responses	345	100
General Nurse Certificate	131	38
Diploma in Nursing	24	7
Degree in Nursing	190	55
Registered Midwife	100	29
Child Health Certificate and postgraduate qualifications in child health	38	11
Psychiatric Nursing Certificate	10	3
Graduate Certificate	69	20
Graduate Diploma	62	18
Master	38	11
Postgraduate qualifications in rural and/or remote health	17	5

Source: Lenthall et al. (2011)

Orientation rates were low for nurses in very remote Australia with only 70.6% of nurses receiving any orientation at all. This was slightly less in the NT, with only 68% of nurses working at very remote PHC clinics receiving an orientation (Table 2.7).

Table 2.7 RAN orientation for very remote nurses, BFTE Survey 2, 2010

	<i>All very remote</i>		<i>Very remote PHC clinics</i>	
Had an orientation to current position	70.6%	(304)	68%	(142)
Did not have an orientation	29%	(127)	32%	(67)
Orientation to current position was adequate	37%	(161)	31%	(64)
Orientation to current position was inadequate	19%	(82)	23%	(48)
Not sure if orientation was adequate	13.7%	(59)	16%	(35)

Source: Lenthall et al. (2011)

Of those who had received an orientation, less than half thought it was adequate to the organisation with regard to cultural awareness. Only about a quarter of respondents thought their orientation had sufficient advanced clinical skills, public health, or primary health care (Table 2.8).

Table 2.8 RAN adequacy of orientation, BFTE Survey 2, 2010

<i>Orientation</i>	<i>All very remote</i>	<i>Very remote PHC clinics</i>
Provided	70% (302)	68% (142)
Not provided	30% (129)	32% (67)
To organisation		
Adequate	45% (193)	39.7% (83)
Not adequate	15% (64)	20% (41)
Not sure	11% (47)	11% (23)
Cultural awareness		
Adequate	36% (155)	36% (74)
Not adequate	21% (89)	22% (45)
Not sure	13% (55)	13% (27)
Sufficient advanced clinical skills		
Yes	26% (111)	26% (54)
No	24% (105)	26% (55)
Not sure	20% (88)	18% (37)
Sufficient public health		
Yes	25% (107)	23% (48)
No	29% (123)	30% (63)
Not sure	17% (74)	17% (36)
Sufficient primary health care		
Yes	27% (118)	28% (59)
No	26% (112)	27% (56)
Not sure	17% (73)	15% (32)

Source: Lenthall et al. (2011)

Average years in current position ranged from zero to 27 years, with an average of 2.8 years ($SD = 4.55$). However, this was highly skewed with most nurses staying for far shorter periods, with 41% being in their position for one year or less, and 53% for two years or less (Table 2.9).

Table 2.9 RAN length of stay, BFTE Survey 1

<i>Length of stay</i>	<i>Cumulative</i>		<i>Length of stay</i>	<i>Cumulative</i>	
	<i>Number</i>	<i>%</i>		<i>Number</i>	<i>%</i>
1 month	27	6.3	5 years	348	81.3
2 month	57	13.3	6 years	359	83.9
3 month	75	17.5	7 years	368	86.0
6 months	126	29.4	8 years	375	87.6
1 year	177	41.4	9 years	385	90.0
18 months	229	53.5	10 years	394	92.1
2 years	260	60.7	15 years	411	96.0
3 years	307	72.0	20 years	421	98.4
4 years	332	78.0	Total	428	100.0

Source: Lenthall et al. (2011)

RANs demonstrated significantly higher levels of resilience using a resilience scale that contained 25 items reflecting five characteristics of resilience: *perseverance*, *equanimity*, *meaningfulness*, *self-reliance* and *existential aloneness* (Wagnild 2009; Wagnild & Young 1993).

Results were $t(5723) = 2.88, p < .01$, compared to hospital nurses in the NT (Table 2.10).

Table 2.10 RAN resilience levels compared to nurses at NT hospitals

		<i>Very remote</i>	<i>Combined NT hospitals</i>
Total	N	421	161
	Mean	146.32**	141.92
	Std. deviation	15.81	14.95

Note: ** = $p < .01$

Higher numbers = higher resilience

Source: Lenthall et al. (2011)

Organisations employing RNs involved in the study

Both organisations that employed RNs involved in this study, the NT Department of Health and Families and the Katherine West Health Board, are based in the NT. The NT is a federal Australian Territory in the central and northern regions of Australia. It borders with Western Australia to the west, South Australia to the south and

Queensland to the east. It covers a large area, over 1,349,129 square kilometres or 520,902 square miles. The NT is slightly larger than South Africa; about twice the size of Texas, and six times the size of the UK. However, it only has a population of 233,300 and is the least populous of Australia's eight major states and territories. It is divided into two main areas, the Top End, which is in the north and has a tropical climate; and CA, which is in the south and is mainly desert. The capital is Darwin, which is built on a low-lying peninsula located on a working harbour that is twice the size of Sydney. Nearly half (110,234) of the NT population resides in Darwin, which is often referred to as Australia's gateway to Asia. The second largest city in the NT is Alice Springs with a population of 28,605. It is located in the Red Centre of Australia adjacent to the Simpson Desert and is 1500 kilometres or 932 miles to Darwin and 1532 kilometres or 952 miles to Adelaide. There are two towns between Alice Springs and Darwin—Tennant Creek, 500 kilometres north of Alice Springs with a population of 7944; and Katherine, 300 kilometres south of Darwin with a population of 10,766. The only other town that is not categorised as very remote (ARIA+) is Nhulunbuy—a mining town of approximately 3000 people located on the Gove Peninsula. The rest of the NT is mainly made up of small very remote Indigenous communities (Katherine West Health Board [KWHB] 2013; Northern Territory Power and Water, 2015). (Figure 2.2)

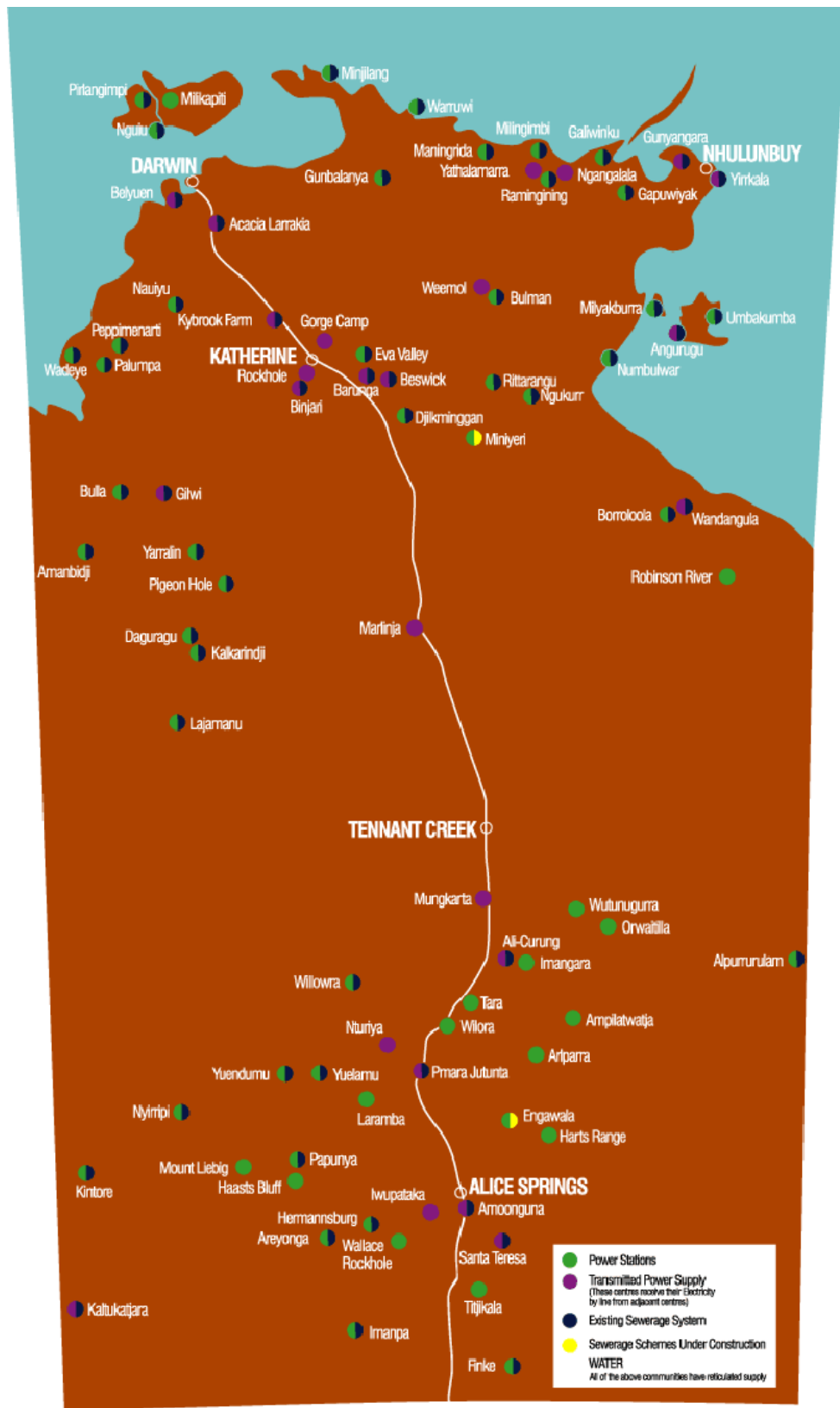


Figure 2.2 Map of the Northern Territory Indigenous communities (Power and Water Corporation 2015)

Northern Territory Department of Health and Families

The then NT Department of Health and Families, now the NT Department of Health, was the Territory's equivalent of a state health department. Its mission is to 'protect and improve the health and wellbeing of all Territorians in partnership with individuals, families and the community' (NT DoH&F 2009). In 2009, the DoH&F employed over 5500 people across the Territory, with just over 10% of staff being Aboriginal people (NT DoH&F 2009).

The DoH&F at the time of the study was headed by a chief executive and was divided into seven divisions: NT Families and Children, Health Services, Performance and Resources, Acute Care Services, Chief Health Officer and Health Protection, Systems Performance and Aboriginal Policy, and the Office of the Chief Executive. Remote Health was a branch within the Health Services division.

The Remote Health branch was divided into Top End and CA, each with a regional manager and a director of nursing. These regions were further divided into eight areas, with an area service manager for each region. The health centres were staffed with a primary health care manager, RNs and generally Aboriginal health workers. In July 2010 there were 168 permanent RN positions, although 38 (22.5%) were vacant, many filled by temporary agency staff (personal communication with the Chief Nurse of the NT).

At the time of the study, there were forty-three health facilities in various very remote locations across the NT managed by the NT DoH&F Remote Health branch: eighteen health centres and one hospital (Nhulunbuy) in very remote areas in the Top End, and twenty-three health centres and one hospital (Tennant Creek) in very remote areas in CA. See Table 2.11 Very remote health centres in the Top End, including community descriptions and number of RNs and Table 2.12 Very remote health centre locations in CA, including community descriptions and number of RNs.

Each community differs in language, customs, history, culture, environmental conditions and infrastructure. Aboriginal people, living on traditional country, are the largest population group in very remote communities, which range widely in size, including very small and isolated outstations.

Table 2.11 Very remote health centres in the Top End, including community descriptions and number of RNs

<i>Health centre</i>	<i>Community description</i>	<i>RNs</i>
Alyangula Health Centre	Alyangula is a mining town situated on the north-west corner of Groote Eylandt. It has a population of approximately 1200. The main clan is the Warnindilyakwa people and the major language spoken is Anindilyakwa. The health centre is relatively large, with 3 doctors and a number of Aboriginal health workers as well as the 4 RNs. It provides services to other communities on the Island (Rural Health in the Northern Outback [RHINO] 2003).	4
Angurugu Health Centre	Angurugu is half-way down the west coast of Groote Eylandt on the banks of the Angurugu River. The population is approximately 1000 Aboriginal peoples. The main clan is the Warnindilyakwa people. It is a 20-minute drive from Angurugu to Alyangula and a 45-minute drive from Umbakumba (Northern Territory General Practice Education [NTGPE] 2012a).	6
Bickerton Island (Milyakburra) Health Centre	Milyakburra has a population of about 176 and is situated on the central eastern part of Bickerton Island; east of the mainland, between Groote Eylandt and Blue Mud Bay, and west of Groote Eylandt (Remote Recruitment 2012a).	1
Borroloola Community Health Centre	Borroloola is a very remote fishing community on the McArthur River in the Gulf of Carpentaria. This historic town is the considered the gateway to the Gulf region and is famed for its excellent fishing. The Health Centre with 7 RNs and 4 Aboriginal health workers service the town population of around 350 and about 30 outstations and cattle stations with a population of about 1650 (NTGPE 2012c).	7
Gapuwiyak (Lake Evella) Health Centre	Gapuwiyak is on the shore of Lake Evella in north-east Arnhem Land, about 500 km east of Darwin and 120 km west of Nhulunbuy. It is one of the Northern Territory's easternmost settlements. The population of Gapuwiyak and its surrounds is approximately 1500 of which 96% are Indigenous. The population is predominantly Yolngu, with people from 11 different Yolngu groups. Gapuwiyak was built on the land of the Gupapuyngu people but the dominant Yirritja moiety group is Dhajwaju (Remote Area Health Corps 2010a).	4

(Table 2.11 continued)

<i>Health centre</i>	<i>Community description</i>	<i>RNs</i>
Maningrida Health Centre	The coastal town of Maningrida has a population of 2600 and lies on the estuary of the Liverpool River, located approximately 400 km east of Darwin in North East Arnhem Land. The Kunibidji people are the traditional landowners of this country in central Arnhem Land. Maningrida is the second largest Aboriginal community in the NT after Port Keats (Wadeye) (Remote Area Health Corps 2009).	10
Milikapiti (Snake Bay) Community Health Centre	Milikapiti is located on the north-west coast of Melville Island, which is part of the Tiwi Islands. It is approximately 125 km by air (30 minutes) from Darwin. The community has a population of about 450 (Remote Recruitment 2010a).	2
Milingimbi Community Health Centre	Milingimbi Island is part of the Crocodile Island Group in the Arafura Sea. It is approximately half a kilometre off the north coast of Central Arnhem Land, approximately 440 km east of Darwin and 200 km west of Nhulunbuy. Milingimbi people are the Yolngu ('Aboriginal person'), a group of intermarrying clans who live in Milingimbi, Yirrkala and Galiwinku and speak a dialect of one of a number of closely related languages (East Arnhem Regional Council 2012a).	5
Minjilang (Croker Island) Health Centre	Minjilang is located on Croker Island, situated just off the Coburg Peninsula approximately 250 km north-east of Darwin. Approximately 300 people live on Croker Island, of whom 150 are the only speakers of the Iwaidja language. Other major languages spoken are Maung, Kunwinjku and English (West Arnhem Regional Council 2013).	2
Ngamnarriyanga (Palumpa) Health Centre	Palumpa is located 375 km from Darwin, 142 km further than Daly River and 45 km from Port Keats. The main language is Murinpatha, while English is a second language. It has a mainly Indigenous community and a population of approximately 420 (Remote Recruitment 2014c).	3
Gove District Hospital (Nhulunbuy)	The Gove District Hospital (GDH) is located in the town of Nhulunbuy on the Gove Peninsula and services the East Arnhem region. This includes the town of Nhulunbuy, with a population of about 3800 permanent residents and 15 very remote community clinics that refer patients to the hospital for inpatient, outpatient and specialist care. Nhulunbuy is a mining town and is financially supported by Rio Tinto Alcan alumina mine and refinery. The hospital is a 32-bed acute care facility providing medical, surgical, paediatric, respite and maternity services. It has 70 registered nurses. The GDH also provides a district medical officer service to the region. This role encompasses medical advice, conduction of community clinic visits, orders to admit patients to the hospital, evacuation of patients via Air Medical Services to Royal Darwin Hospital (Northern Territory Department of Health 2014).	70

(Table 2.11 continued)

<i>Health centre</i>	<i>Community description</i>	<i>RNs</i>
Numbulwar Community Health Centre	Numbulwar is one of the most isolated of the major Arnhem Land communities. It is located on the sand hills of the far south-eastern coast of the Rose River estuary, approximately 700 km east of Darwin. The population is about 780; however, these numbers fluctuate seasonally. Kriol is the main language spoken in Numbulwar (Remote Area Health Corps 2010b).	3
Oenpelli (Gunbalanya) Health Centre	Oenpelli, also known as Kunbarllanjanja or Gunbalanya, is the traditional homelands to the Mengerr, Erre, Wuningak, Gagudju and Amardak peoples. Oenpelli was established in 1906. Situated in West Arnhem, 330 km east of Darwin and 60 km north-north-east of Jabiru, near the East Alligator River. The community has a population of approximately 1500 (including Outstations) (NTGPE 2012e).	6
Pirlangimpi (Garden Point) Health Centre	The community is on the north-west coast of Melville Island, which is part of the Tiwi Islands. It is approximately 125 km by air (30 minutes) from Darwin (Remote Recruitment 2014d).	2
Ramingining Health Centre	Ramingining is a mainland community located to the west of the Glyde River about 30 km south-east of Milingimbi Island, 560 km east of Darwin. It is on the edge of the Arafura Swamp in Arnhem Land. The population is approximately 800 (East Arnhem Regional Council 2012b).	3
Robinson River Health Centre	Robinson River is a small community of about 200 Aboriginal peoples. It is located 145 km south-east of Borroloola in the Gulf of Carpentaria (Remote Recruitment 2010b).	2
Umbakumba Health Centre	The community is located approximately 50 km east of Angurugu situated inside Little Lagoon, Point Langton on the north-east coast of Groote Eylandt. Population is approximately 500, although this varies depending on seasonality (Remote Recruitment 2009b).	2
Wadeye (Port Keats) Health Centre	Wadeye (also known as Port Keats) is situated 420 km south-west of Darwin. Wadeye is the sixth most populated town in the Northern Territory and one of the largest Indigenous communities. There are five languages and four different dialects spoken in Wadeye, with Murrinhpatha as one of the most common. There were approximately 2100 people counted during the 2011 census. There are 10 registered nurses in the community of Wadeye (Remote Recruitment 2014e).	10

Table 2.12 Very remote health centre locations in CA, including community descriptions and number of RNs

<i>Health centre</i>	<i>Community description</i>	<i>RNs</i>
Alcoota (Engawala) Health Centre	Alcoota is a small Arrente community about 178 km north-east of Alice Springs. The population is approximately 165 (Remote Recruitment 2012b).	1
Ali Curung (Warrabri) Health Centre	Ali Curung is located about 380 km north-east of Alice Springs in the Southern Barkly region, just south of the Devils Marbles. Ali Curung has a population of approximately 600. There are four major language groups spoken, Warlpiri, Warumungu, Kaiditch and Alyawarra (Remote Recruitment 2014a).	2
Alpurrurulam (Lake Nash) Health Centre	Alpurrurulam is located approximately 550 km east of Tennant Creek. It has a population of 870 Indigenous people, with the spoken language Alyawar (Remote Recruitment 2011a).	2
Aputula (Finke) Community Health Centre	Aputula is located 434 km south-east of Alice Springs. The population of Finke is approximately 195 and the major language groups spoken are Yankunytjatjara, Southern Arrernte, Luritja and Pitjantjatjara (NTGPE 2012b).	1
Atitjere (Harts Range) Health Centre	Atitjere is a very remote Indigenous community approximately 220 km north-east of Alice Springs on the Plenty Highway. It has a population of about 350, including surrounding homelands (Remote Recruitment 2014b).	2
Bonya (Orrtipa-thurra) Health Centre	Also known as 'Orrtipa-Thurra' (two eagles) Bonya is a very remote Aboriginal community situated north-east of Alice Springs about halfway to the Queensland border. The population is approximately 160 (RHINO 2003).	1
Canteen Creek Health Centre	Canteen Creek is located approximately 275 km south-east of Tennant Creek. The community is located north-east of the edge of the Davenport Ranges. Canteen Creek has a population of approximately 300. Major language groups spoken are Alyawarr and Warramungu (Remote Recruitment 2011b).	1
Elliott Community Health Centre	Elliott is a stopover point on the Stuart Highway, located in the heart of the Northern Territory's cattle country, almost halfway between Darwin and Alice Springs and is approximately 250 km north of Tennant Creek. With a population of approximately 700, the major languages spoken are Mudburra, Jingili, Wombaya and Warramungu (NTGPE 2012d).	3
Engawala (Alcoota) Health Centre	Engawala is a small Aboriginal community located about 70 km north of Alice Springs. It has a population of approximately 165. (Remote Recruitment 2012c).	1
Epenarra (Wutunugurra) Health Centre	Epenarra is a small Aboriginal community located about 200 km south-east of Tennant Creek. It has a population of approximately 240. The major languages spoken are Alyawarra, Warlpiri, and Kaiditji (Remote Recruitment 2011c).	1
Ikuntji (Haasts Bluff) Health Centre	Ikuntji has a population of 165 and located 250 km west of Alice Springs. It takes 3 hours to drive there on both a sealed and unsealed road (MacDonnell Regional Council 2011).	1

(Table 2.12 continued)

<i>Health centre</i>	<i>Community description</i>	<i>RNs</i>
Kaltukatjara (Docker River) Health Centre	The community is located 670 km south-west of Alice Springs and has a population of approximately 350. The major language groups spoken Pitjantjajara, Ngaatjatjarra and Ngaanyatjarra (NTGPE 2012f).	2
Laramba (Napperby) Health Centre	Laramba the community is located 205 km north-west of Alice Springs, with a population of approximately 311. The major language group spoken is Anmatjere. The Health Centre was built in 1997 with 9 rooms including men and women consulting rooms and a kids/emergency room (Remote Recruitment 2012c).	2
Ntaria (Hermannsburg) Health Centre	Ntaria or Hermannsburg is the oldest community in CA. It is located 130 km south-west of Alice Springs. The major language group spoken is Western Arrernte but most residents in the community speak English. Other languages spoken include Luritja/Pintupi and Pitjantjatjara. Ntaria has a population of about 700 (NTGPE 2012g).	5
Nyirripi Health Centre	Nyirripi is located approximately 440 km north-west of Alice Springs. The major languages spoken are Arrernte, Warlpiri and Pintabi. It has a population of approximately 240 (Remote Recruitment 2009a).	2
Papunya Health Centre	Papunya is 270 km west of Alice Springs, with a population of approximately 400. The main languages spoken are Pintubi and Luritja (NTGPE 2012h).	4
Anyinginyi Health Centre Tennant Creek	Tennant Creek is a town of approximately 3900, of which 50% Aboriginal. It is located at the junction of Stuart and Barkly Highways, 1000 km south of Darwin and 500 km north of Alice Springs. Tennant Creek has a 20-bed hospital with 30 registered nurses and a community health centre with 4 registered nurses (Northern Territory Department of Health 2012). The town also has an Aboriginal Community Controlled Health Service, the Anyinginyi Health Centre. Anyinginyi is a multidisciplinary organisation providing primary health services to Aboriginal people in Tennant Creek and to people living on 12 very remote outstations located within 100 km of Tennant Creek (Anyinginyi Health Service 2012).	34
Ti Tree Health Centre	Ti Tree is located 193 km north of Alice Springs and 1289 km south of Darwin. It is on the main highway between Alice Springs and Darwin and situated in the Anmatjere Region. It has a population of approximately 800. The major language group spoken is Anmatyerre (NTGPE 2012i).	3
Titjikala Health Centre	The main access to Titjikala is by the old south road, which parallels the Old Ghan train line running south from Alice Springs (approximately 130 km). The population of Titjikala is approximately 250, with the major languages groups spoken Arrernte, Luritja and Pitjantjatjara (Remote Recruitment 2012d).	2

(Table 2.12 continued)

<i>Health centre</i>	<i>Community description</i>	<i>RNs</i>
Watarrka (Kings Canyon) Health Centre	Kings Canyon is part of the Watarrka National Park in the Northern Territory. Watarrka National Park is located 300 or 450 km depending on the route) south-west of Alice Springs. The permanent population, mainly Aboriginal people, in Kings Canyon area is approximately 400. Kings Canyon is also a significant tourist site with a resort (Remote Area Health Corps 2011).	2
Willowra Health Centre	Willowra is an Aboriginal community located 220 km north west of Alice Springs. It has a population of approximately 250 (Remote Area Health Corps 2010c).	2
Yuelamu (Mount Allen) Health Centre	Yuelamu is located 290 km north-west of Alice Springs on the old Mt Allan Pastoral lease. By road, it takes 3 hours to drive from Alice Springs. The two major language groups in the area are Anmatjere and Walpiri. Yuelamu has a population of approximately 300 (Remote Area Health Corps 2010c).	2
Yuendumu Health Centre	Yuendumu is located 290 km north-west of Alice Springs on the Tanami Highway, about a 4-hour drive. It is the largest community in CA with a population of about 1300 people. The major languages spoken are Walpiri and English (NTGPE 2012j).	5

The Remote Health branch provides primary health services to very remote populations of the NT. Services include the provision of 24-hour emergency care, primary clinical care, population health programs, referral and access to retrieval, medical and allied health specialist services, provision of essential medications and management of chronic illness. Around 90% of all consultations and health contacts at very remote health centres are with Aboriginal people (NT DoH&F 2009).

All the very remote health centres with registered nurses provide 24-hour, 7 days a week acute/emergency care as well as PHC to the community. Programs include antenatal care, growth assessment and action (GAA) program for infants and children under five, childhood and adult immunisation, healthy school aged kids program, preventable chronic disease (PCD) program, and well women's and well men's screening, and infectious and communicable disease prevention and control.

Katherine West Health Board

The Katherine West Health Board was established in 1998 to provide clinical, preventative, and public health services to mostly Aboriginal clients over a 162,000 sq/km region west of Katherine in the NT, extending to the Western Australia border. The population is in excess of 3000 people with 85% Indigenous. Katherine West Health Board owns and operates seven well-equipped health centres. The head office is in the town of Katherine, with health centres located in the very remote centres of Kalkaringi (Wave Hill), Lajamanu, Timber Creek, Yarralin, Bulla, Kildurk, and Pigeon Hole, plus numerous outstations (Figure 2.3) (KWHB 2013).



Figure 2.3 **Katherine West Health Board communities**
(KWHB 2013)

The Katherine West Health Board adheres to the principle of Aboriginal community control and services are governed by a board of elected Aboriginal community members. Registered nurses are employed at Kalkaringi (Wave Hill), Lajamanu, Timber Creek, and Yarralin (KWHB 2013).

Table 2.13 Katherine West Health Board health centre locations, including community descriptions and number of RNs

<i>Health centre</i>	<i>Community description</i>	<i>RNs</i>
Kalkarindji (Wave Hill) Health Centre	Kalkarindji and Daguragu are located approximately 480 km south-west of Katherine on the Buntine Highway. The Kalkarindji community is situated on the banks of the Victoria River and Daguragu in the Wattie Creek. The communities of Kalkarindji and Daguragu are about 8 km apart and connected by a sealed road. Kalkarindji was formed as a settlement supply town to service local pastoral industry which grew up in the early 1900s in the area. As stations became larger, there was less need for the services provided. It is now largely an Aboriginal town. Daguragu grew out of the Wave Hill walk off in 1966. At the time of this study, the health centre had a resident doctor 3 days a week, several Aboriginal health workers and 3 RNs. Besides the two communities, the health centre services the pastoral stations of Wave Hill, Camfield, Montijinni, Top Springs, Dungowan, Mount Sanford, Limbunya, Riverin, Inverway, Bunda and Birrindudu (KWHB 2013).	3
Lajamanu (Hooker Creek) Health Centre	Lajamanu is the largest of the communities managed by KWHB, with a population of approximately 1000 Aboriginal people. It is situated on the edge of the Tanami desert approximately 560 km from Katherine and 890 km from Darwin. Although the country traditionally belongs to the Gurindji people, most of the residents are Walpiri, moved there in the 1970s by Yuendumu, about 600 km south. At the time of this study, the community had a resident doctor 3 days a week, 5 RNs and several Aboriginal health workers (KWHB 2013).	5
Timber Creek Community Health Centre	Timber Creek, with a largely Indigenous population of about 650. It lies at the central point on the Victoria Highway between Katherine and Kununurra, approximately 300 km west of Katherine. It is a stopping point on the highway and the population increases during the tourist season. The community has a part-time doctor and 4 RNs (KWHB 2013).	4
Yarralin Health Centre	Yarralin, also known as Walangeri, is an Aboriginal community located 382 km, south-west of Katherine. It has a population of about 350. The Health Centre also services about 100 people from the Victoria River Downs cattle station (KWHB 2013).	2

KWHB = Katherine West Health Board

Katherine West Health Board health programs

Besides providing general health care, Katherine West Health Board health services have a number of specific health programs including:

- Alcohol and other Drugs
- Food Supply and Nutrition

- Trachoma Prevention
- Tackling Tobacco
- Maternal Health
- Child Health
- Chronic Disease
- Sexual Health
- Diabetes Educator

(KWHB 2013)

Conclusion

The context of this chapter was very remote areas in the NT. People living in these areas generally experience poorer health than their major city counterparts do. A major contributor is the well-recognised poor health status of Indigenous Australians. Indigenous Australians die much earlier than non-Indigenous Australians do and they suffer higher rates of disease, both chronic and acute. The underlying social determinants of health remain poor compared to non-Indigenous Australians. Although the burden of disease in very remote Australia is worse than urban areas, health services performance is generally poorer.

The supply of health workers declines with remoteness. There are limited numbers of doctors and allied health professionals in very remote Australia. Registered nurses are the largest and most evenly distributed of all the health disciplines and they play a critical role in the delivery of health services in very remote Australia. The ageing, mainly female RN workforce works long hours, and takes little time off for physical or mental health issues. The work is complex and RNs are required to practice at an advanced level, that often takes place in an Indigenous community where there is a requirement to adapt skills, knowledge and attitudes to function effectively within a distinct local culture.

Participants in this study were RNs working for the NT DOH&F and the Katherine West Health Board. RNs for the NT DOH&F work at 43 health facilities in various very remote locations across the NT. RNs working for the Katherine West Health

Board work at four Indigenous communities west of Katherine. All RNs involved with this study work in remote Indigenous communities in the NT. Their practice is guided by PHC principles, cultural safety and includes emergency services, clinical care, health promotion and public health services. The RN working in very remote communities is responsible, in collaboration with others, for the continuous, coordinated and comprehensive health care for individuals and their communities.

CHAPTER 3

OCCUPATIONAL STRESS AND REMOTE AREA NURSES—A REVIEW OF THE LITERATURE

Parts of this chapter have been published under the title:

Lenthall, S, Wakerman, J, Opie, T, Dollard, M, Dunn, S, Knight, S et al. 2009, 'What stresses remote area nurses? Current knowledge and future action', *Australian Journal of Rural Health*, vol. 17, pp. 208–213.



Papunya Airport
Northern Territory
Photo - Ciara O'Sullivan

Introduction

This research project aimed to develop, implement, and evaluate interventions that reduce and prevent the impact of occupational stressors in the remote area nursing workplace. This chapter reviews the literature about stress, its impact on the individual and the organisation, and describes the occupational stresses experienced by RANs identified in the literature. The chapter also examines occupational stress interventions that have previously been developed, and how these interventions have been classified and evaluated. This information has been utilised in the development and implementation of the project and provided a basis to evaluate the process of developing and implementing the organisational interventions as described in the results chapter.

Stress

Occupational stress, also referred to as 'stress in the workplace' or 'job stress' (Bergerman, Corabian & Harstall 2009), is described as the response people may have when 'presented with work demands and pressures that are not matched to their knowledge and abilities and which challenge their ability to cope' (Leka, Griffiths & Cox 2003, p. 3). Stress occurs in a wide range of work circumstances but is often made worse when employees feel they have little support from supervisors and colleagues and where they have little control over work or how they can cope with its demands (Leka, Griffiths & Cox 2003). Workers in the healthcare industry are significantly more stressed than employees in general, with close to half (45%) reporting high levels of stress (Bergerman, Corabian & Harstall 2009).

Effects of stress on the individual

The effects of stress may include irritability and depression, poor attention span, and poor memory. Some health-promoting behaviours such as exercise and relaxation, sleep, and good dietary habits may be impaired by stress, while other health-risk behaviours such as smoking and drinking are enhanced by stress. Intense or prolonged physiological response to stress has been suggested to increase the

wear and tear on the body and contributes to what has been called the 'diseases of adaptation' (Cox 1993).

Stress can cause endocrine changes and alter the function of the cardiovascular, respiratory, secretory, and visceral systems. It appears to impair or distort immune response. It can alter sleep patterns and the resultant fatigue can affect performance and a variety of behaviours including drinking alcohol and smoking. The most susceptible physiological systems to stress are the cardiovascular and respiratory systems, the immune system, the gastro-intestinal system, and those relating to endocrine, autonomic, and muscular function (Cox 1993).

There is a positive aspect to stress. A moderate amount in many people can act as a challenge that energises people psychologically and physically, and motivates them to learn new skills and master their jobs. However, when demands are overwhelming stress becomes an emotional experience that is complex and disruptive (Cox 1993). Stress can cause changes in emotional state, in mental and physiological function, and in behaviour. In some circumstances, these changes may seriously challenge aspects of a person's health and their availability for and their performance at work (Cox 1993).

Organisational effects of occupational stress

Occupation stress among employees can be costly to the employer. It has been associated with employees being absent from work, presenteeism (lost productivity from attending work when unwell) and turnover of staff (Bergerman, Corabian & Harstall 2009).

The turnover of RANs in the Northern Territory was estimated at 57% (Garnett et al. 2008). Employee turnover can be costly to organisations because of the loss of experienced workers as well as the costs associated with separation (exit interview, administration and severance pay), replacement, and training. Morale among the remaining employees may wane (Vanderkolk & Young 1991), particularly if extra work is created, thereby increasing stress among remaining staff (Bergerman, Corabian & Harstall 2009). Occupational stress is also associated with workers' compensation claims. Psychological health related compensation claims in Australia

are estimated at \$200 million annually and claim rates increased 62% from 1996 to 2003 (Australian Safety and Compensation Council 2006).

RAN occupational stress

The context of RANs' work is extremely demanding (Kennedy 2003). RANs provide 'continuous, comprehensive and coordinated health care' and undertake 'appropriate educational preparation for their practice' (CRANaplus 2003). Unlike nurses working in hospital-based settings who perform more consistently in acute areas of practice (Hegney, Pearson & McCarthy 1997), nurses working remotely are required to use a broad range of clinical skills in response to varied client needs (Opie et al. 2010b).

Beyond the demands of extended health practice, remote area nurses are required to endure inadequate staffing levels, mandatory on-call duties and frequent overtime, professional isolation, violence in the workplace, limited supervision, concerns for personal safety, inadequate infrastructure or equipment and issues arising from inter-cultural factors (Opie et al. 2010b; Lenthall et al. 2009; Yuginovich & Hinspeter 2007; Kennedy, Patterson & White 2003). Furthermore, RANs are required to function under these conditions, whilst striving to meet the health demands of some of the most disadvantaged populations in Australia. Such conditions have the capacity to contribute to elevated levels of occupational stress (Willis 1991), and are believed to be responsible for low remote area nurse retention (Kennedy Patterson & White 2003).

In a literature review examining occupational stress among RANs, Lenthall and colleagues (2009) identified four major sources of stress including the remote context, workload and extended scope of practice, poor management and violence in the workplace and the community.

The remote context— isolation and lack of personal/professional boundaries

Working in isolation is the most pervasive feature of remote area life (Willis 1991). Isolation extends beyond geography to encompass social and professional life. In particular, the social support provided by family and friends is less accessible. This

can increase the sense of personal and professional vulnerability (Hegney et al. 2002b).

As remote communities are small, nurses are often accommodated within or near their place of work and so live constantly with both the community and the health service (Cramer 1992). For many RANs, maintaining a private life is impossible because home and work are inextricably linked (Cramer 1992).

Workload and extended scope of practice

Nurses in remote areas work in an advanced and extended role. They are required to manage medical emergencies and trauma; provide primary care for acute and chronic conditions across the lifespan; and deliver preventative, public health, and community development programs. This advanced role can lead to 'feelings of unrelieved stress, fatigue and low morale' (Cramer 2006, p. 198). The sheer volume of work is a major issue for RANs, with long working days and a high level of morbidity in many communities. The 'frontline' nature of remote area health work and the lack of medical and allied health presence dictate that nurses perform considerable on-call work. Nurses who work alone in remote communities are required to be on-call continuously. Excessive on-call and overtime are instrumental in the physical and emotional exhaustion of RANs (Bartram, Joiner & Stanton 2004; Hegney et al. 2002b). One paper documented a period of 100 days on-call with no break (Yuginovich & Hinspeter 2007). Both health service managers and the community often underestimate the workload of RANs and hold unrealistic expectations of them (Hegney et al. 2002b).

Most RANs work in remote Indigenous communities with the range of challenges related to working in a cross-cultural environment. These include differences in language, social norms and gender roles, disparity in religious and spiritual practices, and contested values and beliefs related to health and illness (Wakerman & Lenthall 2002). The demands of interactions between Indigenous and non-Indigenous peoples in remote areas may be 'entangled, complex and sometimes dehumanising' (San Roque 2002, p. 7).

Poor management

Poor management practices with a lack of support and responsiveness are frequently cited as a reason for low retention rates of RANs (Wakerman & Davey 2008). Misleading information may be given to nurses at recruitment resulting in inappropriate appointments, considerable job dissatisfaction and early resignation (Cramer 2005). Management practices within the 'health facility' were identified as the most significant determinant in leaving one state health department (Hegney et al. 2006). Poor human resource management practices accompany a relatively under-funded environment, inadequate systems relating to orientation and induction of new staff, poor communication, poor quality improvement and pastoral care, and inadequate preparation of operational managers; this is associated with inadequate recognition of health services management as a health discipline and related continuing professional development and accreditation requirements (Wakerman & Davey 2008). Lack of support also included poor management responsiveness to issues raised by RANs (Weymouth et al. 2007). A key contributor to burnout is a lack of appropriate leave replacement for RANs (Weymouth et al. 2007; Yuginovich & Hinspeter 2007).

Workplace and community violence

Workplace violence has been identified as contributing to RAN turnover (Morrell 2005). RANs in small communities are found to experience substantial workplace violence, with 86% of RANs, compared to 43% of metropolitan nurses, having experienced aggression and abuse within the previous 12 months (Fisher et al. 1996). As a result of increased exposure to violent or traumatic incidents in the workplace, RANs are at a greater risk of developing conditions such as post-traumatic stress disorder (PTSD) (Kelly 1999). The high levels of violence in many remote communities may subject RANs to vicarious trauma, as they are often secondary witnesses to trauma (Morrison 2007).

In the 12 months preceding the completion of Survey 1 in the 'Back from the edge' study, the form of violence most commonly experienced by remote area nurses was verbal aggression (79.5%), followed by property damage (31.6%), physical violence (28.6%), sexual harassment (22.5%), stalking (4.9%) and sexual abuse/assault (2.6%)

(Opie et al. 2010a). The type of violence most frequently witnessed by RANs was also verbal aggression (85.7%), then physical violence (57.9%), property damage (53.9%), sexual harassment (32.1%), stalking (14.3%) and sexual abuse/assault (10.9%). Statistically significant positive correlations were found between each type of witnessed violence and PTSD symptoms, excluding sexual abuse/assault, which was found to have no relationship to PTSD symptoms. RANs who reported higher levels of exposure to violence also reported higher levels of PTSD symptoms, including difficulty sleeping, difficulty concentrating, irritability, feeling distant or cut off, reliving of the trauma and feeling emotionally upset when reminded of the trauma (Opie et al. 2010a). Violence is an ongoing issue, with evidence of persistently inadequate safety systems and poor management support after critical incidents (Yuginovich & Hinspeter 2007).

BFTE study

Opie and her colleagues (2010a), as part of the wider BFTE study, performed the first empirical analysis of occupational stress levels in the remote area nursing workforce. An adaptation of the job demands-resources (JD-R) model of burnout provided a theoretical framework for the study. The JD-R model represents a well-established and well-supported theory in the field of occupational health psychology, with its foundations embedded in the demand-control-support (DCS) model (Karasek & Theorell 1990) and the effort-reward-imbalance (ERI) model (Siegrist 1996). The JD-R model suggests worker well-being is impacted by any number of variables and can be categorised as either job demands or job resources. Job demands are conceptualised as the 'physical, social, or organizational aspects of the job that require sustained physical or mental effort and are therefore associated with certain physiological and psychological costs (e.g., exhaustion)' (Demerouti et al. 2001, p. 501). Job demands become stressors when the employee is required to expend considerable effort in order to meet them, with possible outcomes such as severe fatigue or absenteeism, or the more costly product of burnout (Bakker et al. 2003). In contrast to this, job resources are defined as the 'physical, psychological, social, or organizational aspects of the job' that may serve a motivational purpose in achieving work-related goals, reduce job demands and

their resultant adverse physiological and psychological consequences, or may promote personal development (Demerouti et al. 2001, p. 501). Job resources are suggested to lead to more positive work outcomes, such as work engagement, characterised by vigour, dedication and absorption (Schaufeli & Bakker 2004).

The JD-R model therefore attempts to explain how the job demands and job resources presented to any employee can result in both positive work outcomes (e.g. engagement) and negative work outcomes (e.g. exhaustion) (Bakker et al. 2003). The JD-R model (Figure 3.1), asserts that 'high job demands predict adverse psychological and physical health consequences, and that low job resources will, by definition, increase job demands and will therefore foster burnout and health consequences' (Dollard et al. 2007)

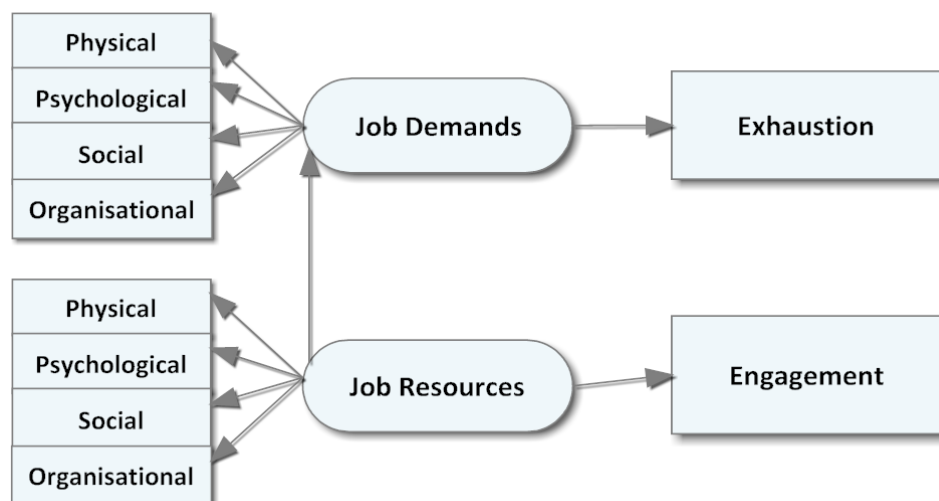


Figure 3.1 The job demands-resources (JD-R) model

The JD-R adapted model (Opie et al. 2010a) (Figure 3.2) used job demands considered to be specific to RAN practice. The RAN-specific scale was developed using a Delphi technique. A focus group was conducted at the CRANA conference in Broken Hill in 2007 and thematic analysis of responses was completed. The Delphi technique was used to further refine the questions. The Delphi technique is a well-established decision-making process, involving repeated consultation with a panel

of experts. Eighteen esteemed professionals in the field of remote health care were invited to participate. A final expert panel of twelve members was established. Panellists were repeatedly consulted to refine original participant responses from the 2007 focus group (Opie et al. 2013).

To measure elements of the JD-R model, a structured survey (BFTE Survey 1) was distributed to 1009 nurses working in very remote regions across Australia. Self-reported data assessed the elements of the JD-R model (Opie et al. 2010a) (Figure 3.2).

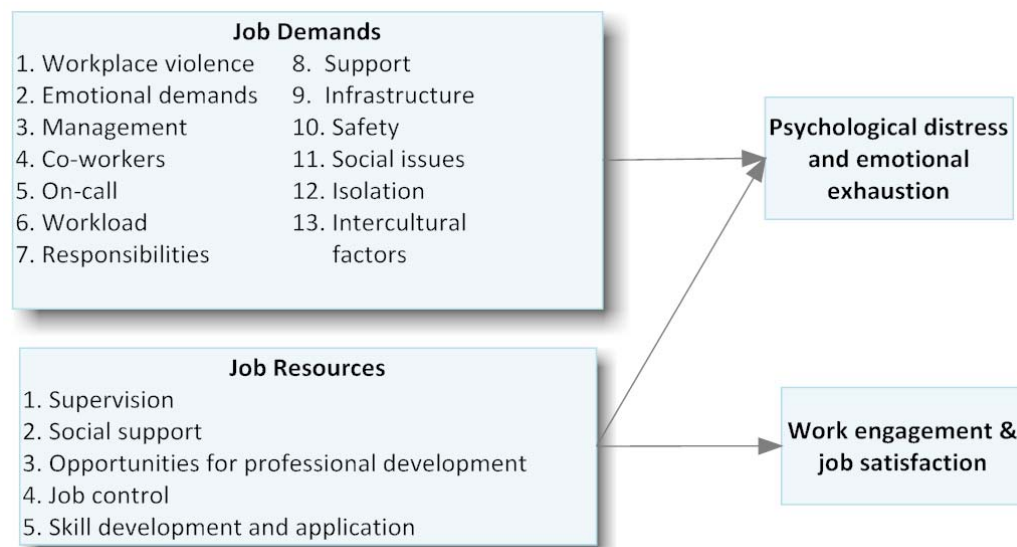


Figure 3.2 **Job demands-resources model for RANs**
(Opie et al. 2010a, p. 237)

Negative outcomes

Psychological distress

Psychological distress was measured using the 12-item General Health Questionnaire (GHQ-12) (Goldberg & Williams 1991). The GHQ-12 includes questions such as, ‘Have you recently lost much sleep over worry?’. Participants were required to respond using a 4-point scale ranging from 1 (*not at all*) to 4 (*much more than usual*) (Opie et al. 2010a).

GHQ-12 scores demonstrated that RANs suffer particularly high occupational stress. Respondents displayed higher than average levels of psychological distress, with significantly higher scores than a sample of psychiatric nurses, South Australian human service personal and a sample of Australian police officers (Opie et al. 2010a).

Emotional exhaustion

Emotional exhaustion was measured using the emotional burnout subscale (of the Maslach Burnout Inventory [MBI]). The nine items of the emotional exhaustion subscale 'assess feelings of being emotionally overextended and exhausted by one's work' (Maslach, Jackson & Leiter 1996). It includes items such as 'I feel emotionally drained from my work', with responses corresponding on a 7-point scale ranging from 0 (*never*) to 6 (*every day*) (Opie et al. 2010a). Mean scores for emotional exhaustion fell into the average range but when compared with norms from the MBI manual for a sample of health professionals, nurses working in very remote Australia had significantly higher scores on emotional exhaustion (Opie et al. 2010a).

Positive outcomes

Work engagement

Work engagement was assessed using the Utrecht Work Engagement Scale-9 (Schaufeli & Bakker 2003). This scale presents items such as 'I am enthusiastic about my job', and asks respondents to indicate the frequency with which they experience such feelings, on a 7-point scale ranging from 0 (*never*) to 6 (*every day*) (Opie et al. 2010a). RANs had higher levels of work engagement relative to other samples (Opie et al. 2010a).

Job satisfaction

Job satisfaction was measured with a single item asking respondents, 'Taking everything into consideration, how do you feel about your job?'. Again, responses corresponded with a 7-point scale, ranging from 0 (*extremely dissatisfied*) to 6 (*extremely satisfied*) (Opie et al. 2010a). RANs had average levels of job

satisfaction, but higher levels than other samples from South Australian human service workers and correctional officers (Opie et al. 2010a).

Job resources

Supervision

Supervision was measured using the subscale from the Job Content Questionnaire (JCQ) (Karasek, Brisson, Kawakami, Houtman, Bongers & Amick 1998). The subscale included four items, with statements such as 'My supervisor is concerned about the welfare of those under him/her'. Responses correspond with a 5-point scale, ranging from 0 (*strongly disagree*) to 4 (*strongly agree*) and has a Cronbach's alpha of 0.92 (Opie et al. 2012).

Social support

Social support was measured using the subscale from the JCQ (Karasek, Brisson, Kawakami, Houtman, Bongers & Amick 1998). The subscale included four items, with statements such as 'People I work with are competent in doing their job', 'take a personal interest in me', are 'friendly', and are 'helpful in getting the job done'. Responses correspond with a 5-point scale, ranging from 0 (*strongly disagree*) to 4 (*strongly agree*) (Opie et al. 2012).

Opportunities for professional development

Opportunity for professional development scale is a purpose-designed scale based on the work of Aiken and Patrician (2000). In consideration of their research surrounding organisational traits of hospitals, we decided to take a measure of continuing education and career development opportunities. Respondents are presented with statements such as 'There are active in-service/continuing education programs for me'. Responses range from 0 (*strongly disagree*) to 4 (*strongly agree*). The scale includes four items and yields a Cronbach's alpha of 0.84 (Opie et al. 2012).

Job control

Job control was assessed using the subscales from the Copenhagen Psychosocial Questionnaire (COPSOQ) (Kristensen 2000). The job control subscale is comprised of

14 items including statements such as ‘I can decide when to take a break’.

Responses correspond with a 5-point scale, ranging from 0 (*always*) to 4 (*never*).

The scale yields a Cronbach’s alpha of 0.87 (Opie et al. 2012).

Skill development and application

Possibilities for development were assessed from the subscales from the COPSQ (Kristensen 2000). The ‘skill development and application’ subscale has three items. Items asked respondents questions such as, ‘Does your work require you to take initiative?’ Responses, once again, correspond with a 5-point scale, ranging from 0 (*to a large extent*) to 4 (*to a very small extent*). The scale has a Cronbach’s alpha of 0.74 (Opie et al. 2012).

All job resources demonstrated significant positive correlations with the positive outcomes of work engagement and job satisfaction. Supervision, opportunities for professional development and skill development and application had the strongest correlations with job satisfaction, while skill development and application, and job control, were most strongly correlated with work engagement (Table 3.1).

Table 3.1 Correlations between job resources and work engagement and job satisfaction in RANs

<i>Job resources</i>	<i>Work engagement</i>	<i>Job satisfaction</i>
Supervision	0.19**	0.42**
Social support	0.21**	0.36**
Opportunities for professional development	0.22**	0.46**
Job control	0.32**	0.40**
Skill development and application	0.30**	0.44**

* $p < 0.05$ (two-tailed), ** $p < 0.01$ (two-tailed)

Job demands

Workplace violence

Respondents were asked how often they had experienced different manifestations of workplace violence in the preceding 12 months. Responses corresponded with a 4-point scale ranging from 0 (*never*) to 4 (*four times or more*). Violence categories

included verbal aggression or obscene language, property damage, physical violence or assault, sexual harassment, sexual abuse/assault, and stalking. Definitions of each of these categories were provided to encourage a more consistent standard of interpretation. In addition, respondents were asked about their perceptions of community violence and their personal safety. This was achieved by asking respondents how often they felt concerned about 'violence in the community' and their 'personal safety'. Responses for this and all other items of the remote area nursing specific stress scale corresponded with a 7-point scale, ranging from 0 (*never*) to 6 (*everyday*) (Opie et al. 2010b).

Emotional demands

Emotional demands were assessed using the emotional demands subscale of the COPSOQ (Kristensen 2000). Respondents were asked three questions about the emotional demands in relation to their work: 'Does your work put you in emotionally demanding situations?' 'Does your work require that you become emotionally involved in your work?' 'Does your work require you to hide your true feelings?' Responses corresponded with a 5-point scale ranging from 1 (*very rarely/never*) to 5 (*very often/always*). A higher score indicated higher emotional demands (Opie et al. 2012).

Management

Management was defined as 'the person who has management authority over your position'. 'For example, this may be your manager in the Regional Centre/Town for remote area nurses or the Director of Nursing for hospital-based nurses'..

Respondents were asked to indicate how often their manager failed to address issues raised concerning colleagues, appropriately managed critical incidents, to be accessible for support or advice. In addition, respondents were asked how often their manager had unrealistic expectations of them as a nurse, how often they carried out site visits or face-to-face contact, showed a poor understanding of the issues impacting on them as a nurse, provided inadequate clinical support and perpetrated bullying behaviour (Opie et al. 2012).

Co-workers

Respondents were asked how often they experienced interpersonal conflict between colleagues, inadequate staffing levels, no staff relief, high staff turnover and colleagues perpetrating bullying behaviour (Opie et al. 2012).

On-call

Respondents were asked how often they were on-call 24 hours a day, were called-out, were called-out for non-urgent issues, were on-call on 'days off', were on-call when unwell (Opie et al. 2012).

Workload

Respondents were asked how often they: worked overtime, perceived their workload as unmanageable, performed administrative duties, felt unable to plan or control their workload, felt as though they never achieved their work-related goals or outcomes (Opie et al. 2012).

Responsibilities

Respondents were asked how often they felt the responsibilities of the health service exceeded the capacity of staff, the community and the healthcare system had unrealistic expectations of them as a nurse and if they had an overwhelming sense of responsibility for the community. They were also asked if they felt they were strained by the requirement to manage daily crises and critical incidents, were performing an extended role in areas beyond the scope of nursing and were pressured to work outside of their clinical training or scope of practice (Opie et al. 2012).

Support

Respondents were asked how often they experienced adequate mentor support, clinical support, support from the community, collaboration with other health services or other sections of the health system and administrative/ancillary support (Opie et al. 2012).

Infrastructure

Respondents were asked how often they experienced difficulties with infrastructure, information technology, transport, vehicle maintenance, visitor accommodation, and response times to requests for repairs of equipment or infrastructure (Opie et al. 2012).

Safety

Respondents were asked how often they had concerns about violence in the community, insecure or unsafe housing, personal safety, client-initiated violence and threats of violence towards nursing staff, and the ability of police to provide adequate support in the case of a critical incident (Opie et al. 2012).

Social issues

Respondents were asked how often they experienced difficulty with establishing professional boundaries, finding time to unwind from always being 'the nurse', initiating or maintaining social interaction and maintaining personal relationships (Opie et al. 2012).

Isolation

Respondents were asked how often they felt isolated from family and friends, the community, services and colleagues and professional development opportunities (Opie et al. 2012).

Intercultural factors

Respondents were asked how often they felt they were a target of prejudice, discrimination or racism, experienced conflict between western nursing practices and prevailing cultural practices, felt they had an inadequate understanding of different cultures, values or beliefs and experienced an inability to speak or understand the local language (Opie et al. 2012).

Findings from the wider BFTE study demonstrated that nurses working in very remote Australia experience higher than average levels of psychological distress, with significantly higher scores than a sample of psychiatric nurses. Higher scores

were also found for RANs compared with a sample of South Australian human service workers and a sample of Australian Police Officers (Opie et al. 2010a).

Mean scores for emotional exhaustion fell into the average range, accordingly to the MBI manual, but were significantly higher when compared to other nursing samples, including psychiatric nurses, ward nurses and community-based nurses (Opie et al. 2010a).

The job demands most strongly associated with increased levels of occupational stress, as assessed by emotional exhaustion and symptoms of PTSD were: responsibilities and expectations, emotional demands, workload, the remote context and isolation, cross cultural issues and culture shock, staffing issues, poor management practices, difficulties with equipment and infrastructure, and workplace violence (Opie et al. 2012) (Tables 3.2 and 3.3).

Table 3.2 Job demands correlations, total sample very remote Survey 1

	<i>Rank</i>	<i>Psychological distress</i>	<i>Emotional exhaustion</i>	<i>PTSD</i>
Emotional demands	1	0.33**	0.48**	0.47**
Responsibilities and expectations	2	0.31**	0.48**	0.43**
Social issues	3	0.32**	0.35**	0.41**
Workload	4	0.31**	0.44**	0.38**
Staffing issues	5	0.32**	0.47**	0.34**
Management	6	0.30**	0.36**	0.39**
Isolation	7	0.28**	0.30**	0.38**
Safety concerns	9	0.22**	0.35**	0.36**
Violence—witnessed	9	0.30**	0.34**	0.31**
Violence—actual	9	0.26**	0.34**	0.36**
Remote context	11	0.25**	0.31**	0.27**
Culture shock	12	0.20**	0.29**	0.24**
Equipment	13	0.11*	0.19**	0.29**
Support	14	0.15**	0.14*	0.21**
On-call	15	-.01	0.04	0.15**

** $p < .01$ (2-tailed); * $p < .05$ (2-tailed)

General Health Questionnaire measured levels of psychological distress

Maslach Burnout Inventory subscale measured levels of emotional exhaustion

Post-Traumatic Stress Disorder Checklist measured levels of PTSD

Source: Opie et al. (2012)

Table 3.3 **Job demands correlations, total very remote Survey 2**

	<i>Rank</i>	<i>Psychological distress</i>	<i>Emotional exhaustion</i>	<i>PTSD</i>
Social issues	1	.41**	.47**	.41**
Emotional demands	3	.39**	.40**	.41**
Isolation	3	.38**	.41**	.41**
Workload	3	.35**	.50**	.38**
Responsibilities and expectations	5	.34**	.47**	.38**
Staff issues	6	.29**	.44**	.31**
Culture shock	7	.31**	.32**	.35**
Management	8	.30**	.38**	.27**
Infrastructure and equipment	9	.24**	.28**	.29**
Safety concerns	10	.21**	.29**	.28**
Remote context	11	.19**	.29**	.27**
Violence—actual	12	.21**	.26**	.26**
Violence—witnessed	13	.15**	.25**	.26**
On-call	14	0.07	.20**	.16**
Support	15	.16**	.13**	.11*

** $p < .01$ (2-tailed); * $p < .05$ (2-tailed)

General Health Questionnaire measured levels of psychological distress

Maslach Burnout Inventory subscale measured levels of emotional exhaustion

Post-Traumatic Stress Disorder Checklist measured levels of PTSD

RAN stress and quality of care

Occupational stress in RANs, coupled with shortages in funding and resources, have led to a lack of accessible and acceptable standards of health care for remote populations, a deprivation of a basic human right (Yuginovich & Hinspeter 2007). Researchers have noted the negative effects on care when health professionals are highly stressed, fatigued, and under-resourced (Cramer 2006). The failure to provide adequate monitoring of chronic conditions, undertaking diagnosis and treatment with inadequate preparation, and the inability to address basic health promotion activities are examples of such sub-standard care (Cramer 2005).

Continuity of care, which is central to good health care, is facilitated by practitioners' knowledge of the idiosyncrasies and health histories of individual clients (Hanna 2001). High nursing turnover rates in Canadian First Nation communities were found to be detrimental to communication, medication management, and the range of services offered; they compromised follow-up, contributed to client disengagement, illness exacerbation, and added a burden of

care to family and community members (Minore et al. 2005). Remote communities, which receive health care primarily from nurses, are seriously disadvantaged when those services are under-resourced and poorly supported (Hanna 2001). The Federal government's focus on medical care and under-funding of nursing services has arguably contributed to the poor health outcomes of many remote Australians (Hanna 2001).

Organisational stress interventions

Level of the intervention—primary, secondary or tertiary

Stress interventions aim to reduce stress experienced by workers. They may be categorised by the type and level of application as primary, secondary and tertiary. Primary, or stress reduction interventions are aimed at reducing exposure to psychologically harmful working conditions (Lamontagne et al. 2007). Primary interventions that have been identified include team building, team role analysis, and boundary clarification (Cottrell 2001).

Secondary, or stress management interventions aim to enable people to utilise the skills necessary to deal with potentially harmful working conditions (Lamontagne et al. 2007). Secondary interventions have included group development, diagnosis and intervention, clinical team supervision, workload analysis and review, greater contact between staff and managers, and increases in clinical supervision and managerial support (Cottrell 2001).

Tertiary interventions aim to treat people who have been harmed in some way by work related stress, the 'working wounded' (Lamontagne et al. 2007).

Target of the intervention—individual, group, or the organisational

Many authors now categorise interventions according to their target such as the individual, group, or the organisation (Bergerman, Corabian & Harstall 2009; Cox et al. 2007; Giga et al. 2003). Most interventions in the literature have been aimed at the individual level (Cox et al. 2007). Richardson and Rothstein (2008) conducted

a meta-analysis to determine the effectiveness of stress management interventions in occupational settings. Thirty-six experimental studies were included, representing 55 interventions. Total sample size was 2847. They found that relaxation interventions were most frequently used, while organisational interventions continued to be scarce.

Health professional occupational stress

A literature review on interventions aimed at health professionals found twelve, only two of these from Australia (Table 3.4). The interventions from these studies are classified in a matrix according to the level and target of the intervention (Table 3.5). Individual/primary interventions include interventions such as education on time management, career consultation, assertiveness, communication skills, mentoring, support mapping (Cottrell 2001), and improved clinical nursing supervision (Begat, Ellefsen & Severinsson 2005). The individual/secondary interventions are aimed at the individual employee so they can better manage their own stress. These interventions include improving healthy lifestyle, reflection, clinical supervision, mentorship, buddy systems, home/work interface, support mapping, imagery (Cottrell 2001), and burnout workshops (Malach-Pines 2000). Individual/tertiary interventions aim to treat employees who have been harmed in some ways by stress. These include counselling, psychotherapy, physical wellness: diet, exercise, addictions, lifestyle work, rehabilitation after sick leave, and disability management.

There have also been a number of interventions aimed at the group or team level. Primary ones including team building, team role analysis, and boundary clarification (Cottrell 2001). Secondary ones include group development, diagnosis and intervention, clinical team supervision, workload analysis and review, greater contact between staff and managers, and increases in clinical supervision and managerial support (Cottrell 2001). There were few tertiary interventions at a group level, but they can include therapeutic remedial teamwork and workgroup role negotiation (Cottrell 2001).

The primary level of organisational interventions included job descriptions and role clarification, participation, and empowerment (Cottrell 2001). The secondary level included workload management, mission clarification, and risk analysis. The tertiary level included reorganisation, organisational transformation programs and employee assistance programs (EAP) (Cottrell 2001).

Table 3.4 Studies on occupational stress interventions among health professionals

<i>Authors</i>	<i>Date</i>	<i>Title</i>	<i>Participants</i>	<i>Design</i>	<i>Response rate</i>	<i>Intervention</i>	<i>Outcome measure</i>	<i>Results</i>
Begat, I, Ellefsen, B & Severinsson, E	2005	Nurses satisfaction with their work environment and the outcomes of clinical nursing supervision on nurses' experiences of well-being: a Norwegian study	71 nurses (Norway)	Descriptive correlational design	53%	Clinical nursing supervision	Work Environment Questionnaire (WEQ) Modified Moral Sensitivity Questionnaire (MSQ)	Self-reported improvements in well-being, less physical symptoms, reduced anxiety and fewer feeling of not being in control
Carson, J, Cavagin, J, Bunclark, J, Maal, S, Gournay, K, Kuipers, E, Holloway, F & West, M	1999	Effective communication in mental health nurses: Did social support save the psychiatric nurse?	27 nurses (UK)	Randomised controlled trial	Not supplied	Social support group to enhance coping abilities	Stress (DCL) Social support (SOS) Self-esteem (RSES) Maslach Burnout Inventory General Health Questionnaire (GHQ)	The hypothesis that social support would be more effective than only feedback was not confirmed. The trend was for the feedback group to do slightly better

(Table 3.4 continued)

<i>Authors</i>	<i>Date</i>	<i>Title</i>	<i>Participants</i>	<i>Design</i>	<i>Response rate</i>	<i>Intervention</i>	<i>Outcome measure</i>	<i>Results</i>
Cottrel, S	2001	Occupational stress and job satisfaction in mental health nursing: focused interventions through evidence-based assessment	31 psychiatric nurses (UK)	Questionnaire	53%	Greater managerial support and a model of contractual, peer clinical supervision	Pressure Management Indicator (PMI)	Proposed a matrix of organisational stress management interventions based stress reduction, stress management and stress treatment (described as primary secondary and tertiary levels). These were available for individuals, groups and organizations. This lists a range of possible interventions (based on Schaufeli & Enzmann 1998).
Heany, CA, Price, RH & Refferty, J	1995	Increasing coping resources at work: a field experiment to increase social support, improve work team functioning, and enhance employee mental health	1375 residential care workers (USA)	Cluster RCT	62%	Six 4-hour sessions over 9 weeks to teach skills to enhance social support and problem solving	Depression (SCL-90R)	For those most at risk of leaving their jobs, $R^2 = 0.41$, $p < 0.01$

(Table 3.4 continued)

<i>Authors</i>	<i>Date</i>	<i>Title</i>	<i>Participants</i>	<i>Design</i>	<i>Response rate</i>	<i>Intervention</i>	<i>Outcome measure</i>	<i>Results</i>
Le Blanc, PM Hox, JJ, Schaufeli, WB Taris, TW & Peeters, MC	2007	Take care! The evaluation of a team-based burnout intervention program for oncology care providers	664 staff members of 29 oncology wards (Netherlands)	Quasi-experimental study	80–100% of total sample size of the wards	Introduction of more efficient procedures in regards to reporting about patients and ordering supplies (quantitative demands), appointment of staff members as ‘guardian angels’ (support), and restructuring of the weekly work meetings to enable more participation (voice) of staff members (participation in decision making)	Maslach Burnout Inventory Social support scale Participation in decision making scale Job control scale Job demands scale Emotional job demands Problems in interacting with patients scale Confrontation with death and dying scale Identification with patients scale	Care providers in the experimental group felt significantly less exhausted than did care providers in the control group directly after the program ended as well as 6 months later

(Table 3.4 continued)

<i>Authors</i>	<i>Date</i>	<i>Title</i>	<i>Participants</i>	<i>Design</i>	<i>Response rate</i>	<i>Intervention</i>	<i>Outcome measure</i>	<i>Results</i>
Lokk, J & Arnetz, B	1997	Psychophysiological concomitants of organisational change in health care personnel: effects of a controlled intervention study	26 hospital ward workers (Sweden)	RCT	93%	20 weekly 1-hour stress management sessions	Stress hormone (prolactin) level	25 weeks in intervention period compared to 40 in control period
Mackenzie, C, Poulin, P & Seidman-Carlson, R	2006	A brief mindfulness-based stress reduction intervention for nurses and nurse aides	30 nurses 16 intervention 14 control, (Canada)	Case-control study	Not noted	Brief mindfulness-based stress reduction, awareness of the present moment, non-judging acceptance, patience, and kindness	Maslach Burnout Inventory Smith Relaxation Dispositions Inventory Intrinsic Job Satisfaction subscale Satisfaction with life scale 13-item version of Antonovsky's orientation to life questionnaire	Significant improvement in burnout symptoms, relaxation and life satisfaction Did not affect job satisfaction
Malach-Pines, A	2000	Nurses' burnout: an existential psychodynamic perspective	100 nurses (Israel)	Descriptive correlational design	99%	Continuing education, support groups and management recognition/support	Burnout measure Maslach Burnout Inventory Job satisfaction scale	Improve emotional well being

(Table 3.4 continued)

<i>Authors</i>	<i>Date</i>	<i>Title</i>	<i>Participants</i>	<i>Design</i>	<i>Response rate</i>	<i>Intervention</i>	<i>Outcome measure</i>	<i>Results</i>
Shapiro, SL, Astin, JA, Bishop, SR & Cordova, M	2005	Mindfulness-based stress reduction for health care professionals: results from a randomized trial	38 health care professionals (USA)	Randomised controlled study	Not stated	Mindfulness-based stress reduction (meditation, deep breathing, yoga)	Burnout General Mental Health (GSI) Perceived stress	Improved stress levels, decreased burnout
Smoot, S & Gonzales, J	1995	Cost-effective communication skills training for state hospital employees	65 hospital workers (USA)	Matched controlled	90%	4 weekly 8 hour sessions of communication training	Sick leave (hours) in 6 months after compared to 6 months before	Per cent change: -28.2 in experimental group -6.4 in control group
Walters, H, Bond, M & Pointer, S	1995	A stress management program for nursing home staff: an evaluation of combined education and relaxation strategies	24 nurses (Australia)	Descriptive correlational design	73%	Education on stress, relaxing mental exercises	Blood pressure, stress symptom checklist	Decline in mean arterial pressure
Winefield, H, Farmer, E & Denson, L	1998	Work stress management for women general practitioners: an evaluation	20 female GPs (Australia)	Descriptive correlational design	Not stated	Appraisal, work related coping strategies, social supports	General Health Questionnaire Modified job satisfaction scale Maslach Burnout Inventory	Decrease in psychological distress and emotional exhaustion following the program of seminars

Table 3.5 **Matrix of stress interventions**

	<i>Individual (individual perspective)</i>	<i>Group (team perspective)</i>	<i>Organisation</i>
Primary Stress prevention	Time management, career consultation, assertiveness, communication skills, psycho-education (Cottrell 2001) Restructuring of the weekly work meetings to enable more participation (voice) of staff members to increase participation in decision-making (Le Blanc et al. 2007) Improved clinical nursing supervision (Begat, Ellefsen & Severinsson 2005) Six 4-hour sessions over 9 weeks to teach skills to enhance social support and problem solving (Heany, Price & Refferty 1995)	Team building, team role analysis, boundary clarification (Cottrell 2001) Improve leadership behaviours (Elder 2004) More efficient procedures in regards to reporting about patients and ordering supplies (quantitative demands), (support) (Le Blanc et al. 2007)	Job descriptions and role clarification, participation and empowerment (Cottrell 2001) The introduction of more efficient procedures in regards to reporting about patients and ordering supplies (Le Blanc et al. 2007)
Secondary Stress management	Healthy lifestyle, reflection, clinical supervision, mentorship, buddy' systems, home/work interface, support mapping, imagery (Cottrell 2001) In-service training, burnout workshop and identifying stressors (Malach-Pines 2000) Two-day training workshop in stress management using meditation and cognitive material (Randolph, Price & Collins 1986) Group discussions and lectures by a physician (e.g. medical treatment), psychologist (e.g. stress management, time management, burnout) and psychiatrist (e.g. depression, psychotherapies), physiotherapist (e.g. ergonomics, physical exercise) (Hatinen et al. 2007) 20 weekly 1-hour stress management sessions (Lokk & Arnetz 1997) Relaxation strategies (Walters, Bond & Pointer 1995)	Group development, diagnosis and intervention, clinical team supervision, workload analysis and review, greater contact between staff and managers, increase in clinical supervision and managerial support (Cottrell 2001) The appointment of staff members as 'guardian angels' who watch over team members' well-being (Le Blanc et al. 2007)	Workload management, mission clarification, risk analysis and management Employee participation (Cottrell 2001)
Tertiary Stress treatment	Counselling, psychotherapy, physical wellness: diet, exercise, addictions, lifestyle work, rehabilitation after sick leave, disability management, case management, individual psychotherapy, posttraumatic stress assistance programs, group psychotherapy (De Jonge & Dollard 2002) Work stress management courses (Winefield, Farmer & Denson 1998)	Therapeutic remedial team work Work group role negotiation (Cottrell 2001)	Therapeutic consultancy, re-organisation Organisational transformation programs Employee assistance programs Process re-design, cultural change work, e.g. combating 'presenteeism' (Cottrell 2001)

NT Department of Health and Families' occupational stress interventions

Discussions with middle and senior staff in the NT Department of Health and Families (NT DoH&F) and a review of the grey literature, identified that the majority of occupational stress interventions introduced by the NT DoH&F prior to the study have been aimed at the individual level. There has been some education on time management and communication skills. There have also been attempts to improve clinical supervision, and education on self-care and stress management. The main intervention on which the department appears to rely is the employee assistance program (EAP), which is at the individual/tertiary level.

At the team level, there have been some attempts at interventions such as team building and team role analysis but generally, this has occurred during acute team conflict, with reportedly varying results (personal communication). Discussions with middle and senior managers did not identify any occupational stress interventions at the organisational level.

Organisational interventions are preferable as preventative measures because they addressed the causes of unhealthy working environments. While there have been no organisational interventions introduced previously, in this tough, high turnover environment, occupational stress interventions at the organisational level are likely to be most effective.

Evaluation of the process of developing the intervention and their implementation

The traditional research design of many of these studies includes a pre- and post-test, an experimental and a control group (Cox et al. 2007). Outcome measures include psychological stress, burnout, sickness or absenteeism, and turnover or retention. The instruments commonly used included:

- General Health Questionnaire (Carson et al. 1999)
- Maslach Burnout Inventory (Carson et al. 1999; Le Blanc et al. 2007; Mackenzie, Poulin & Seidman-Carlson 2006; Malach-Pines 2000; Winefield, Farmer & Denson 1998)

- Work Environment Questionnaire (Begat, Ellefsen & Severinsson 2005)
- Pressure Management Indicator (Cottrell 2001)
- Modified Moral Sensitivity Questionnaire (Begat, Ellefsen & Severinsson 2005)
- Social Support scale (Carson et al. 1999; Le Blanc et al. 2007)
- Job control scale (Le Blanc et al. 2007)
- Job demands scale (Le Blanc et al. 2007)
- Job satisfaction scale (Malach-Pines 2000; Winefield, Farmer & Denson 1998)
- Emotional job demands (Le Blanc et al. 2007)
- Depression scale (Heany, Price & Refferty 1995).

Organisational records were generally used to measure absenteeism and turnover such as sick leave (hours) in six months after compared to six months before (Smoot & Gonzales 1995).

However, doubts have been expressed about the adequacy of the traditional model of research design to provide an effective framework to evaluate organisational stress interventions (Cox et al. 2007). Organisations are complex and evolving, with numerous complex and interrelated relationships (Cox et al. 2007). Cox et al. (2007, p. 349) argues that the traditional research model, with its 'emphasis on reductionism, simple mechanistic causal relationships, and structured determinism, is poorly suited to the study of organisations and organisational life'.

Some authors including Cox et al. (2007) and Biron, Gatrell and Cooper (2010) argue that an approach that evaluates the process of developing the intervention and the implementation should be included in the methodology to understand how and why interventions succeed or fail. To evaluate an occupational stress intervention project, both process and outcomes need to be evaluated.

Process can be defined as the flow of activities: who did what, when, why, and to what effect (Cox et al. 2007). Outcomes refer to 'what the result was; the differences that were made' (Cox, Griffiths & Rial-Gonzalez 2000, p. 57)

Cox et al. (2007) suggest a number of process variables that may be considered in evaluating organisational stress interventions. These include managerial support, employees' readiness and acceptance of the need for change, their motivation and

their willingness and ability to participate, their role in the decision making process, the resources available to support change, the quality of social relations and trust within the organisations (Cox et al. 2007). He suggests that the variables reflect the management or implementation of the intervention process and the organisational context.

Biron, Gatrell and Cooper (2010, p. 139) suggested that the process variables could be grouped into two main areas.

- Context of the organisation including communication about the program, organisational capacity, resources (financial, human, expertise, skills), motives (e.g. legal, economic, political, altruistic), appointment of a steering committee that has sufficient influence on stress-related issues, social climate of learning from failure, and ability to detect obstacles early.
- Characteristics of the intervention and its stakeholders, including that it:
 - is based on needs assessment
 - is comprehensive (including primary, secondary, and tertiary levels of prevention)
 - has clearly defined and appropriate targets
 - is feasible and that the intervention is important in relation to other ongoing changes and projects and that it has a participative design with clearly defined roles and characteristics of the stakeholders including stakeholders' support and commitment (at local and corporate levels) and stakeholders' readiness to change.

Biron, Gatrell and Cooper (2010) and Cox et al. (2007) provide a very useful list of variables to assess why an organisational intervention project succeeded or failed. Some of the variables such as stakeholders support could be refined. There may be various stakeholders with different levels of support.

Combined, the list of variables can be reorganised and grouped into the categories as below.

- characteristics of the organisation
 - organisational capacity, resources to support change, financial, human, expertise, and skills (Biron, Gatrell & Cooper 2010)
 - the quality of social relations and trust within the organisation (Cox et al. 2007)
 - social climate of learning from failure (Biron, Gatrell & Cooper 2010)
 - ability to detect obstacles early (Biron, Gatrell & Cooper 2010)
- characteristics of the employee
 - their readiness and acceptance of the need for change (Cox et al. 2007)
 - their motivation and their willingness and ability to participate (Cox et al. 2007)
 - their role in the decision making process (Cox et al. 2007)
- characteristics of the managers
 - managerial support (Cox et al. 2007)
- characteristics of the process
 - appointment of a steering committee that has sufficient influence on stress-related issues (Biron, Gatrell & Cooper 2010)
 - is participative with clearly defined roles (Biron, Gatrell & Cooper 2010)
- characteristics of the intervention
 - has clearly defined and appropriate targets (Biron, Gatrell & Cooper 2010)
 - is feasible (Biron, Gatrell & Cooper 2010)
 - the intervention is important in relation to other ongoing changes and projects (Biron, Gatrell & Cooper 2010)

Conclusion

Remote health practice is a complex and tough environment, socially, and professionally. These are communities with the highest health needs and poorest access to PHC services. These health systems have problems other than just funding and workforce supply. These stressed remote health systems are highly dependent on RANs as the largest component of the workforce. These multiple factors place enormous stress on RANs, and there needs to be a better understanding of the levels of stress and what to do about them. Although some stress may be beneficial, stress may have serious consequences for the individual, including mental and physical health problems and be costly to employers. Stressors identified in the literature relate to the remote context, isolation and lack of personal/professional boundaries, the workload and extended scope of practice, poor management, and workplace and community violence. RANs have high levels of psychological stress and moderate levels of emotional exhaustion. However, they also experienced moderate levels of job satisfaction and felt passionate about their work with high levels of work engagement.

Stress interventions aim to reduce stress experienced by workers. Organisational interventions are preferable to interventions aimed at individuals as they address the causes of unhealthy working environments. However, most interventions in the literature have been aimed at the individual level, although the literature on organisational interventions is increasing. With the tough environment of remote health and the high turnover of RANs, it is likely that organisational interventions will be more effective than individual or team interventions.

As well as outcome evaluation, evaluating the process is also useful, variables suggested by Cox et al. (2007) and Biron, Gatrell and Cooper (2010) will be used as a basis to evaluate the process of developing and implementing the organisational interventions.

CHAPTER 4

LITERATURE REVIEW OF METHODOLOGY



Far West MacDonnell Ranges
Northern Territory
Photo - Ciara O'Sullivan

Introduction

This chapter explores the literature pertaining to the theoretical framework and methodology of this study. The theoretical framework underpinning this methodology is critical theory, which is oriented toward critiquing and changing society (Bohman 2005). The methodology of this study is based on the action research model of planned change, which involves both participatory action research and organisational development. Participatory action research seeks to understand and improve the world by changing it. It is a collective, self-reflective inquiry that researchers and participants undertake so they can understand and improve upon the practices in which they participate, and the situations in which they find themselves (Baum, MacDougall & Smith 2006). Organisational development is 'the process of increasing organisational effectiveness and facilitating personal and organisational change through the use of interventions driven by social and behavioural science knowledge' (Anderson 2010).

The aim of this study was to develop, implement and evaluate interventions that reduce and prevent the impact of occupational stressors in the remote area nursing workplace by changing the health organisation. In doing so, this study sought to improve the lives of RANs and improve the delivery of health services in remote NT.

Critical theory

The theoretical framework underpinning this study is critical theory. There are two meanings of the term. When capitalised 'Critical Theory' refers to several generations of German scholars called the Frankfurt School (Bohman 2005). The term 'critical theory' was originally formulated by Max Horkheimer in the 1930s, the director of the Frankfurt School's Institute for Social Research, and among the first generation of the Frankfurt School (Ajjawi & Higgs 2012). In a broader sense, critical theory is any theory which is primarily concerned with the development of a philosophy that leads towards a just society (Ajjawi & Higgs 2012). Critical theory may be distinguished from traditional theory according to a specific practical purpose: a theory is critical to the extent that it seeks human emancipation, 'to liberate human beings from the circumstances that enslave them' (Ajjawi & Higgs

2012, p. 222). It was strongly influenced by Marxism, but has many different aspects and historical phases and now may refer to any philosophical approach with similar practical aims. These theories include feminism, critical race theory and some forms of post-colonial criticism (Bohman 2005). Associated with critical theory is the belief that people can become agents of change and individually and collectively progress towards freedom and satisfaction. Liberation is a key theme of critical theory (Montero & Fernandez 2003). Horkheimer (1972) explained that critical theory is only adequate if it meets three criteria. It must be explanatory, practical, and normative, that is it must explain what is happening with social reality, identify who to and how to change it, and provide both clear norms for criticism and achievable practical goals for change.

Power is central to critical theory, and critical theory researchers should examine how power functions in society (McIntyre 2008). Critical theory also relates to issues such as domination, power differentials, inequity, and social change (Davidson et al. 2006). Yukl (2006) identified the following types of power held by individuals, expanded from an earlier list by French and Raven in 1959:

- Legitimate power—where people believe they have an obligation to comply—the more hierarchical the organisation the more power they wield, for example, village elders, police, boss.
- Reward power—people act to receive rewards, for example, money, more interesting work.
- Coercive power—people act in order to avoid punishment.
- Information power—control over information.
- Ecological power—ability to modify task distribution and control over the physical environment, for example, technology.
- Referent power—person has personal characteristics that are attractive and people want approval from them.
- Expert power—based on a belief that the person has special knowledge about the best way to do something, for example, has access to special training, knowledge.

Eckermann et al. (2010, p. 45) provide an alternative view of different types of power, which is based on sociological principles:

- Political power—is evident in formal government policy, informal control and influence in the political process, and influences over public opinion.
- Economic power—rests on income, wealth, access to credit, control of employment, and control of wages and prices.
- Social power or social status—is evident in access to political/economic power and how this is evaluated by the community.

Paulo Freire's work *Pedagogy of the oppressed* is strongly related to critical theory. Freire differentiated between two positions in an unjust society, the 'oppressed' and the 'oppressors' or the 'colonised' and the 'coloniser' (Freire 1970). Freire argued that freedom can be achieved through 'praxis'; critical reflection on the situation of oppression with action which changes that situation in a concrete way. Freire's work influenced this study. The study involved a bottom up approach, and aimed to form a partnership with participants. Participants were respected and an effort was made to avoid treating them as 'unfortunate'. Problem solving and enquiry was encouraged and dialogue was used to critically examine reality and try to reach agreement on a shared reality. Researchers considered important to provide information and evidence to participants, so their examination of issues or the reality of events is informed. The researchers tried to avoid imposing their own reality on participants. Critical theory, participatory action research and organisational development all address power relationships.

Participatory action research

Although some authors (Koshy, Waterman & Koshy 2011) use the terms 'action research' and 'participatory action research' interchangeably, McTaggart (1997) argued that the addition of the term 'participatory' was necessary to distinguish authentic action research from the miscellaneous array of research types that fall under the descriptor action research. The key difference between action research and participatory action research (PAR) is the degree of participation by the

research 'participants'. PAR meets a higher standard of participation than action research in that practitioners become both subjects and co-researchers (Udas 1998).

The reflective process in PAR is directly linked to action, influenced by understanding of history, culture, and local context and embedded in social relationships, and thus power. The process of PAR should be empowering and lead to people having increased control over their lives. Baum, MacDougall and Smith (2006) argue that:

Critical theorists use critical reflection on social reality to take action for change by radically calling into question the cultures that they study. This critical edge is central to PAR. (p. 856)

PAR is grounded in maintaining the focus on the 'real world', rather than controlled environments (Kelly 2000). It is conducted in the real world and does not remove data and information from their contexts. The principles that guide PAR are action, reflection, participation and empowerment.

Action

The purpose of PAR is to enable action. Unlike some other research methods, PAR does not stop at just describing the problem, but aims to implement actions to improve the situation. Cunningham and Worley (1993) argue that research needs to be closely linked to action if organisation members use it to manage change.

Reflection

In PAR, there is a strong connection between reflection and action. Freire's concept of praxis flowed from the position that action and reflection are indissolubly united: 'reflection and action on the world in order to transform it' (Freire 1970, p. 33).

Participation

In PAR, there should be active participation of various stakeholders. However, there are different levels or modes of participation. Biggs (1989), writing in the field of agriculture, distinguished four modes of participation:

- Contractual—where people are contracted into the projects of researchers to take part in their enquiries or experiments.
- Consultative—where people are asked for their opinions and consulted by researchers before interventions are made.
- Collaborative—where researchers and local people work together on projects designed, initiated, and managed by researchers.
- Collegiate—where researchers and local people work together as colleagues with different skills to offer, in process of mutual learning where local people have control over the process (Cornwall & Jewkes 1995).

PAR should be more towards the fourth mode where researchers and participants work together as colleagues. In fact, the researcher's role in PAR changes from director to facilitator and catalyst (Cornwall & Jewkes 1995). To achieve this level of collaboration, the researcher must be sufficiently involved and knowledgeable about the organisation, have some understanding about what would be of interest, and knowledge of which individuals should be involved in discussing these (Schensul 1994).

Cornwall and Jewkes (1995) noted that in practice, movement from one mode to another may take place at different stages of the research and for different purposes. Perceptions of the level of participation may also vary between the different groups involved (Cornwall & Jewkes 1995).

Empowerment

One of the aims of PAR is the empowerment of participants. The key difference between participatory and other research methods lies in the location of power in the various stages of the research process (Cornwall & Jewkes 1995). PAR challenges traditional power hierarchies and imbalances and is 'intended to contribute to a process of shifting power' (Hall 1992). In PAR, power is deliberately shared between the researcher and the researched, with the researched becoming participants and partners in identifying the problem, analysing the information and deciding what actions should happen. PAR provides participants with the

opportunity to challenge existing systems and structures and to make changes to those systems for the good of participants. With the shifting power structure and the participation of those being researched, PAR used in an organisation can give employees a voice and may be empowering.

The empowerment of employees is not useful only to the individual but has some important benefits for the organisation. One study showed that given responsibility employees are capable of acting in the best interest of the organisation, can help to guide the course of the organisation, and recommend effective courses of action for solving organisational problems (Pasmore & Friedlander 1982).

Kelly, Burton and Regan (1994) however, disputed that empowerment and transformation will automatically result from participation. Even if participants acquire some level of understanding of the societal conditions responsible for their problems through the research process, such an experience might take place only on an individual level and should not be construed as empowerment if it does not result in capacity building to effect change.

Criticisms of PAR

With the emphasis on conducting research within organisations and 'with' participants instead of 'upon' them, one of the key criticisms of PAR is that it does not take an objective position. Action researchers are criticised for not being sufficiently detached politically, ideologically, and emotionally from what is being examined. It has been argued that as the action researcher becomes more involved in the organisation, the possibility of unbiased empirical evidence is reduced (Styhre, Kohn & Sundgren 2002). A counter argument is that this criticism addresses exactly what action researchers want to achieve, that is action, involvement and practical outcomes in the organisations studied (Cornwall & Jewkes 1995).

There is, however, a need to acknowledge that the researcher's observations are not objective and all situations are framed by various beliefs, constructs, and contexts. A large part of the research process itself is the unpacking and unearthing of those frames through which the researcher views the situation (Ladkin 2004).

It has also been questioned whether action research produces valid knowledge. In more traditional research 'valid knowledge' is described as context free and should have passed through some rigorous test of falsification (Gronhaug & Olson 1999). In defence of this criticism, it is argued that the very principles of PAR seek to enhance the rigour and robustness of the findings (Bruyère 1993).

Heale (2003) outlined three methods commonly used in action research to ensure credibility:

- Self-evaluation—the researcher reflects on their own involvement, actions, beliefs, and values and comments on how their involvement may affect the research process (Badger 2000). This recognition and exploration of bias is termed reflexivity and, whilst a key element in establishing methodological rigour, should not be at the expense of instituting change and improvement (Rolphe 1998; Schon 1987).
- Peer validation—the collaborative nature of action research ensures ongoing peer review, including both the verification of interpretation from other members of the research team as well as other outside colleagues (Badger 2000; Heale 2003).
- Learner/participant validation—those involved as participants in the study are given the opportunity to verify and comment on the data to ensure it is a true reflection of events (Badger 2000; Heale 2003).

Limitations

Lack of time is identified as one of the major limitations of PAR, particularly when resources are scarce and organisational needs are pressing (Schensul 1994). It often takes longer to complete a PAR project than other types of research. PAR projects take more time to develop trust, more time to develop knowledge and more time to develop organisational change (Hughes 2003).

PAR also requires considerable resources and from the researchers and from organisation involved. Often more than the organisation expects or can provide (Winkler 2013).

The engagement of stakeholders and developing partnerships is more difficult than much of the PAR literature seems to indicate (Winkler 2013). Mackenzie et al. (2012) note that 'the mode of engagement required of the (PAR) researcher places a much higher emphasis on the provision of information, early engagement, agreed objectives and transparency of process' than other more traditional research approaches. This is further complicated by the often 'outsider' positions of the researchers where 'unavoidable and difficult-to-manage power imbalances stemmed from' (Winkler 2013). It has also been noted that PAR sometimes leads to confusion about the roles and responsibilities of the researchers and participants. PAR researchers take the role of research partners, rather than objective researchers (Mackenzie et al. 2012).

It is also worth noting that planned change has been characterised as involving a series of steps through a rationally controlled process. However, most planned change is more chaotic, often involving shifting goals, discontinuous activities, surprising events, and unexpected change (Cummings & Worley 2008).

Why use PAR?

A review of the literature provided numerous methodologies within the action research family. The 'Back from the edge' research project used the Job Demands-Resources (JD-R) framework. Job resources are defined as the 'physical, psychological, social, or organisational aspects of the job' that may serve a motivational purpose in achieving work-related goals, reduce job demands and their resultant adverse physiological and psychological consequences, or may promote personal development (Demerouti et al. 2001). PAR was the most appropriate research method as the active participation of RANs and health centre managers would contribute to their personal development and motivation as well as influencing overall job resources at an organisational level. It could help to shift the balance of power within the study settings through organisational change.

Organisational development

Critical theory has been related to organisational change. A key aim of critical theory and organisational change and development is that researchers must engage in consciousness-raising among organisational members (Anderson 2010).

There is also a close relationship between action research and organisational development. Action research is a methodological approach for the majority of organisational development work (Anderson 2010), and many of the principles of PAR and organisational development overlap. Action linked with research is the foundation for contemporary organisation development and has guided the theory and practice of planned change for the past 60 years (Cummings & Worley 2008).

Organisational development has its roots in the numerous theories on organisational change and change management and in critical theory. The literature that describes how organisations change is vast. This literature was aimed primarily at the private sector, the core business of which is to create profit rather than improve health outcomes (Heward, Hutchins & Keleher 2007), but much of the theory can be applied to the health sector.

Lewin (1946, cited in Boshoff 2005) provided the first description of the process of change, including the phases of unfreezing (identifying the problem), moving (implementation of new strategies), and refreezing, which is the end result of the process of change and results in stability (Lewin 1946, cited in Boshoff 2005).

Porras and Silvers (1991), described organisational change as a relevant environmental shift that triggers an intentionally generated response. This intentional response is 'planned organisational change' and consists of four identifiable, interrelated components: (a) a change intervention that alters (b) key organisational target variables that then impact (c) individual organisational members and their on-the-job behaviours resulting in changes in (d) organisational outcomes.

Porras and Robertson (1992) described different types of change. Planned change versus unplanned change and what they termed 'first order' versus 'second order'

change. Unplanned change happens when the organisation responds to an unanticipated external change. The change is adaptive and often spontaneous. Planned change is a deliberate, conscious decision to improve the organisation. First order change involves continuous improvement, alterations or modifications of the organisation. Second order change is more radical, and involves fundamental changes to the organisation (Porras & Robertson 1992). Others have extended these ideas into different types or descriptions of change. Burke (2008) summarised some of the key terms used in the literature as:

- revolutionary, a sudden event *versus* evolutionary, a gradual continuous process of change
- discontinuous *versus* continuous
- episodic *versus* continuous flow
- transformational *versus* transactional
- strategic *versus* operational
- total system *versus* local option.

First order change could be classed as evolutionary while second order change is revolutionary and transformational (Porras & Silvers 1991).

Dunphy and Stace (1993) argued that organisational change demands different models of change in different circumstances. They developed a model that has two critical dimensions, the scale of change needed and the style of leadership. In the 'contingency' model (Figure 4.1) the level of direction from leaders increases with the level of change needed. They argue that a participative model is only suitable with minor change. Major changes require a more directive approach.

<i>Style of Change management</i>	Fine Tuning	Incremental adjustment	Modular Trans- formation	Corporate Trans- formation
Collaborative	Type 1 Participative evolution		Type 2 Charismatic transformation	
Consultative				
Directive	Type 3 Forced evolution		Type 4 Dictatorial transformation	
Coercive				

Figure 4.1 **The scale of change needed and the style of leadership**
(Dunphy & Stace 1993)

According to Dunphy and Stace (1993), the scale types of change are defined as:

- fine tuning. Organisational change which is an ongoing process characterised by fine-tuning of the 'fit' or match between the organisation's strategy, structure, people and processes. Deals with refining policies, methods and procedures.
- incremental adjustment. Organisational change which is characterised by incremental adjustments to the changing environment. Such change involves distinct modifications (but not radical change) to corporate business strategies, structures, and management processes.
- modular transformation. Organisational change which is characterised by major realignment of one or more departments/divisions. The process of radical change is focused on these subparts rather than on the organisation as a whole.
- corporate transformation. Organisational change which is corporation-wide, characterised by radical shifts in business strategy, and revolutionary changes throughout the whole organisation.

The corresponding styles of change leadership are:

- collaborative. This involves widespread participation by employees in important decisions about the organisation's future, and about the means of bringing about organisational change.
- consultative. This style of leadership involves consultation with employees, primarily about the means of bringing about organisational change, with their possible limited involvement in goal setting relevant to their area of expertise or responsibility.
- directive. This style of leadership involves the use of managerial authority and direction as the main form of decision making about the organisation's future, and about the means of bringing about organisational change.
- coercive. This style of leadership involves managers/executives or outside parties forcing or imposing change on key groups in the organisation (Dunphy & Stace 1993).

Other authors, however, are far more supportive of the value of participation in organisational management. Sashkin argued that 'participative management has positive effects on performance, productivity, and employee satisfaction because it fulfills the three basic human work needs: increased autonomy, increased meaningfulness, and decreased isolation' (Sashkin 1984, p. 11).

While both organisational change and organisational development are concerned with the sequence of activities, processes, and leadership issues that produce organisation improvements, they differ in their underlying value orientation (Anderson 2010). The key values of organisational development are providing opportunities for people to function as human beings rather than resources in the productive process and providing opportunities for each organisational member, as well as for the organisation itself, to develop to his or her full potential (Anderson 2010).

Key values

Anderson (2010) describes the key values in organisational development. These include participation, which should result in empowerment, the importance of groups and teams, development and learning, valuing the whole person, dialogue and coloration, and authenticity, openness and trust.

Participation, as in PAR, is a key principle of organisational development. Organisational members should be involved in decision making and developing interventions because 'people support what they help to create' (Beckhard 1969 , p. 111). However, in their review of participation in organisational development, Pasmore and Fagans (1992) argued that many of the assumptions about participation are not based on evidence. They cited Neumann (1989) who estimated that approximately two thirds of a workforce typically chooses not to participate in organisational change efforts when provided the opportunity.

Participation and non-participation is influenced by the readiness to participate by both the employee and the organisation. Participants need to be prepared adequately if participative efforts are to be successful. Individual and organisation development are inseparable and one of the goals of organisational development must be the development of the individual as well as the organisation (Pasmore & Fagans 1992). Participation by employees must be authentic, not tokenistic by organisational leaders. Increasing participation may actually be detrimental to employees if it is not genuine (Anderson 2010).

Pasmore and Fagans (1992) suggested that the readiness of the organisation to support authentic participation varies along a continuum. This continuum includes, from lowest to highest:

- control—closed to any influence from the bottom up
- commitment—open to influence that does not challenge the essential nature of the system or distribution of power within it
- alignment—a negotiated state that recognises the interests and values of both those in power and those at lower levels

- co-creation—an authentic invitation to create a system that is new to both those traditionally in power and those traditionally at lower levels
- transcendence—openness to examining the relationship of the organisation to its environment, its fundamental purpose, and even its existence.

Groups and teams are the basic building blocks of organisations (Cummings & Worley 2008). Organisational members belong to at least one (and usually more) teams. Utilising teams is therefore one key strategy in organisational development.

One of the values of organisational development is the emphasis on growth, development, and learning. Engagement with individuals and groups in an organisation should be constructed as opportunities for learning so that the organisation can learn not only to solve the immediate problem, but also to learn how problems may be addressed in the future (Anderson 2010).

Valuing the whole person

Valuing the whole person means three things. First, it means recognising that many people desire and are capable of making a greater contribution to the attainment of organisational goals than most organisations will permit. Secondly, recognising organisational members as whole people means respecting and acknowledging their emotions, including those of enthusiasm, anger and fear. Finally, respecting the whole person means acknowledging and recognising diversity and the benefits that differences bring to an organisation (Anderson 2010).

Another key value in organisational development is the creation of healthy environments that promote collaboration rather than competition. Conflict is not suppressed in organisational development but productively managed (Anderson 2010).

Factors leading to organisational development failure

Kotter (1995) argued that there have been more failures than successes in attempts at organisational change. He described a number of lessons that can be learnt from these failures. The general lessons are that the organisation change process goes

through a series of phases that require a considerable length of time. Any critical mistakes at any phase can lead to failure.

From examining numerous failures at organisational change, Kotter (1995) identified the following key errors:

1. Not establishing a great enough sense of urgency

Getting a transformational process started requires the aggressive cooperation of many individuals. Kotter stated that over 50% of the companies that he has examined fail in this phase.

2. Not creating a powerful enough guiding coalition

While the coalition rarely contains all the senior managers, in the most successful cases of organisational change the coalition is always powerful.

3. Lacking a vision

In every successful organisational transformational change, the guiding coalition develops a vision that is easy to communicate to stakeholders.

4. Under communicating the vision by a factor of 10

Kotter (1995) described three patterns with respect to communicating a vision. The first is where the vision is communicated by holding a single meeting or sending out a single communication. He suggested this uses about .0001% of the yearly intracompany communication and most people will not understand the new vision. The second pattern is when the head of the company makes speeches to groups of employees, but again most people do not get the message. In the third pattern, much more effort is made in communicating the vision through speeches and newsletters, but this is undermined by a senior manager behaving counter to the vision. Communicating the vision needs to happen through multiple avenues and be supported by the behaviour of staff.

5. Not removing obstacles to the new vision

Obstacles can include organisational structures or management who refuse to change. Action needs to be taken to address these obstacles.

6. Not systematically planning for and creating short-term wins

Transformation takes time. Without short-term wins, many people give up or actively start to resist change.

7. Declaring victory too early

Changes need to be embedded in the organisation's structure and culture. This takes time.

8. Not anchoring changes in the corporation's culture

Change sticks when it becomes 'the way we do things around here' (Kotter 1995).

Action research organisation development model

Cummings and Worley (2008, p. 25) presented an action research model of planned change (Figure 4.2). The model has eight 'steps', with the last five being repeated in a cyclical framework. A key to this model is that organisational members and researchers are 'co-learners' in diagnosing the organisation, designing changes, and implementing and assessing them. Neither group dominates the other (Cummings & Worley 2008).

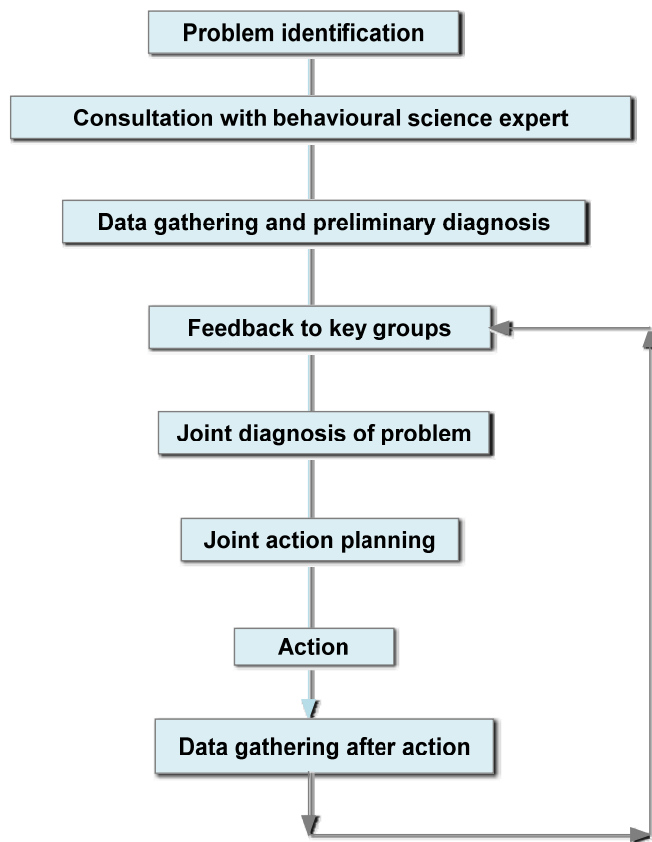


Figure 4.2 **Action research model of planned change**
(Cummings & Worley 2008)

Problem identification

This stage usually begins when an executive or someone in power in the organisation recognises that there is a problem (Cummings & Worley 2008). However, the problem may be identified by an outside source and brought to the attention of organisational leaders.

Consultation with a behavioural science expert

This is the initial meeting between the organisational development practitioner and the client or organisation. Cummings (2008) suggested that the organisational development practitioner should share with the client their developmental theory or frame of reference.

Data gathering and preliminary diagnosis

This step is usually completed by the researcher or organisational development practitioner, often in consultation with organisational members (Cummings & Worley 2008). The importance of good data gathering has been highlighted by several authors (Anderson 2010; Cummings & Worley 2008; Nadler 1977). Nadler (cited in Anderson 2010, p. 118) listed three reasons why data gathering is important. Firstly, good data collection generates 'information about organisational functioning, effectiveness and health'. It should expand the researcher's and organisational leader's knowledge of the problem. Secondly, it can stimulate interest in organisational change. Nadler (cited in Anderson 2010, p. 119) states that data 'collection can be used for consciousness raising, getting people thinking about issues concerning them and the organisation'. Finally, the process of data collection helps build relationships between organisational leaders and employees and the researchers.

The main methods of gathering data include interviews, focus groups, observations, organisational performance data, and surveys/questionnaires (Anderson 2010; Cummings & Worley 2008). Organisational performance data can provide a relatively objective view of organisational functioning and tend to be quantified and reported at periodic intervals, permitting statistical analysis. The major problem is that it can be difficult to collect. The organisation may not have the data in a form that the researcher can use (Cummings & Worley 2008).

Surveys and questionnaires have been one of the most commonly used methods of gathering data (Anderson 2010). Surveys used in organisational development are action oriented. The survey is used not just to report results and conclude the project. The researcher or change agent works closely with the organisational members on interpreting the results and planning actions to address the results (Falletta & Combs 2002).

The major advantages of using questionnaires is that responses can be quantified and easily summarised, are easy to use with large samples, are relatively inexpensive and can obtain a large volume of data (Cummings & Worley 2008). Potential problems with questionnaires are that they are impersonal and lack

empathy, the questions are predetermined so may miss some issues, and there may be a response bias (Cummings & Worley 2008).

Feedback to key groups

In this step, the data are analysed and fed back to organisational members for organisational diagnosis and development of interventions (Cummings & Worley 2008). Rensis Likert (1967) was the leader in the development of 'survey feedback'. He discovered that if the survey results were reported back just to managers, and not shared with employees, then little change happened. If shared with employees who were then involved with the developing actions, positive change occurred (Peck 2005). The feedback session is important not just to present the results, but to motivate action and direct attention to the actions that will produce the better results (Anderson 2010).

The first step in feeding back data is choosing what data should be used. Golembiewski (2000, p. 409) argued that useful data and unnecessary data need to be distinguished and that useful data can create energy towards change. He listed eight generic features of energising data.

1. Relevant: Data must be seen as relevant to the lives of members of the organisation. Some data may be relevant to the individual, such as toilets not working, but not a significant issue for organisational development project. There is a need for education to reduce the individuals 'zone of unrecognised relevance'. Consciousness raising is required to empower employees.
2. Valid and accurate: Data will have an impact to the degree that they are seen as valid and accurate. Sample size must be adequate.
3. Descriptive rather than evaluative or punitive: Data should describe the current situation but avoid being judgmental.
4. Sufficient and specific: Data should be sufficient and specific enough to make judgments with confidence.
5. Selective: Too much information can be counterproductive. It can overwhelm people causing confusion.

6. Comparable: Benchmarks that allow comparisons are valuable and can make the data real.
7. Understandable: There is no point to the feedback session if the data are not understandable, however, there often needs to be a balance between being easy to understand and the quality of the interpretation of the data. For example, including statistical significance testing may improve the quality of the data interpretation but be harder to understand.
8. Influenceable or manageable: Effective data should emphasise those things about which something can be done (Golembiewski 2000).

Cummings and Worley (2008) added a ninth element:

9. Unfinalised: Feedback should be a stimulus for action and should prompt further diagnoses.

The authors also suggested that the success of the feedback sessions lies in the level of preparation and recommended several approaches to appropriate preparation:

- Distribute copies of the report in advance.
- Think about the substantive issues in advance.
- Make sure you can answer any technical questions about the data.
- Plan your introduction.
- The main limitations to feedback include:
 - mistrust. Employees need to trust that their responses will remain confidential and that management is serious about sharing the data and solving the problems jointly.
 - unacceptable topics. There are always some topics that organisations do not want to be examined. This can constrain the feedback process, particularly if these issues are important to employees (Cummings & Worley 2008).

Joint diagnosis of problem

Organisational members and the researcher discuss the feedback and explore the underlying problems (Cummings & Worley 2008).

Joint action planning

The organisational members and the researcher agree on the actions to be taken (Cummings & Worley 2008).

Action

This involves some actual change. Most actions cannot be implemented immediately, but require a transition period (Cummings & Worley 2008).

The two steps of 'joint action planning' and 'action' may be referred to as 'interventions'. Anderson (2010, p. 175) stated that 'interventions consist of two interrelated activities, action planning, or devising an appropriate intervention strategy to address the organisation's problems and implementing the chosen interventions'. Anderson differentiated between a single event, an 'intervention activity', and a series of events that help the organisation change in progressive steps, an 'intervention strategy'. Interventions occur in an on-going system and disrupt the normal organisational processes with the objective of improving the system (Anderson 2010).

In organisational development, there are three major criteria for successful interventions. The first is the extent to which it fits the needs of the organisation, the second is the degree to which it is based on causal knowledge of intended outcomes, and the third, the extent to which it transfers change management competence to organisational members (Cummings & Worley 2008).

Data gathering after action

Because action research is a cyclical process, data should be gathered after the action to measure and determine the effects of the action and to feed back to the organisation. This may lead to rediagnosis and new actions (Cummings & Worley 2008).

Evaluation is an important and often neglected step in action research. While there are many reasons put forward why not to evaluate such as lack of resources, fear of results, and uncertainty about what to evaluate, there are good reasons to evaluate. Evaluation provides focus, it defines the actions and how they are to be measured. Evaluation also may facilitate support. Organisational members are more likely to support similar projects in the future if it can be shown to be effective. Evaluation can provide information for future change and can help both the researcher and organisational members learn and grow (Anderson 2010).

Evaluation may include process and outcome variables. Process variables relates to changes in behaviour, people and task processes. They may include motivation, decision making, group trust, participation and appropriate training (Anderson 2010). Outcome variables usually concern organisational level outputs such as productivity, quality, and employee turnover.

Various elements of the organisational development process may be evaluated, including how well the organisational development process was followed, organisational members and researcher satisfaction with the different steps, the relationship between the researcher and organisational members, and what was learnt by organisational members.

Conclusion

The aim of this study was to make organisational changes that would reduce and prevent the impact of occupational stressors in the remote area nursing workplace. Critical theory, oriented toward critiquing and changing society (Bohman 2005) was the theory underpinning this study. PAR and organisational development, both related to critical theory, formed the methodological framework of this study. Both are concerned with action, reflection, participation, empowerment and change. Cummings and Worley (2008, p. 25) presented a relevant eight step action research model of planned change that included: (1) problem identification, (2) consultation with a behavioural science expert, (3) data gathering and preliminary diagnosis, (4) feedback to key groups, (5) joint diagnosis of problem, (6) joint action planning, (7) action, and (8) data gathering after action. Data gathered and feedback to key

groups should be useful and create energy for change. To achieve this, it needs to be relevant, valid and accurate, descriptive rather evaluative or punitive, sufficient and specific, selective, comparable, understandable and influenceable or manageable (Golembiewski 2000). However, while this chapter has outlined a plan for change, the actual process tends to be chaotic with unexpected consequences. A modified PAR/organisational development model was used for this study. This model is detailed in the next chapter.

CHAPTER 5

METHODS



Bonya Airstrip Terminal
Central Australia
Northern Territory
Photo - Ciara O'Sullivan

Introduction

The methodology of this study was a combined PAR/organisational development model to develop and implement system changes within the NT DoH&F and the Katherine West Health Board (KWHB). These changes were aimed at reducing and preventing the impact of occupational stressors in the RAN workplace. Workgroups of RANs and health centre managers working in remote Indigenous communities in CA and in the Top End of the NT discussed the results from Survey 1 (Appendix A), then developed action plans (Appendix B), aimed at organisational rather than individual changes. The action plans were further work shopped with implementation committees of middle managers in CA and in the Top End. Some actions were implemented at this level; others were referred to the high level reference group, which contained senior managers, for further consideration and implementation. Three cycles of this action research were conducted over a 12-month period. Workshops were also conducted with staff at remote clinics managed by the KWHB. A draft action plan was referred to the KWHB managers for comment.

Some changes were made to the survey 1 to create survey 2 (Appendix C) and this was distributed to all nurses in very remote Australia, after the completion of the PAR workshops to evaluate the impact of the occupational stress interventions in reducing levels of occupational stress among nurses in very remote areas of the NT. Evaluation forms were also distributed at the end of each workshop to gauge the effectiveness of the process. A second survey (Appendix D), similar to Survey 2 with some adjustments, was also distributed to registered nurses at two major NT hospitals.

Ethics

Ethics approval was granted by four committees: the Central Australian Human Research Ethics Committee, the Human Research Ethics Committee of the NT DoH&F, the Flinders Clinical Research Ethics Committee, and the University of South Australia Human Research Ethics Committee. Further ethics approval was given by all committees to repeat the survey in the hospitals in the NT.

Target group and sampling frame

An intervention group and a control group were used in the research and evaluation. The intervention group was nurses working at primary health care (PHC) clinics in very remote areas in the NT who are employed by the NT DoH&F and the Katherine West Health Board. The control group was nurses working at PHC clinics in very remote communities outside the NT.

To identify the intervention group and control group, a database of all clinics and numbers of registered nurses in very remote Australia was developed. The *CRANApplus* database of remote health facilities, originally developed through the State/Territory representatives' network, was further developed to identify the number of nursing positions and all nursing sites in very remote Australia. The sites were identified through web searches of health services, mine sites, aged care and tourist facilities. The database was further refined by an expert reference group at the 2007 Council of Remote Area Nurses of Australia (CRANA, now *CRANApplus*) national conference. All health facilities that employed registered nurses in very remote communities were included in the revised database (Appendix E), and each was contacted by phone or email between August and December of 2008 to verify or obtain information about numbers of registered nurses working within their facility. All health facilities on the database were again contacted in 2010 before the distribution of the second survey to ascertain changes in numbers of clinics and registered nurses. An internet search was also conducted to find new facilities. Managers of different health services were also contacted to ensure accuracy of the clinics and nursing numbers in their area.

The population and percentage of Indigenous people in communities in very remote Australia was sourced from the 2006 census. Information on a small number of Indigenous communities found on the Australian Bureau of Statistics website was sourced from the health centres.

Participatory action research/organisational development model

The model chosen to guide the research was an adaptation of the action research organisational development model of Cummings (Cummings & Worley 2008). The redeveloped model has seven 'steps', with steps 4 to 6 being repeated in a cyclical framework. Three cycles were undertaken.

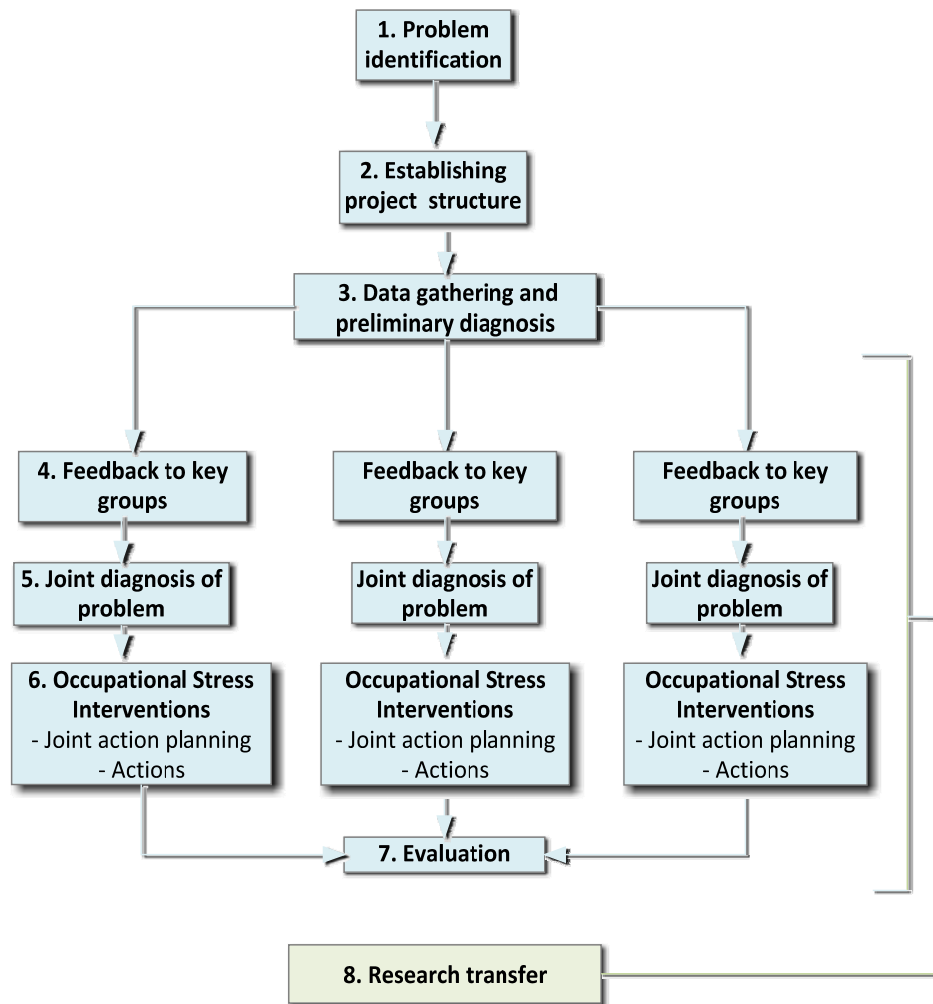


Figure 5.1 Participatory action research organisational change model

Problem identification

The identification of occupational stress among RANs as a problem evolved over a number of years. The experiences of the researchers, colleagues, members of CRAN*Aplus*, and employees of the NT DoH&F, led to a shared, increasing concern about the amount of stress experienced by RANs. After some years of discussions, this led to a partnership to address this issue.

Establishing project structure

Forming the partnerships

Extensive discussions and negotiations were undertaken with industry and professional groups before the commencement of the project. The NT DoH&F, CRAN*Aplus*, and the Commonwealth Health Department, Office of Aboriginal and Torres Strait Islander Health, agreed to be partners on a successful Australian Research Council Linkage grant. All partners committed significant monetary and in-kind contributions.

The NT DoH&F is the principal employer of RANs in the NT and was involved in the design of the study. The department made a significant monetary contribution to the study. In-kind support included time of the remote educators, travel, accommodation, and salaries for department staff attending workshops and meetings. In addition, the Principle Nursing Advisor in the NT, an employee of the DoH&F, was a principle investigator with the research team.

The Office of Aboriginal and Torres Strait Islander Health supported the inclusion of a community controlled health service as part of the project. Discussions were held with several health services. Two service providers declined to be involved, as they did not feel that they had the capacity to be involved. Katherine West Health Board agreed to be part of the project and made a commitment to:

- facilitate access to the RAN workforce and support RANs choosing to participate in this study
- form a committee to design and implement interventions in the workplace

- convene meetings of this committee three to four times per year over the four year project
- accommodate the time of RANs and senior managers to the project.

CRAN*Aplus*, the peak professional body for RANs in Australia, made a significant monetary contribution to the project, particularly generous for a small non-profit organisation. The organisation's in-kind contributions included access to the CRAN*Aplus* database, use of the CRAN*Aplus* website, their *Outback Flyer* newsletter and email bulletin system. Participation of the Bush Support Services' psychologists in the project and transport and accommodation costs of other CRAN*Aplus* personnel was also provided.

Establishing the high level reference group

The high level reference group (HLRG) was created to ensure there was capacity and commitment to implement the developed occupational stress interventions. Representatives from the NT DoH&F included the Assistant Secretary Health Services, Director of Remote Health, the Manager of Clinical Learning, the Professional Practice Coordinator and the Principal Nursing Advisor, who was also a member of the research team.

Representatives from other organisations included Aboriginal Medical Services Alliance of the Northern Territory; Support Manager, Branch Secretary and the President of the NT branch of the Australian Nursing Federation; a representative from the Office of Aboriginal and Torres Strait Islander Health; Chief Executive Officer and Clinical Quality Manager of CRAN*Aplus*; and the senior psychologist with Bush Support Services. Other members of the research team on the HLRG included the Director of the Centre for Remote Health and the author. An initial meeting was held with the HLRG at the beginning of the project. The aims and objectives of the project, partner roles and contributions, and the project design were discussed. Members requested additional information about occupational stress and this was supplied. Discussions were also held about informing stakeholders of the project and maximising the response rate of the surveys. There was an agreement to complete a one-page flyer informing remote health practitioners and stakeholders about the project and this would be distributed through the NT DoH&F newsletter,

the Australian Nursing Federation newsletter, and through the Aboriginal Medical Services Alliance of the NT network. The HLRG also agreed to the following terms of reference:

- to provide advice about the development of the survey instrument and project implementation
- to review strategies developed by workgroups and regional implementation committees, and advise on policy implications and implementation issues
- to assist with implementing these strategies and with departmental level and health service changes as appropriate
- to support the involvement of staff in the project
- to assist with dissemination of project information within the organisations represented
- to assist with ensuring that other organisational commitments to the project are delivered.

Establishing workgroups and implementation committees

Two regional implementation committees were also established, one in CA and one in the Top End of the NT. These committees comprised the middle or regional management and included the manager of regional remote health services, the Director of Nursing of remote services in each region (CA and the Top End), the nurse coordinator, nurse educator, assistant Director of Nursing, and a representative from the NT health centre managers' group. Various area managers also attended some meetings. Both CA and Top End committees agreed to the following terms of reference:

- to review results from the RAN stress survey
- to review and discuss strategies developed by workgroups, and advise on policy implications and implementation issues
- to implement actions and strategies that are able to be implemented immediately

- to provide information to the HLRG about further actions and strategies
- to support the involvement of staff in the project
- to assist with dissemination of project information within the organisations represented.

The project structure was designed to maximise engagement at all levels, to enable a bottom up approach but with input and support from middle and senior management to enable actions to be implemented. Registered nurses on the ground in very remote communities were invited to participate in workgroups. The senior nurse in each community was also the health centre manager. The project was discussed at various RAN and health centre manager forums and after feedback it was decided to form separate RAN and health centre manager workgroups to enable participants to speak freely. In the initial meetings roles and responsibilities were discussed. It was agreed that members of the workgroups would:

- review and discuss results from the survey on RAN stress
- take information back to the workplace and discuss with other staff members
- consider systematic workplace changes and develop actions that will prevent or reduce workplace stress for RANs
- forward suggested actions to the Implementation and HLRG
- feedback information to other staff at the workplace and bring their ideas to the workgroups.

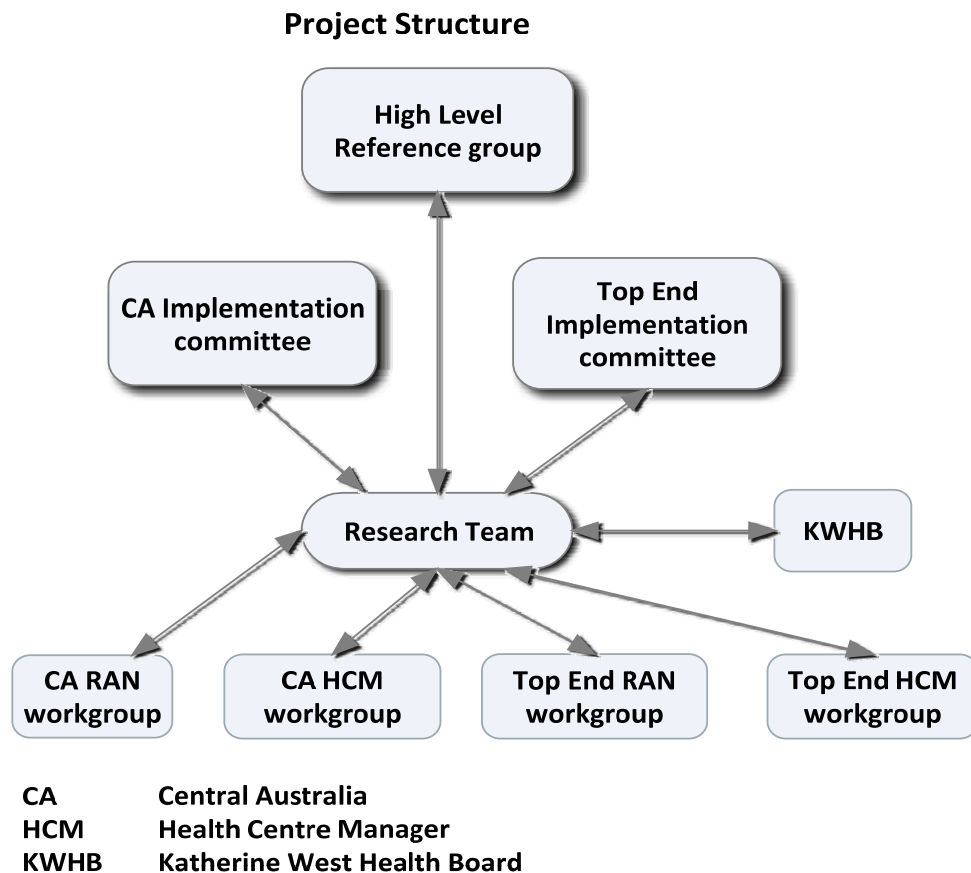


Figure 5.2 **Project structure**

Data gathering and preliminary diagnosis

Data were gathered following the Opie JD-R model (Opie et al. 2010a) as outlined in Chapter 3. This model was used to analyse stress and stressors experienced by RANs. A survey was developed to gather baseline data to measure levels of occupational stress and describe the stressors. It gathered information concerning stress among nurses in very remote Australia. The survey contained a cover letter explaining the voluntary nature of the study to potential participants, and the confidentiality and anonymity with which the data would be treated.

Maximising survey returns

Various recognised methods were adopted to maximise survey return including pre- and post-survey contact, a personalised cover letter, and a non-monetary reward in

the form of a pen and coffee bag (Pirotta et al. 1999; Temple-Smith, Mulvey & Doyle 1998; VanGeest, Johnson & Welch 2007).

Workgroups and meeting cycles

Three cycles of meetings were conducted of workgroups, implementation committee meetings, and HLRG meetings. All meetings with NT DoH&F staff were held in Alice Springs or Darwin, which required many RANs and health centre managers to travel from remote communities. It was planned that the order of the meetings would be from the bottom up, with the RAN workgroup first where initial actions were suggested, then the health centre managers workgroup where actions were considered and a draft action plan prepared. This draft plan in each region would then be referred to the Implementation groups in each region. This middle management implementation group reviewed and added to the plan and agreed to implement actions that were in their power to do so. Other actions were referred to the HLRG. The action plan was discussed at the HLRG meeting and some actions were agreed to be implemented. These decisions and comments were fed back to the workgroups and the draft action plan was again revised, further actions added and then sent to the higher committees. The final action plans are attached as appendix B.

In practice, the scheduling of meetings proved difficult to maintain in this order. In the first cycle, the CA RAN workgroup proved difficult to organise due to the number of vacant positions and the inability to arrange RANs to meet in Alice Springs. The workgroups of RANs and HCMs numbered from four for one workgroup in CA to, 30 for one workgroup in the TE. The TE workgroups generally had higher numbers than CA. Participants were mainly female, with an average age of 44. Levels of experience varied considerably from a few weeks to 15 years. In general the HCM groups had higher levels of experience. Notes and comments made during the meetings were kept in a diary of workshop meetings. Participant quotes were coded, CA (number) or TE (number).

Workshops, which generally ran for a full day, were scheduled to coincide with health centre managers or RAN meetings or in-service meetings. In the first cycle, the health centre manager's workshop in the Top End was conducted before the RAN workshop. A schedule of the workshops and meetings is displayed in Table 5.1.

Table 5.1 **Schedule of workshops and meetings**

	<i>HLRG</i>	<i>CA</i>	<i>Top End</i>
2007			
28 November	HLRG		
2009			
30 January	HLRG		
Cycle 1			
27 February		HCM workgroup	
05 March			HCM workgroup
13 March		Implementation group	
16 March			RAN workshop
17 March			Implementation group
28 April	HLRG		
Note: CA RAN group was planned and cancelled three times due to the high number of vacant positions and inability to allow RANs to meet in Alice Springs			
Cycle 2			
04 June		HCM workgroup	
12 June			HCM workgroup
19 June			RAN workgroup
30 June			Implementation committee
14 July		Implementation committee	
15 July		RAN workgroup	
Cycle 3			
14 September		Implementation committee	
18 September			HCM workgroup
05 October			Implementation committee
06 October	HLRG		
07 October			RAN workgroup
11 October		RAN workgroup	
01 December		HCM workgroup	
07 December		Implementation group	
09 December	HLRG		

CA = Central Australia; Top End = Top End region of the Northern Territory

RAN = Remote area nurse; HLRG = high level reference group; HCM = Health centre manager

Katherine West Health Board meetings

Two meetings were held in Katherine with staff of the Katherine West Health Board (KWHB). However, the time allocated was limited and while the results of the survey were reported, there was limited time to develop any interventions. Due to the difficulty with meeting RANs in Katherine, the author and another member of the research team visited the four remote KWHB communities where RANs were employed: Lajamanu, Kalkarindji (Wave Hill), Timber Creek and Yarralin. Distances

travelled in four days were vast, with Lajamanu, the most southern community, approximately 500 km from the KWHB head office in Katherine. After discussions with RANs, a draft action plan was developed and sent to KWHB management for input and comment.

Feedback to key groups

A large amount of information was gathered from the literature and through the results of the survey. The data selected to feedback to the key groups was decided by the research team, based on information considered the most useful to the audience, and most likely to provide an impetus for change. In the first cycle, a PowerPoint presentation detailing the research objectives, the research team, sources of funding, the action research process and how actions would be developed through the different levels of workgroups, implementation committees and the HLRG, as well as the make-up of these groups and terms of reference was presented to all groups. Information about occupational stress interventions and the JD-R model was also presented to participants; however, the feedback to the participants was dominated by the key results of the first survey. These results were reported in a paper published in the *Australian Journal of Rural Health* in 2010 (Opie et al. 2010a) (Appendix F). The survey results were presented in the form of graphs and PowerPoint displays to maximise understandability. The data were presented as descriptive rather than evaluative or punitive. Efforts were made to avoid appearing judgmental of health service staff.

After the first cycle, participants indicated on the evaluation form that information about the JD-R model and occupational stress interventions was not useful; therefore, it was not included.

Joint diagnosis of problem

Each group discussed the results of the survey. Participants explored the job demands that demonstrated strong correlations with levels of occupational stress. They also identified underlying reasons for the stressors that could be changed. Initially there tended to a considerable amount of debriefing regarding participants' negative experiences while working in remote Indigenous communities. When

discussions entered areas that were impossible to influence such as the geographical context of remote communities, or were of minor significance, for example, crockery in the accommodation, the discussion was redirected towards more important issues that were amenable to change. In particular, participants were encouraged to focus on system or organisational issues rather than individual ones.

Occupational stress interventions

Occupational stress interventions comprised two steps: joint action planning and implementing the planned actions.

Joint action planning

Following the bottom up approach of the project, action plans were developed by the workgroups of RANs and health centre managers. These action plans were then presented to the implementation committees in the Top End and in CA. The draft action plans were workshopped with these committees who often added to, or subtracted from, actions. A draft action plan was then presented to the HLRG, who also had input into the action plan.

However, participation from the various members of the HLRG was variable, and two members of the NT DoH&F generally made decisions as to whether the proposed actions were feasible and if they fit with the organisation's goals and objectives. As discussed above, three cycles of action planning were conducted. After the first cycle, decisions made by the HLRG were reported back to the RANs, health centre managers and the implementation committees. Decisions made by the implementation committees were reported back to the workgroups. At each stage, the action plan was workshopped and further developed.

Implementing actions

All three groups were asked to be involved in the implementation of the actions. The RANs and health centre managers were asked to consider actions that they could implement at the clinic level while the implementation committees were asked to implement actions at the regional level. Most actions were referred to the

HLRG for actioning as they often required the authority or resources controlled by this group. After the first cycle, the committees reported back to the workgroups on what action had been implemented.

Evaluation

Both process and outcome evaluations were conducted.

Process evaluation

Process evaluation included feedback about the the workshops and meetings using evaluation forms. Respondents were asked the following questions:

- Did they find the meeting engaging and interesting?
- Was their input valued? Were the facilitator/s effective?
- Did they feel committed to follow through with the action plan?
- Was the project making a difference to stress among RANs?
- Were they willing to disseminate information about the project?

Respondents were required to respond on a 5-point Likert scale, ranging from *strongly agree* to *strongly disagree*. Not all respondents completed evaluations.

Information pertaining to the process was also collected through minutes of meetings, observation of workshops and meetings, a diary of meetings, as well as interviews with key respondents, including two members of the HLRG, two members of the Top End implementation group and three members of the CA implementation group.

One section of the BFTE second survey was designed to contribute to the process evaluation of the project. Only participants who had been employees of the NT DoH&F or Katherine West Health Board between January and December 2009 were asked to answer this section. Respondents were asked if they had heard about the project, the level of their involvement in the project, and if they had discussed potential actions with colleagues or the research team. In addition, they were asked if they had attended one, two or three workshops and if they had attended an implementation committee, or none of the above.

Respondents were asked if they found the workgroups engaging and interesting, felt input was valued, were committed to follow through with action plan, had discussed the project with colleagues, and had felt listened to in the project. Responses corresponded with a 5-point scale, ranging from *not at all* to *a large extent*.

Respondents were asked their perceptions of the extent to which trust had been built and action plans had been addressed in their workplace. Responses corresponded with a 5-point scale, ranging from 0 (*not at all*) to 4 (*to a large extent*).

Respondents were also asked about line manager attitudes and actions, if they had made an effort to involve RANs and health centre managers throughout the project. If the participant's immediate manager shared whatever they knew about the project? How accessible information on the project was. Were the remote health management teams positive about the project? In addition, if respondents had the opportunity to speak with their immediate manager about the project? Responses corresponded with a 5-point scale, ranging from 1 (*not at all*) to 5 (*to a large extent*).

The above items on levels of engagement in the project, levels of trust, and line manager attitudes and actions, were adapted from evaluation of the Victorian Stress Prevention study (Dollard & Bakker 2010).

Outcome evaluation

The impact or outcomes of the study were evaluated using a further refinement (JD-R3) of the Opie JD-R model (2010) described previously. Measurements of negative outcomes were achieved by measuring occupational stress using the General Health Questionnaire-12 (GHQ-12) (Goldberg & Williams 1991), psychological distress and emotional exhaustion using the Maslach Burnout Inventory (MBI) (Maslach, Jackson & Leiter 1996) as per the Opie JD-R model. In addition to these measures, the JD-R3 model (Figure 5.3) also included

measurement of post-traumatic stress disorder (PTSD) symptoms and physical health.

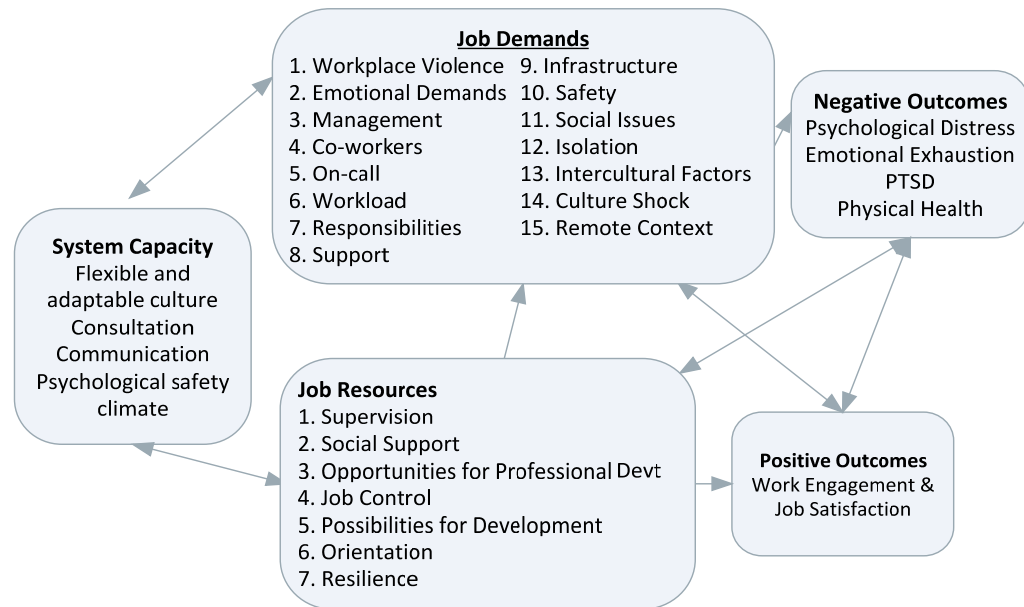


Figure 5.3 **Adapted Job demands–resources 3 (JD-R3) model**

PTSD symptoms

PTSD symptoms were assessed using the psychometric properties of the PTSD Checklist (PCL) (Weathers et al. 1993). The PCL provides a list of 17 fundamental symptoms of PTSD which are clustered into three main symptom categories, including re-experiencing symptoms (e.g. nightmares or flashbacks), hyperarousal symptoms (e.g. easily startled), and avoidance and psychic numbing symptoms (e.g. trying to avoid activities, places or people). It asked respondents to rate ‘if and how’ they were bothered by any of the listed symptoms over the past month, in relation to a traumatic experience or event. Responses correspond with a 5-point scale ranging from 1 (*not at all*) to 5 (*extremely*). Accordingly, the PCL yields a continuous measure of PTSD symptom severity.

Physical health

To measure physical health, respondents were asked how often during the past seven days they were bothered by (a) headaches, back or neck pain; (b) pain in their arms, legs or joint areas like their knee or hips; (c) muscle soreness, watery eyes, a runny nose or a stuffy head; (d) cough or sore throat, fever, chills or any other cold or flu symptoms; (e) constipation, loose bowels or diarrhoea; (f) nausea, gas or indigestion; and (g) skin infections such as sores, boils or impetigo. Responses correspond with a 4-point scale ranging from 1 (*not at all*) to 4 (*nearly every day*).

Positive outcomes

Positive outcomes included work engagement and job satisfaction, and remained the same as for the original Opie model (2010a..

Job demands

The JD-R3 RAN specific job demands included the items from the Opie model, with the addition of two others, culture shock and remote context.

Culture shock

Respondents were asked how often they experienced uneasiness about living or working in a different culture, a sense of uncertainty due to the expectations of another culture, difficulty adjusting to an unfamiliar culture, uneasiness about misunderstandings or disagreements arising from cultural differences, and felt confronted by an absence of familiar attitudes, value systems, or behaviours.

Remote context

Respondents were asked how often their work was affected by practicing in a context of social and economic inequity, complex health care needs and frequent funerals in the community.

Job resources

Job resources included those as per the Opie JD-R model (2010a) supervision, social support, opportunities for professional development, job control, and skill

development and application. In addition, orientation and resilience were included as job resources (Opie et al. 2010a).

Orientation

During the project, orientation for new RANs arose as an increasingly important issue for the RAN workgroups and implementation groups. Even though the results of the questions could not be compared between Survey 1 and Survey 2, as the orientation questions were not included in Survey 1, it was decided to include orientation as a JD-R3 resource and compare the remote samples to the hospital samples. Respondents were asked if they had received an orientation and if it was adequate for their current position to the organisation. In addition, they were asked if their orientation included adequate cultural awareness and sufficient advanced clinical skills, public health and PHC information.

Resilience

Resilience was assessed using the scale developed by Wagnild and Young (1993). Wagnild and Young's scale was based on (a) a qualitative study of older women who had adapted successfully following a major life event and (b) a thorough review of the literature on resilience up. The scale contains 25 items reflecting five characteristics of resilience:

- *Perseverance* or the act of persistence despite adversity or discouragement, connoting a willingness to continue the struggle to reconstruct one's life and remain involved in the midst of adversity. Perseverance is the ability to keep going despite setbacks.
- *Equanimity* is a balanced perspective of life and experiences and might be viewed as 'sitting loose and taking what comes', thus moderating the extreme responses to adversity. Those with equanimity often have a sense of humour.
- *Meaningfulness* is the realisation that life has a purpose and recognition that there is something for which to live.

- *Self-reliance* is the belief in one's self and capabilities. Individuals recognise and rely on their personal strengths and capabilities and draw upon past successes to support and perhaps guide their actions.
- *Existential aloneness* is the realisation that each person is unique and that while some experiences can be shared, others must be faced alone. With existential aloneness comes a sense of uniqueness and perhaps freedom (Wagnild & Young 1993).

Scores ranged from 25 to 175 with scores greater than 145 indicating *moderately high* to *high* resilience, 125 to 145 indicating *moderately low* to *moderate* levels of resilience, and scores of 120 and below indicating *low* resilience (Wagnild & Young 1993).

System capacity

A new category was developed to measure system capacity (Opie et al. 2012). System capacity was assessed by combining the 12 items that examined flexible and adaptable culture, consultation and preparation, psychosocial safety climate, and communication. Factor analysis was used to develop the scale. Responses were on a 5-point scale, ranging from 1 (*strongly agree*) to 5 (*strongly disagree*). The tool is yet to be validated but the Cronbach's alpha was 0.90, indicating sound internal consistency (Opie et al. 2012).

Flexible and adaptable culture

Respondents were asked if their organisation progresses effectively through change and challenge, and if it responds quickly and efficiently to emergency situations.

Consultation

Respondents were asked if they were adequately informed about the conditions of health care in their workplace prior to taking the position, adequately prepared for cultural sensitivity and cross-cultural awareness, involved in decision-making that affects their workplace and involved in policy development, reviews, or amendments.

Communication

Respondents were asked if they received the information they needed from colleagues and managers to perform their job effectively, and if existing communication systems between health care providers were effective.

Psychosocial safety climate

Psychosocial safety climate (PSC) is defined as 'policies, practices and procedures for the protection of worker psychological health and safety' (Dollard & Bakker 2010, p. 580). Psychosocial safety climate describes management support and commitment for psychological health and work stress prevention (Dollard et al. 2012).

Respondents were asked questions relating to issues of stress prevention and occupational health and safety; if senior management showed support for stress prevention through involvement and commitment; if participation and consultation in occupational health and safety occurred with employees, unions and health and safety representatives in their organisation; if their contributions to resolving occupational health and safety concerns regarding psychological well-being were listened to; and if in practice, the prevention of stress involved all levels of the organisation

Changes in the last 12 months

To assist in the outcome evaluation, all respondents were asked about the extent they had noticed an improvement to the management of equipment and infrastructure, to workload, to the education of RANs, in staff relief, and in the management of nurses. As with the process evaluation, only participants who had been employees of the NT DoH&F or Katherine West Health Board between January and December 2009 were asked to respond to this survey. Responses corresponded with a 5-point scale ranging from 1 (*not at all*) to 5 (*to a large extent*).

Analysis

The outcome evaluation was analysed using the Statistical Package for the Social Sciences (SPSS) for Windows, version 16, to create two data files.

Data from Survey 1 and Survey 2 were analysed and compared to determine if there had been any improvement in occupational stress positive and negative outcomes, job demands, job resources, or system capacity. Means and standard deviations were analysed using *t*-tests for differences between Survey 1 and Survey 2 for the very remote samples and the NT Hospital 1 and NT Hospital 2 and the very remote intervention and control samples were tested for any statistically significant differences between Survey 1 and Survey 2 .

In addition, respondents who were employed by the NT DoH&F or Katherine West Health Board between January and December 2009 were asked to what extent they noticed an improvement to workload, to education of nurses, in staff relief, and in the management of nurses, in the last 12 months. NT DoH&F RAN respondents who were employed for the same period were asked about improvements 'to management of equipment and infrastructure'. Responses corresponded with a 5-point scale, ranging from 0 (*not at all*) to 4 (*to a large extent*).

Limitation

A limitation of the outcome evaluation is that it was cross-sectional. Without longitudinal analysis the causal direction of the relationships could not be confirmed. Additionally, we were unable to access data from those nurses who had left their positions sometime between the two surveys.

Research translation

There was an extensive communication and dissemination strategy in six areas.

1. Initial information distribution:

- media release on success of ARC submission
- article in Flinders University newsletter
- article in CRANA*plus* newsletter
- paper presented at the 2007 CRANA conference

Lenthall, S, Wakerman ,J, Opie, T, Dollard, MF, Dunn, S & Knight, S 2007, 'Remote area nurses and occupational stress', paper presented at the CRANA silver jubilee conference, Broken Hill, 13–16 September.

- presentations at RAN and health centre manager meetings.

2. Information to participant groups:

Information sheets were distributed to the various participant groups, including the pre-survey focus group, trial survey respondents in remote clinics, questionnaire respondents in very remote, hospital respondents, partner organisations, implementation groups, and the high level reference group (Appendix G).

3. Article in the NT DoH&F newsletter:

A one-page flyer detailing information about the project was posted to all health facilities in very remote Australia (Appendix G).

4. Ongoing communication with stakeholders:

- Six-monthly 'Back from the edge' progress reports to partner organisations, CRAN*Aplus*, Katherine West Health Board and the NT DoH&F in September 2008, January 2009, October 2009, March 2010, October 2010, February 2011, the final report in October 2011.

- Annual papers at CRAN*Aplus* conferences

Opie, T, Lenthall, S, Wakerman, J, Dollard, MF, Dunn, S, Rickard, G, MacLeod, M & Knight, S 2008, 'Back from the edge: reducing and preventing occupational stress in the remote area nursing workforce', paper presented at the 26th annual CRANA conference: Australia's remote health challenge: is primary health care the answer?, Palm Cove, Queensland, 11–14 September.

Opie, T, Lenthall, S, Wakerman, J, Dollard, MF, Dunn, S, Rickard, G, MacLeod, M & Knight, S 2009, 'Back from the edge: reducing and preventing occupational stress in the remote area nursing workforce', paper presented at the 27th annual CRAN*Aplus* conference, Alice Springs, Northern Territory, 14–17 October.

Lenthall, S, Wakerman, J, Opie, T, Dollard, MF, Dunn, S, Rickard, G, MacLeod, M & Knight, S 2010, 'Back from the edge: reducing and preventing occupational stress in the remote area nursing workforce', paper presented at the 28th annual CRAN*Aplus* conference: Remote health—we're out there ... doing it, teaching it, supporting it and researching it, Adelaide, 13–16 October.

Opie, T, Lenthall, S, Wakerman, J, Dollard, MF, Dunn, S, Knight, S, Rickard, G & MacLeod, M 2010, 'Violence and remote area nurses', paper presented at the 28th annual CRAN*Aplus* conference: Remote health—we're out there ... doing it, teaching it, supporting it and researching it, Adelaide, 13–16 October.

Lenthall, S, Wakerman, J, Opie, T, Dollard, MF, Dunn, S, Knight, S, Rickard, G & MacLeod, M 2010, 'The nursing workforce in very remote Australia: characteristics and key issues', paper presented at the 28th annual CRAN*Aplus* conference: Remote health—we're out there ... doing it, teaching it, supporting it and researching it, Adelaide, 13–16 October.

Lenthall, S, Wakerman, J, Opie, T, Dollard, MF, Dunn, S, Knight, S, Rickard, G & MacLeod, M 2011, 'Back from the edge: reducing and preventing occupational stress in the remote area nursing workforce, final results, where to from here?', paper presented at the 29th annual CRAN*Aplus* conference: Supporting the full spectrum of remote health practices, Perth, 11–14 October.

Opie, T, Lenthall, S, Wakerman, J, Dollard, MF, Dunn, S, Knight, S, Rickard, G & MacLeod, M 2013, 'Resilience and RANs', paper presented at the 31st annual CRAN*Aplus* conference: From the cradle to the grave, Darwin, 25–28 September.

- Paper presented at the 11th national rural health conference (Appendix J)
- Articles in CRAN*Aplus* newsletters
- Presentations at RAN and health centre manager meetings

5. Broader dissemination of results:

- Peer reviewed articles (included as appendixes)

Opie, T, Dollard, M, Lenthall, S, Wakerman, J, Dunn, S, Knight, S & MacLeod, M 2010, 'Levels of occupational stress in the remote area nursing workforce', *Australian Journal of Rural Health*, vol. 18, pp. 235–241. **[Appendix F]**

Lenthall, S, Wakerman, J, Opie, T, Dollard, M, Dunn, S, Knight, S & MacLeod, M 2011, 'The nursing workforce in very remote Australia, characteristics and key issues', *Australian Journal of Rural Health*, vol. 19, pp. 32–37. **[Appendix H]**

Lenthall, S, Wakerman, J, Opie, T, Dollard, M, Dunn, S, Knight, S, MacLeod, M & Watson, C 2009, 'What stresses remote area nurses? Current knowledge and future action', *Australian Journal of Rural Health*, vol. 17, pp. 208–213. **[Appendix I]**

Lenthall, S, Wakerman, J, Opie, T, Dollard, MF, Dunn, S, Knight, S, Rickard, G & MacLeod, M 2011, 'Back from the edge: reducing and preventing occupational stress in the remote area nursing workforce', in G Gregory (ed.), *Proceedings of the 11th national rural health conference: Rural and remote health, the heart of a nation*, Perth, 13–16 March, National Rural Health Alliance, Canberra. **[Appendix J]**

Opie, T, Lenthall, S, Dollard, M, Wakerman, J, MacLeod, M & Knight, S 2010, 'Trends in workplace violence in the remote area nursing workforce', *Australian Journal of Advanced Nursing*, vol. 27, no. 4, pp. 18–23. **[Appendix K]**

Opie, T, Lenthall, S & Dollard, M 2011, 'Occupational stress in the remote area nursing profession', in J Langan-Fox & CL Cooper (eds), *Handbook of stress in the occupations*, Edward Elgar Publishing, Cheltenham, UK, pp. 16–30. **[Appendix L]**

Rickard, G, Lenthall, S, Dollard, M, Opie, T, Wakerman, J, MacLeod, M & Knight, S 2012, 'Organisational intervention to reduce occupational stress and turnover in hospital nurses in the Northern Territory, Australia', *Collegian*, vol. 19, no. 4, pp. 211–221. **[Appendix M]**

Dollard, MF, Opie, T, Lenthall, S, Wakerman, J, Knight, S, Dunn, S, Rickard, G & MacLeod, M 2012, 'Psychosocial safety climate as an antecedent of work characteristics and psychological strain: a multilevel model', *Work and Stress: An International Journal of Work, Health and Organisations*, DOI:10.1080/02678373.2012.734154 **[Appendix N]**

Opie, T, Dollard, M, Lenthall, S & Knight, S 2013, 'Occupational stress in remote area nursing: development of the remote area nursing stress scale (RANSS)', *Journal of Nursing Measurement*, vol. 21, no. 2, pp. 246–263. **[Appendix O]**

- Information on the CRANApus and Centre for Remote Health websites
- Opportunistic dissemination
- Progress reports to ethics committees

6. Translating research into policy:

- Regular meetings with NT DoH&F HLRG
- Meetings with Office of Aboriginal and Torres Strait Islander Health

Conclusion

A comprehensive bottom up research structure established with work groups of RANs and health centre managers referring actions to implementation committees, and then to the HLRG, which was created to ensure there was sufficient power to implement the actions. The collected data and information were fed back to the workgroups and committees, who then workshopped an action plan for implementation. Three cycles of this action research were conducted over a twelve-month period. Workshops were also conducted with staff at remote clinics managed by Katherine West Health Board. A draft action plan was referred to the managers for comment. Implementation occurred at different levels. The research methods promoted the participation of staff at the grassroots while also promoting the participation of management at different levels to facilitate the implementation of organisational interventions.

CHAPTER 6

RESULTS, JOB DEMANDS/RESOURCES AND INTERVENTIONS



Finke River
Central Australia
Northern Territory
Photo - Ciara O'Sullivan

Introduction

An analysis of occupational stress levels in the remote area nursing workforce found that nurses working in very remote Australia experience significantly higher levels of psychological distress and emotional exhaustion compared with other professional populations, including human service workers, police officers, psychiatric nurses and ward nurses (Opie et al. 2010a). The job demands most strongly associated with increased levels of occupational stress as assessed by psychological distress, emotional exhaustion and symptoms of post-traumatic stress disorder (PTSD) were: (a) emotional demands, (b) responsibilities and expectations, (c) social issues, (d) workload, (e) staffing issues, (f) poor management practices, (g) isolation, (h) workplace violence, (i) safety concerns, (j) intercultural factors, (k) infrastructure equipment, and (l) support. On-call was also considered a job demand, although there were no significant correlations with psychological distress, emotional exhaustion or symptoms of PTSD (Opie et al. 2012). The job demands have been organised into four areas: (1) the remote context, (2) workload and scope of practice, (3) management, and (4) violence and safety concerns.

Job resources associated decreased levels of occupational stress as assessed by psychological distress, emotional exhaustion and symptoms of PTSD were: (a) supervision, (b) social support, (c) opportunities for professional development, (d) job control, and (e) skill development and application (Opie et al. 2012).

This chapter presents the results of working with the workgroups of RANs, health centre managers, the implementation committees and the HLRG to develop occupational stress interventions aimed at decreasing job demands and improving job resources.

Job demands and occupational stress interventions

The working groups discussed a wide range of relevant issues and possible interventions with a view to reducing the job demands, and hence the occupational stress, for RANs. These discussions were free-flowing and often overlapped with other unrelated topics. Actions plans of occupational stress interventions were

developed for the NT DoH&F Top End and CA regions, as well as for the Katherine West Health Board (Appendix B). In order to provide clear data, the following section presents the discussions of the workgroups and the developed occupational stress interventions in relation to the JD-R3 model.

Job demands

Job demands have been organised into four groups. These groups were initially identified in Chapter 3, and after considerable analysis, remain the most logical groupings.

Remote context

While the remote context impacts on all of the job demands, a number, including emotional demands; social issues; staffing issues; intercultural factors; isolation and difficulties with equipment and infrastructure are intrinsically linked.

Emotional demands

Any job that entails working with people has emotional demands (Le Blanc et al. 2001). Nearly all participants in the workgroups agreed that working in remote Indigenous communities was more emotionally demanding than most other jobs they had previously undertaken. The poor health of Indigenous peoples, the frequency of emergencies, and the regularity of a pre-existing relationship or association between the RAN and client added weight to the emotional demands on RANs.

There are elements of emotional demands, such as the poor health of Indigenous peoples, the frequency of emergencies, and the regularity of a pre-existing relationship or association between the RAN and client that cannot be impacted on by occupational stress interventions. However, it was thought that many of the interventions developed to address other job demands, such as improved education and support, would assist the RAN to cope with these demands.

Social issues

RANs found social issues such as, establishing professional boundaries, finding time to unwind and initiating or maintaining social interaction and maintaining personal relationships very difficult. There was a feeling by many of always being at work, always being the 'nurse' and having to maintain a certain level of awareness and tension all the time:

You're always seen as the 'nurse', people are always watching and judging you, you can't be seen to be doing the wrong thing. (ca14, Lenthall 2009)

The main intervention aimed at improving social issues was to introduce internet connection in all accommodation. Again, this was a more difficult solution to implement than first thought. Internet connection is available in the workplace but not in staff accommodation. Staff may apply for a grant to get internet access installed and then they are required to pay a fee, and organising the connection takes some months. In reality this means only long-term staff, a minority, arrange for internet connection. The NT branch of the Australian Nursing Federation was approached about incorporating access to the internet in nursing accommodation as part of the award. However, to date, this has not been achieved.

Staffing issues

Some RANs reported that staffing issues had a significant impact on stress levels. Many reported significant turnover and 'orientation burnout' (Lenthall 2009). RANs and health centre managers reported being tired of continually orientating new staff:

I've been the only employed nurse in a clinic with four nursing positions. The other three positions have been filled by a continual turnover of agency staff. I've oriented 54 new nurses in 12 months and I'm over it (ca28, Lenthall 2009).

There was also concern by some RANs as to the capabilities of short-term staff and the lack of continuity of care. 'There is such a desperate need for continuity of care in Aboriginal communities' (ca7, Lenthall 2009).

They were unsure if some of the inexperienced staff could safely manage the complex health problems, or if they should go on call.

I was away for five weeks and three people died, and they shouldn't have died (te 8, Lenthall 2009).

High staff turnover and lack of staff relief were major issues and contributed significantly to many of the other job demands, including workload and responsibilities and expectations. The NT government had a policy of not having single nurse clinics. While the number of single nurse clinics had been reduced over the next two years, there were still six single nurse clinics in operation at the end of this study, all in CA. This research study highlighted this issue, and additional RANs were employed to reduce this. A strategy to employ additional numbers of RANs, to reduce workloads outside reducing single nurse clinics had significant funding implementations and did not occur.

To address the lack of relief staff, it was proposed to identify the number of relief positions required, increase the number of permanent relievers and establish regional casual pools. The idea of permanent relievers was not just to increase relief staff, but to increase continuity of staff and of delivery of health services. However, while managers at different levels expressed support for this strategy, permanent relief staff were not recruited. An effort was made to employ Remote Area Health Corp (agency staff) to return to the same community.

One key intervention was to increase the number of Aboriginal staff employed. RANs and health centre managers reported a reduction in the numbers of Indigenous Health Workers (now Indigenous Health Practitioners) employed in clinics with numerous vacancies throughout the NT. To attempt to compensate for this and maintain an Aboriginal workforce, the NT DoH&F had employed Aboriginal community workers in many communities. The issue of the reduction of Indigenous Health Practitioners was discussed at length in many of the workgroups, but this is a long term and complex issue and no clear strategies were developed.

Inter-cultural factors

Most RANs reported facing a range of challenges relating to cross-cultural environments. These include differences in language, social norms and gender roles, disparity in religious and spiritual practices, and contested values and beliefs relating to health and illness.

Being a minority in a community was a new experience for many RANs, and workgroup participants discussed their experiences of being a target of prejudice, discrimination or racism.

I got a real shock, the first time I was called a white 'C', but not sure what I was more upset over, the white or the C, (ca 21, Lenthall 2009). However, most agreed that this lessened as they developed relationships with people in the community and was balanced with the positives of living and working in another culture.

I love what I do.

I love the people and learning about the culture.

When you've moved through the culture shock, you feel like it's such a privilege to work with another culture (ca21, Lenthall 2009)

There was considerable discussion around feeling caught between western nursing practices and prevailing cultural practices. Participants discussed ethical dilemmas, where what they did may be the right thing ethically and legally following mainstream ethics and law, but was not 'right' by Indigenous law and community expectations.

I find one of the hardest things is when I get caught between white law and Aboriginal law.

I know I've made decisions that followed my professional ethics, but the community thought I'd did the wrong thing, I don't know what I could have done differently though (ca17, Lenthall 2009).

The only real interventions suggested were increased orientation and education of RANs on cultural issues. It was agreed that all RANs, including agency staff, should have a cultural orientation before they went to the community and a local

orientation in the first few weeks in the community. It was felt that this would not always solve the ethical dilemmas, but would perhaps result in improved, ethical decision making.

It won't make you an expert in the culture, but you may be able to avoid some of the cultural errors and at least know who to talk to (te17, Lenthall 2009).

Isolation

Many participants reported feeling isolated from family, friends and colleagues. Relatively minor deprivations, such as 'not being able to have a coffee at a café or being able to get a haircut', increased RANs feelings of isolation. The workgroups did report that isolation from families, friends and professional colleagues was a significant concern. The main intervention identified was the introduction of an internet connection in all accommodation as discussed above.

Equipment and infrastructure

In the workgroups, most RANs reported considerable frustration dealing with poor or damaged equipment and infrastructure. There is generally inadequate housing for RANs, which is further compounded by the cost of building in remote areas and the often poor construction that ensues. Equipment was seen sometimes as outdated:

Our resources are not of the standard they should be, we're forever improvising, it's so antiquated (te9, Lenthall 2009).

To have a piece of equipment repaired was described as often difficult and time consuming:

You send a piece of equipment into town, and you never hear about it again (te9, Lenthall 2009).

A large number of interventions dealing with infrastructure and equipment were suggested. The difficulties with infrastructure and equipment, in particular, with maintenance, caused a great deal of frustration among RANs and health centre managers. The vast distances contributed greatly to the difficulties and expense in getting equipment and infrastructure repaired.

To improve management of equipment, it was proposed to employing equipment manager, to introduce tracking system for repairs, and to make loan equipment to the same standard and model as clinic equipment. RANs and health centre managers reported waiting months for equipment to be repaired, or sending equipment into the regional centre and never finding out what happened to it. On investigation, there was a system in place, but with the turnover in staff, few seemed to be aware of it. An equipment manager was employed, and it was their role to redevelop a tracking system for repairs of equipment. It was decided that the loan equipment would gradually be improved to match that of clinic equipment. Staff had also commented about the difficulty in purchasing minor items and consumables. To purchase light bulbs, staff had to obtain and process three quotes. It was agreed that area service managers or health centre managers would have access to a credit card to purchase minor items, and this was implemented.

With infrastructure repairs, it was agreed to introduce a feedback system for minor new works. The system for minor new works involved health centre managers submitting applications to a committee. These were ranked, and only a top percentage, determined by funding levels, were funded. Health centre managers commented that they made the same submissions every year, but were often not informed about what submissions were successful. A feedback system through the area service managers was introduced.

It was also agreed that area service managers would review the system of building repairs and investigate the use of travelling teams of a plumber and an electrician. The aim was to develop a system that was more proactive and that would prevent maintenance problems rather than just reactive, and respond, often very slowly after problems have occurred. While this has been investigated, lack of funding has prevented any real change.

Some health centres in the Top End, and in the smaller centres in CA, have only one vehicle. When this vehicle goes to town, or is involved in a halfway meet (where the health vehicle drives toward town until they met the ambulance coming from town) it leaves the health centre without a vehicle. It was proposed that all health centres have a minimum of two vehicles. This was agreed to by all, but was decided to

implement gradually as funding allowed. The fit out of remote ambulances proved to be a continuous issue in the Top End, although CA workgroups did not feel it was a problem. In the Top End, there had been attempts over a number of years to standardise the fit out in the ambulance. There were three levels of fit outs. One level, equivalent to an urban ambulance, one as a bush ambulance, and one level with a fit out designed to mainly transport people with some health supplies. Unfortunately, it appeared that every time an ambulance was fitted out, it was different. In particular, there were concerns over there not being any child or baby seats in the ambulances, which forced RANs to transport children and babies unsafely. There was considerable debate about the position and type of stretcher and the position of the oxygen bottle. In some vehicles the stretcher had to be lifted to move it out, which proved difficult. What was first thought to be a relatively easy problem to fix, proved to be extremely difficult, as more than one department, and numerous individuals were involved. This is still a continuing issue.

It was agreed that accommodation needed to be increased. The lack of accommodation in many communities is acute and limits the number of on-site staff, visiting teams and the ability of health centres to take students. It was agreed with the HLRG for all members to continue to lobby for increased accommodation, but that this would be a gradual improvement.

The other area of concern was the cleanliness of the health centre and accommodation. There were numerous complaints about staff turning up to dirty accommodation, and the difficulty in keeping the health centre clean. There was also a variety of opinions about who was responsible for the cleanliness of the accommodation. It was suggested that this should be health centre managers; however, several health centre managers made it very clear that they did not want to take the responsibility for this. One intervention that has not been introduced but is being looked at is a major clean of clinics and accommodation once a year by a visiting team. It was also suggested that a bond is paid upon arrival, or a cleaning fee payable if accommodation on departure is left in an unacceptable condition. However, the logistics of implementing this has not been worked out.

Workload and scope of practice

The type of nursing practice in remote areas is unique and impacts on the level of responsibilities and expectations of the community and the employers, the workload, the difficulties with support and the on-call that RANs are required to do.

Responsibilities and expectations

Qualitative data from the workgroups indicated that there is a view among RANs that the communities and health services have unrealistic expectations that cannot be met. This is often exacerbated by the advanced practice role that RANs are required to perform without adequate professional preparation. Many workgroup participants reported this as one of their greatest stressors.

I just wasn't prepared for the advanced practice role (ca22, Lenthall 2009).

For the first four weeks, I was too scared to go out on a call out on my own (te18, Lenthall 2009).

RANs and health centre managers wanted to do a good job and the perception that they could not seem to meet the expectations of their employers and communities led to feelings of failure. There was also anger and perceptions of lack of support from managers around these unrealistic expectations.

The work they expect us to do is crazy, they expect us to do all the clinical work, handle emergencies, be on-call, and then expect us to drive the vehicle, change the tyres, do the laundry, the gardening, it's crazy (te16, Lenthall 2009).

The responsibilities and expectations are linked to the lack of orientation and inadequate education for the advanced practice roles in remote Indigenous communities. Many participants said that improved education would assist in RANs and health centre managers' better meet these expectations. There was general agreement by all groups, from the workgroups to the HLRG, to strengthen the pathways (education program for RANS) or create a new program. To facilitate this it was decided to establish a steering group to drive the strengthening program; however, this was never established.

Another intervention was to introduce more on-site educators. It was argued that in hospitals there is a nursing educator, sometimes two for each ward. In remote NT there was only one remote educator for the Top End and one for CA. There was strong support for this from the workgroups and implementation committee, however, the HLRG while they supported improving education for RANs, supported outsourcing this education rather than increasing employed educators.

Other suggested interventions included increasing the number of RANs in the Top End and having a period of one to several weeks in Royal Darwin Hospital for up-skilling. There is a group of RANs described by some RANs, although rather derogatory, as being 'rusty in'. These RANs, who are often health centre managers, have been in the community for some years, but generally have had no or little in-service or formal ongoing education. They are resistant to change and often become a block to introducing new programs such as a chronic disease management program. They find themselves in a position where it would be difficult for them to work elsewhere. It was thought that a period in a hospital would improve their transferability and would help prevent RANs from becoming rusty in.

It was also felt that lack of orientation was a key issue related to responsibilities and expectations. If employed by the NT DoH&F, new RANs may also attend the three weeks of transition to remote area nursing program conducted by the Centre for Remote Health. In contrast, other employers in the NT, including Katherine West Health Board (KWHB), require RANs to have some accident and emergency department experience and they are encouraged to complete the Remote Emergency Care (REC) course and Pharmacotherapeutics for RANs, but no formal preparation for transition to the RAN role. There were numerous areas identified by the workgroups as being vital for RANs to know. The major area identified as missing was primary health care.

They [employers] said I needed emergency skills, and as I had them, I was employed on a six month contract. But when I got here [remote NT community] most of my role was around Primary Health Care, and I didn't have a clue what I was doing (te14, Lenthall 2009).

During the course of this research project, all KWHB clinics that employed RANs were visited, and focus groups of RANs and other staff were conducted to develop occupational stress interventions. Approximately 80% of RANs employed on Katherine West Health Board communities at that time were agency staff. Several RANs commented on their lack of preparation for their role:

I really wasn't prepared at all.
I was so ignorant of what the role of a RAN actually entailed.
Before I went bush, I didn't know what I didn't know(ca6, Lenthall 2009).

Workload

The sheer volume of work is a major issue for RANs, with long working days and higher morbidity rates in many communities. The 'frontline' nature of remote area health work and the lack of medical and allied health presence dictate that nurses are subject to greater workloads. Nearly all workshop participants reported feeling overwhelmed at the volume of work they were expected to do.

You can never get on top of the workload,
You never feel like you've got the workload under control,
(CA3, Lenthall 2009).

They felt that the on-call requirements and the frequent turnover of staff exacerbated this situation. The high workload is connected to staffing levels, and staffing issues is further discussed in the next section. Another major workload issue identified by RANs and health centre managers work groups was the workload created by visiting teams. Remote communities may be served by specialist outreach teams such as cardiology, obstetrics and gynaecology, ear, nose and throat, paediatric, ophthalmology, physician, mental health, hearing health, renal etc. There are also visiting teams such as midwifery, child health, rheumatic heart disease, and a variety of allied health teams, as well as external teams such as the Fred Hollows Foundation. The workgroups have reported that many of these teams

request the use of a vehicle and an Aboriginal health professional, as well as using client equipment including the client computer. There was little coordination of team visits, with some arriving without notice and two or more arriving at the same time.

One day, we had thirty-seven visiting teams arrive at the clinic, they all wanted a car, a health worker and the use of a computer. They all think that their program is the most important, (te31, Lenthall 2009).

Workgroups suggested that visiting teams (1) be part of the expansion of the health team on the ground; (2) work with clinic team on matters that the clinic team identify; (3) schedule a set number of visits per year; (4) have their own charter and do not join the Doctors charter, the doctor's clinic is already busy; (5) ask health centre managers when is a convenient time to visit; (6) do not bring additional people without checking with the health centre managers; (7) have protocols for visiting teams established in each district; and (8) have calendars that have been negotiated sent to the health centre managers for agreement (Lenthall 2009).

A successful intervention implemented was a systematic coordination of these teams. All visiting teams must now go through a coordinator in Darwin and Alice Springs, who then liaises with the health centre managers. Reports have indicated a decrease in visiting teams just turning up, and a better understanding by visiting teams of the pressure they may place on the clinic.

Support

Support, which included clinical mentor support as well as support from the community and collaboration, had only weak correlations with the negative outcomes (Opie et al. 2010a). In the workgroups, many participants indicated the need for more support, particularly clinical support and supervision:

Remote area nursing is advanced practice, RANs, particularly new RANs need a lot of support to develop the skills needed, (ca32, Lenthall 2009)

In discussions with workgroups and the implementation committees towards the end of the study, clinical support was seen as the highest priority requiring

improvement. It was suggested by the HLRG that clinical supervision and support should be part of a health centre manager's role. However, health centre managers made it clear that they felt they did not have the time to undertake this role. Unfortunately as mentioned above, the HLRG did not support the employment of additional educators.

On-call

On-call did not demonstrate a statistically significant correlation with the negative outcomes in Survey 1, and only a weak correlation in Survey 2 (Opie et al. 2012). Workgroups indicated that on-call was more of a demand in very small teams. In larger teams, the on-call was shared among more people and so was less frequent. The main intervention developed was to increase staff to reduce on-call for each staff member. However, this has funding implications and could not be implemented.

Management

RANs and health centre managers identified management as a key issue. There was considerable discussion around management in the workgroups. Nearly all RANs reported different levels of difficulties with middle or upper management. Many felt unsupported by managers and they felt that some managers had a poor understanding of their roles as RANs. They felt that this became worse the further managers were from the 'grass roots'.

They need to ask the nurses at the grass-roots level, 'What do you need here? What services do you need?' But they don't consult. They sit in their ivory towers and they make the decisions, (te19, Lenthall 2009)

The NT DoH&F, through the Expanded Health Services Delivery Initiative funding, made a significant investment in management with the creation of the area services manager positions. Shortly after the commencement of this study, the Top End and CA regions were divided into seven and five areas respectively. New area service manager positions were created in addition to the regional management. This created an additional level of management. However, through discussions in the workgroups, most RANs and health centre managers reported management

becoming worse with the extra layer of management reducing job control particularly for health centre managers and creating confusion as to reporting lines.

I've gone from having one manager to three, I don't know who to report to (te14, Lenthall 2009).

Workshop participants were asked to describe what a good remote manager would look like. They agreed that they would be 'an experienced RAN or ex-RAN, be professional, have no tendency to gossip, demonstrated an understanding of remote area nursing at a grass-roots level, showed respect for RANs, were unbiased and a sincere listener' (Lenthall 2009).

Members of the implementation committee and the HLRG felt that at times the complaints about management were not legitimate. They felt that management was an easy target for unhappy RANs.

RANs will always complain about managers, we're an easy target, (personal communication, April 22, 2014).

However, all levels agreed that education requirements should be established for managers, and these requirements should be linked to career pathways. It was also agreed that five scholarships for health centre managers be established. However, this has not been implemented.

It was also decided to attempt to increase information from exit interviews received by management team. Departing RANs could download and complete an exit form from the health department website. However, during the cycles of workgroups, it was discovered that these forms were being collected by an office in Darwin but results were not being forwarded to any members of the management team. At a review of the BFTE implementation, members of middle management stated that they were receiving some forms, but few were being completed. Face-to-face exit interviews are also offered, although these are rarely taken up. Middle management suspect that this is due to many of the RANs flying out of their communities with little time spent in Alice Springs or Darwin. The last strategy developed was to introduce a feedback system for management by distributing an

employee opinion survey. This strategy was developed by the CA implementation committee but was never implemented.

Violence and safety concerns

Violence and safety concerns were strongly linked. Much of the safety concerns were related to violence within the community or towards the RAN.

Violence

As discussed in Chapter 3, workplace violence includes both witnessed and personal violence and there has been an increase over the last fifteen years. In the workgroups there were marked differences in participants' concerns about workplace violence. While some, particularly those who had experienced personal violence were very concerned; others did not consider workplace violence an issue at all.

I feel very safe in my community, (ca4, Lenthall 2009). You're just as much at risk in a city (ca7, Lenthall 2009).

Another participant disagreed:

Saying you're as much at risk in a city is putting your head in the sand. We're probably the only group who go out at night on call-outs on our own. We can be a target in communities where there is already high violence (te17, Lenthall 2009).

Interventions developed by workgroups and implementation committees included improved on-call phone systems and increased use of drivers at call-outs after hours. The increase use of drivers was not supported by the HLRG because of additional funding required. All groups agreed that there should be improved understanding and reporting of violent incidents by providing health centre managers and RANs with education on vicarious trauma and post-traumatic stress disorder.

Safety concerns

Safety was closely related to workplace violence as discussed above. As mentioned in the review of the literature, two-thirds of respondents of the BFTE Survey 1 (66.4%) reported that they felt concerned about their personal safety, 14.3% of

whom indicated feeling concerned about this at least once a week (Opie et al. 2010b). In the workgroups, however, RANs and health centre managers varied considerably in their concerns about their own personal safety. Those who had had a personal experience of violence viewed it as a high concern, while a number of others felt safe in their communities and were not concerned. Interventions developed were the same ones as those addressing workplace violence.

Table 6.1 summarises the occupational stress interventions associated with decreasing job demands.

Table 6.1 Summary of occupational stress interventions associated with job demands and their implementation

<i>Job demands and occupational stress interventions</i>	<i>Implemented</i>	<i>Supported by HLRG</i>
Remote context		
Emotional demands		
Improve education and orientation of RANs	No	Partly
Reduce orientation burnout	(see Responsibilities and expectations)	
Social issues		
Introduce internet connection in all accommodation	No	No
Staffing issues		
Extra positions created to reduce single nurse posts	Yes	Yes
Increase permanent relief staff	No	No
Increase number of RANs	No	No
Increase of Aboriginal staff employed, a number of Aboriginal community workers	Yes	Yes
Increase employment and training of ancillary staff including admin, cleaners and drivers	Partly	Partly
Increase relief staff by increasing own casual pool	No	No
Establish permanent reliever position	No	No
Identify relief position numbers	No	No
Advertising campaign in Alice Springs	No	No
Inter-cultural factors		
Increase orientation and education of RANs on cultural issues	Yes	Yes
Isolation		
Internet connection within accommodation	No	No
Equipment and infrastructure		
Improve management by employing an equipment manager	Yes	Yes

(Table 6.1 continued)

<i>Job demands and occupational stress interventions</i>	<i>Implemented</i>	<i>Supported by HLRG</i>
Improve feedback about minor new works by introducing feedback system	No	Yes
Improve ability of clinics to purchase minor items easily by introducing credit cards	Yes	Yes
Ensure prompt evacuations by re tender of air-medical contract (TE)	Yes	Yes
Introduce tracking system for repairs	No	Yes
Ensure loan equipment same standard as clinic equipment	No	No
Investigate travelling teams of plumber and electrician	No	No
Area service managers to review system of repairs for each area	No	Yes
Increase number of vehicles to ensure every community has 2	No	Yes
Introduce standard fit out of ambulances (TE)	No	Yes
Increase accommodation	**Yes	Yes
Lobby for additional accommodation	No	No
Increase cleanliness of clinics and accommodation with a major clean once a year by visiting teams	Gradual	Yes
RANs, visitors to pay a bond or charged a cleaning fee if accommodation left in unacceptable condition	Gradual	Yes
Health centre managers to monitor condition of accommodation	**Yes	Yes
Workload and scope of practice		
Responsibilities and expectations		
Introduce career pathway for RANs, allowing some to be learners	Yes	Yes
Strengthen pathways program (education program for RANS) or create a new program	No	No
Establish a steering group to drive the strengthening program	No	No
Introduce more on-site education	No	Yes
Employ additional remote educators	No	Yes
Increase number of RANs having a period of one to several weeks in Royal Darwin Hospital for upskilling (TE)	No	No
Ensure appropriate orientation of all RANs and reduce orientation burnout among staff by:		
– introducing buddying system for all new RANs (when possible)	No	Yes
– investigating online modules through ANF, RAHC, CRH, CRANApus	Yes	Yes
– investigating the possibility of a virtual clinic	No	Yes*
– develop orientation information for Remote Health website	Yes	?
– redevelop orientation package	Yes	Yes

(Table 6.1 continued)

<i>Job demands and occupational stress interventions</i>	<i>Implemented</i>	<i>Supported by HLRG</i>
Workload		
Increase coordination of visiting teams to reduce workload	Yes	Yes
Increase training on DoH&F electronic systems to reduce workload on filling in forms	No	Yes
Increase employment and training of ancillary staff including administration, cleaners and drivers	Yes (to a degree)	Yes
Increase number of RANs	Partly	Yes*
Support		
Increase number of remote educators, improve management, improve orientation and education	No	No
On-call		
Increase staff numbers to reduce the frequency of on-call for all staff members	No	No
Management		
Establish education requirements for managers, linked to career pathway	No	Yes
Health centre managers to undertake grad studies	No	No
Create scholarships x 5 offered to health centre managers	No	No
Increase information from exit interviews received by management team	Yes	Yes
Increase the number of RANs completing exit interviews	No	Yes
Introduce feedback system for management by distributing employee opinion survey	No	No
Violence and safety concerns		
Workplace violence		
Improve on-call systems	No	Partly
Improve understanding and reporting of vicarious trauma, PTSD for health centre managers and RANs by providing education	No	Yes
Safety concerns		
Area service managers to undertake a review of security and report to OH&S	Yes	Yes
Reintroduce managing aggression and risk management as part of orientation	No	Yes
Improve safety while on-call by:		
– installation of phone systems in all clients	?	No
– increasing, when possible, drivers for after hours on-call	No	No
Improve OH&S by introducing OH&S committee, with a senior manager on committee	No	No
Introduce Risk Man in reporting of critical incidents		

*funding dependent; **ongoing

HLRG, high level reference group; RANs, remote area nurses; ANF, Australian Nursing Federation; RAHC, Remote Area Health Corp; CRH, Centre for Remote Health; CRANApplus, Council of Remote Area Nurses of Australia plus; DoH&F, Department of Health and Families; OH&S, occupational health and safety; PTSD, post-traumatic stress disorder; TE, Top End

Job resources and occupational stress interventions

Improving the resources available to RANs was a complementary approach to reducing job demands and was discussed by the workgroups at some length. Parts of those discussions as they related to reducing job demands have been presented in the section above, however additional strategies structured according to the JD-R3 model are described in the following section.

Supervision

Supervision, both managerial and clinical, was considered to be a highly important issue by the workgroups. However, it was also one that led to considerable frustration. Workgroups found managerial support from supervisors inadequate, and clinical supervision often absent. Health centre managers stated that they were expected to supervise staff clinically but they were often overwhelmed with other tasks. The workgroups suggested that to improve clinical supervision, additional remote educators be employed, at least one other in the Top End and in CA. As reported above, this was not supported by the HLRG. Another suggested intervention was to increase management skills of health centre managers in regards to clinical and non-clinical supervision, through education. In 2012 and 2013, the federal government funded clinical supervision workshops, which a number of RAN and health centre managers attended. However, education on management and managerial education, while supported by all, has had limited implementation.

Social support

There was a variety of minor strategies suggested to improve social support, such as team barbeques. It was suggested that these strategies should be driven by each health centre and were not necessarily included as part of the action plan. The major intervention suggested was the introduction of internet access in all accommodation. At present, RANs and health centre managers can apply for and pay for network connection to their accommodation and there is a subsidy for this. However, this does take some months and many RANs commented that this was only useful when they were staying in the one accommodation for a long period.

The current system was seen as inadequate for RANs who moved around communities, relieving staff and students. While all had internet access at the clinic it was strongly suggested that the ability to communicate with relatives, friends and colleagues, would be a significant social support. However, a member of the HLRG stated that the internet company would not connect the internet in vacant accommodation and they could not organise a system where all accommodation had internet connection.

Opportunities for professional development

Many workshop participants thought that there were opportunities for professional development but also thought these could be improved.

There are some opportunities for professional development, particularly in the first year, but there are still a lot of areas where it's needed (te28, Lenthall 2009).

Interventions to improve opportunities for professional development included education for health centre managers and area service managers on management, clinical supervision, vicarious trauma, post-traumatic stress disorder (PTSD) and culture shock. There was a wide variety of educational needs identified by RANs, including an adequate orientation to the advanced practice role and cross cultural context, primary health care, public health, child and adult health.

Job control

Nearly all workshop participants reported the level of job control was excellent and they perceived this as a positive aspect about working as a RAN. The work of a RAN is advanced practice and there is a high degree of autonomy. Most thought this to be one of the main benefits of being a RAN.

That's one of the good things about working remote, you have a lot of say about what you (te18, Lenthall 2009).

There was some discussion that improved education, particularly in more specialist areas such as women's or child health would be beneficial.

Skill development and application

Workshop participants thought that their role required them to take the initiative and contributed greatly in developing high-level professional skills. As stated above, workgroup participants thought that improved education in more specialist areas would be beneficial.

Table 6.2 summarises the occupational stress interventions associated with increasing job resources.

Table 6.2 Summary of occupational stress interventions associated with job resources and their implementation

<i>Job resources and occupational stress interventions</i>	<i>Implemented</i>	<i>Supported by HLRG</i>
Supervision		
Increase number of remote educators	No	No
Improve management skills, particularly for health centre managers	No	Yes, but no scholarships
Improve clinical supervision skills for health centre managers	Yes	Yes
Social support		
Internet connection in accommodation	No	No
Opportunities for professional development		
Improve education of RANS	No	Yes, but not the employment of additional educators
Job control		
Improve education	No	Yes
Skill development and application		
Introduce career pathway for RANs, allowing some to be learners	Yes	Yes
Improve education	No	Yes

HLRG, high level reference group; RANs, remote area nurses

Priorities

The workgroups and implementation committee in CA and the Top End were asked to prioritise the occupational stress interventions if funding became available. In CA, the five highest priorities in order were: (1) permanent relief staff; (2) improved education of RANs, including adequate orientation for all staff; (3) two vehicles at each community; (4) employment of an equipment manager; and (5) increased

staff, especially Aboriginal staff at clinic level. The Top End workgroups and implementation committee agreed on six priorities: (1) adequate staff; (2) a second vehicle in each community with standard basic fit out of ambulances; (3) increased accommodation; (4) increased permanent relief pool; (5) improved education for RANs; and (6) internet access in all accommodation. Unfortunately, staff employed with the Katherine West Health Board were not able to meet to prioritise the interventions.

Within the DoH&F, an equipment manager has been employed and there have been some gains with the other priorities. While there were no permanent relief staff employed in CA, a strategy of employing the same casual person, to relieve at the same community has been introduced. This is similar to the relief pool in the Top End, which had been expended. Both CA and Top End prioritised improved education for RANs. While minimum education requirements have been set for employed RANs in the NT DoH&F, this is an ongoing priority. There have been a number of additional vehicles purchased, but more are needed, and it is hoped that more will be purchased as funding becomes available. As with vehicles, increased accommodation is gradual as funding becomes available. The need continues to outstrip the supply. The introduction of Aboriginal community workers has increased the overall employment of Aboriginal people within the DoH&F, but workgroups reported there was still a shortage of Aboriginal people in the clinics.

Aboriginal health workers are vital to providing good care, but there are some RANs in CA who have never worked with a health worker (ca4, Lenthall 2009).

There has been no progress on achieving internet access in all accommodation.

Conclusion

RANs and health centre managers were engaged, developed multiple, sensible interventions and prioritised them. Only some interventions were supported by senior management and implemented. The next chapter will explore the impact of the interventions that were implemented and the final chapter will explore the

reasons why this project was only partially successful in reducing and preventing RAN stress.

The main occupational stress interventions developed involved ensuring adequate staff, particularly additional Aboriginal staff, improving continuity of staff and improving orientation and education of RANs. To improve education, the employment of additional educators was seen as necessary by the workgroups and the development of a career structure with an educational pathway for RANs. To improve infrastructure an increase in accommodation and of appropriate vehicles were seen as important interventions. To improve support and social issues, the introduction of the internet in all accommodation was considered necessary.

CHAPTER 7

EVALUATION RESULTS



Far West MacDonnell Ranges
Central Australia
Northern Territory
Photo - Ciara O'Sullivan

Introduction

The PAR/organisational development process was assessed through evaluations of the RAN, health centre managers' workshops, and the implementation committee meetings. Evaluation reports were compiled for the Top End RANs, CA RANs, Top End health centre managers, CA health centre managers, and the Top End and CA implementation committees. The process evaluation results also include the results of questions asked only of the intervention groups, for example, their level of involvement in the BFTE study, whether trust had been built, if the action plans been implemented, and the line managers' attitudes and actions during the project.

As described in the Methods section, to evaluate the impact or outcomes of the organisational change, data were analysed from Surveys 1 and 2. This chapter presents the survey return rates and the representativeness of the samples. It also presents the results of the analysis to determine if there had been any decrease in job demands, increase in job resources or improvement in system capacity between Survey 1 and Survey 2. The results from the hospital samples were also compared with the NT RAN samples.

The results are organised following the JD-R3 model. The means and standard deviations were *t*-tested for differences between Survey 1 and Survey 2 of total for the very remote samples and the NT Hospital samples. The resources available to the very remote intervention sample were compared to those for the very remote control samples for any statistically significant differences between Survey 1 and Survey 2. In addition, the evaluation of outcomes includes the results of questions asked only of the intervention groups regarding improvements in the previous 12 months.

The chapter also details the research translation and dissemination of the project findings, from the initial dissemination of information about the project, to information to participants, through on-going communication with stakeholders to conference papers and journal articles.

Process evaluation

In general, respondents to the workshop evaluations, conducted immediately afterwards were very positive. Forty-five respondents to the evaluation form following the workshops (95.7%) agreed or strongly agreed that they were committed to following through on the action plan. Thirty-five respondents (95%) agreed or strongly agreed that they were willing and able to disseminate information about project. Only three respondents were undecided about this. All fifty-five respondents agreed or strongly or strongly agreed that the facilitators were effective.

Nine participants (32%) were undecided or disagreed that they felt they could apply the JD-R model to develop action plans to reduce stress in the work place. A few (11%) were undecided that the project would reduce RAN stress. Although not part of the evaluation form, several members of the different workgroups expressed a level of scepticism from participants of the workgroups about whether they would be listened to by senior management.

Top End RANs' workgroups

Top End RANs found the positive aspects of the workshop included meeting and getting to know RANs from other communities; the ability to discuss and debrief; to identify and share experiences, similar problems, pressures and stressors with other workgroup members; and to address concerns about stress in the workplace. Some commented that it was 'a relief to know that others were having similar experiences'. See Table 7.1. It was noted that the facilitator listened to what was being said and was willing to enter all suggestions into the action plan. One participant commented that it 'was the best meeting I'd gone to for years'.

Negative aspects included not enough time to discuss everything and that the room was too cold. In response to the question, 'How could these workgroup meetings be improved?' Top End RANs suggested more time or more, regular meetings. One participant stated:

The day started out for me when I thought 'what the...?' Then it became more interesting and we were able to have our say.

Probably too much on my behalf but hey, where else can I say it?

Two participants questioned if the workshops would actually result in any change.

Table 7.1 Top End RANs' workshop evaluations

	<i>Strongly agree</i>		<i>Agree</i>		<i>Undecided</i>		<i>Disagree</i>		<i>Strongly disagree</i>	
	<i>N</i>	<i>%</i>	<i>N</i>	<i>%</i>	<i>N</i>	<i>%</i>	<i>N</i>	<i>%</i>	<i>N</i>	<i>%</i>
I understand what the 'Back from the edge' project is about.	7	70	3	30	–	–	–	–	–	–
The education material helped me understand the causes and impact of stress.	5	56	4	44	–	–	–	–	–	–
I feel I can apply the JD/R model to develop action plans to reduce stress in the work place.	2	25	4	50	2	25	–	–	–	–
I am confident I understand my role as a member of the workgroup.	7	70	3	30	–	–	–	–	–	–
I found the workshop engaging and interesting.	8	80	2	20	–	–	–	–	–	–
I feel committed to follow through with the action plan.	6	67	3	33	–	–	–	–	–	–
I am able and willing to disseminate information about the project to clinic team members and other health centre managers.	4	40	6	60	–	–	–	–	–	–
I found the facilitators effective.	10	100	–	–	–	–	–	–	–	–
My input was valued.	1	–	–	–	–	–	–	–	–	–
The project is making a difference to the stress of RANs.	–	–	1	–	–	–	–	–	–	–

N = number; RANs = remote area nurses

Central Australia RANs' workshops

CA RANs found the positive aspects of the workshop to be the robust discussion, of being listened to, having input into ideas for improvement of retention of RANs, and networking with other RANs. They found the experience of the workshop cathartic, and felt that everyone's opinion was valued. One participant found the workshop 'a bit boring', while others felt there was 'not enough time' to discuss everything.

In response to being asked 'What could be improved?' CA RANs suggested 'having remote management representative to humbug (a term used in the Territory

meaning to confront and annoy) on the spot, more time and perhaps some pre-readings'. Other comments included:

Just enjoyed the natural flow and the validation and listening ear of group and facilitator.

Would be wonderful to see positive changes.

I was not looking forward to the day but found it to be very good.

Table 7.2 Central Australia RANs workshop evaluations

	<i>Strongly agree</i>		<i>Agree</i>		<i>Undecided</i>		<i>Disagree</i>		<i>Strongly disagree</i>	
	<i>N</i>	<i>%</i>	<i>N</i>	<i>%</i>	<i>N</i>	<i>%</i>	<i>N</i>	<i>%</i>	<i>N</i>	<i>%</i>
I understand what the 'Back from the edge' project is about.	3	50	3	50	–	–	–	–	–	–
I found the workshop engaging and interesting.	3	50	3	50	–	–	–	–	–	–
I feel committed to follow through with the action plan.	3	50	2	33	1	17	–	–	–	–
I am able and willing to disseminate information about the project to clinic team members and other health centre managers.	1	17	3	50	2	33	–	–	–	–
I found the facilitators effective.	5	83	1	17	–	–	–	–	–	–
My input was valued.	4	67	2	33	–	–	–	–	–	–
The project is making a difference to the stress of RANs.	–	–	5	83	1	17	–	–	–	–

N = number; RANs = remote area nurses

Top End health centre manager workshops

Top End health centre managers found the positive aspects of the workshop included the acknowledgement of stress in being a RAN, the open discussions, the interaction, the constructive sharing of ideas, problems and experiences. They appreciated the opportunity to have input and to put forward ideas to make changes. They also felt that some good suggestions had been made (see Table 7.3).

One health centre manager stated it was another opportunity to:

raise repetitive concerns that we have been raising with the department [NT DoH&F] before and got nowhere.

They found the negative aspects to be the ‘cold room’, not all health centre managers being able to attend, and the lack of time. One participant felt that they have ‘had these conversations before’.

In response to ‘How could these workshops be improved?’, health centre managers suggested more time, more regular meetings, and turning all the mobiles off. Other comments included ‘let’s hope this helps create real change’, and ‘keen to know outcomes’.

Table 7.3 Top End health centre managers’ workshop evaluations

	<i>Strongly agree</i>		<i>Agree</i>		<i>Undecided</i>		<i>Disagree</i>		<i>Strongly disagree</i>	
	<i>N</i>	<i>%</i>	<i>N</i>	<i>%</i>	<i>N</i>	<i>%</i>	<i>N</i>	<i>%</i>	<i>N</i>	<i>%</i>
I understand what the ‘Back from the edge’ project is about.	8	57	6	43	–	–	–	–	–	–
The education material helped me understand the causes and impact of stress.	6	43	8	57	–	–	–	–	–	–
I feel I can apply the JD-R model to develop action plans to reduce stress in the work place.	1	7	6	43	6	43	1	7	–	–
I am confident I understand my role as a member of the workgroup.	7	50	7	50	–	–	–	–	–	–
I found the workshop engaging and interesting.	9	64	5	36	–	–	–	–	–	–
I feel committed to follow through with the action plan.	5	36	8	57	1	7	–	–	–	–
I am able and willing to disseminate information about the project to clinic team members and other health centre managers.	7	50	6	43	1	7	–	–	–	–
I found the facilitators effective.	9	64	5	36	–	–	–	–	–	–

N = number

Central Australia health centre managers’ workshops

CA health centre managers found the positive aspects of the workshops to be the open, receptive and honest discussions about stressors, pitfalls of being a RAN and

management issues. One health centre manager found the workshop to be an ‘eye-opener’; it raised issues they have not been aware of. Suggestions for improvements included 2–3 workshops per year and more health centre managers involved or more regular meetings. (Table 7.4)

Table 7.4 Central Australia health centre managers’ workshop evaluations

	<i>Strongly agree</i>		<i>Agree</i>		<i>Undecided</i>		<i>Disagree</i>		<i>Strongly disagree</i>	
	<i>N</i>	<i>%</i>	<i>N</i>	<i>%</i>	<i>N</i>	<i>%</i>	<i>N</i>	<i>%</i>	<i>N</i>	<i>%</i>
I understand what the ‘Back from the edge’ project is about.	3	75	1	25	–	–	–	–	–	–
The education material helped me understand the causes and impact of stress.	1	25	3	75	–	–	–	–	–	–
I feel I can apply the JD/R model to develop action plans to reduce stress in the work place.	1	25	3	75	–	–	–	–	–	–
I am confident I understand my role as a member of the workgroup.	1	25	3	75	–	–	–	–	–	–
I found the workshop engaging and interesting.	4	100	–	–	–	–	–	–	–	–
I feel committed to follow through with the action plan.	3	75	1	25	–	–	–	–	–	–
I am able and willing to disseminate information about the project to clinic team members and other health centre managers.	4	100	–	–	–	–	–	–	–	–
I found the facilitators effective.	4	100	–	–	–	–	–	–	–	–

N = number

There were little differences with the results of the evaluations between the Top End and CA. Participants in CA (22%) were slightly less willing to disseminate information about the project than participants in the Top End (4%) are, however, numbers were small and no conclusion can be made.

Top End implementation committee workshops

The Top End implementation committee found the positive aspects of the workshop to be the awareness of the possible stressors in a remote nursing environment, the commitment by everyone to input to identify and improve issues for remote staff, the interaction and the feedback from the RANs and health centre

managers. They felt that all participants were able to have input. Two participants felt that the workshop was too long, while four participants felt more time was needed. Some participants felt that the implementation committee workshops could be improved if there was a full complement of participants. (Table 7.5)

Table 7.5 Top End implementation committee workshop evaluations

	<i>Strongly agree</i>		<i>Agree</i>		<i>Undecided</i>		<i>Disagree</i>		<i>Strongly disagree</i>	
	<i>N</i>	<i>%</i>	<i>N</i>	<i>%</i>	<i>N</i>	<i>%</i>	<i>N</i>	<i>%</i>	<i>N</i>	<i>%</i>
I understand what the 'Back from the edge' project is about.	6				–	–	–	–	–	–
I found the workshop engaging and interesting.	5		2		–	–	–	–	–	–
I feel committed to follow through with the action plan.	5		2		–	–	–	–	–	–
I am able and willing to disseminate information about the project.	6				–	–	–	–	–	–
I found the facilitators effective.	4		2		–	–	–	–	–	–
My input was valued.	5		1		–	–	–	–	–	–
The project is making a difference to the stress of RANs.	4		4		–	–	–	–	–	–

N = number; RANs = remote area nurses

Central Australia implementation committee workshops

The CA implementation committee found the positive aspects of the workshops to be seeing results of surveys and talking about the impact, the openness and the ability to speak freely; the practical ideas, the three rounds of the meetings which gave time for discussions and to progress issues and potential actions.

Negative aspects were that there seemed to be a lot to get through and time was limited. The committee thought the workshops could be improved with more time to consider issues and actions in greater detail and if more of the committee could have attended (Table 7.6). Other comments included:

Be good to see the progression of these ideas both up and down the chain and great to be part of fixing the problems rather than just describing it.

The evaluations were very similar between the Top End and CA.

Table 7.6 **Central Australia implementation committee workshop evaluations**

	<i>SA</i>		<i>Agree</i>		<i>Undecided</i>		<i>Disagree</i>		<i>SD</i>	
	<i>N</i>	<i>%</i>	<i>N</i>	<i>%</i>	<i>N</i>	<i>%</i>	<i>N</i>	<i>%</i>	<i>N</i>	<i>%</i>
I understand what the 'Back from the edge' project is about.	5	63	3	37	–	–	–	–	–	–
The education material helped me understand the causes and impact of stress.	–	–	8	100	–	–	–	–	–	–
I feel I can apply the JD/R model to develop action plans to reduce stress in the work place.	1	12	7	87	–	–	–	–	–	–
I am confident I understand my role as a member of the implementation group.	3	37	5	63	–	–	–	–	–	–
I found the workshop engaging and interesting.	5	63	3	37	–	–	–	–	–	–
I feel committed to follow through with the action plan.	6	75	2	25	–	–	–	–	–	–
I am able and willing to disseminate information about the project.	2	25	6	75	–	–	–	–	–	–
I found the facilitators effective.	4	50	4	50	–	–	–	–	–	–
My input was valued.	2	100	–	–	–	–	–	–	–	–
The project is making a difference to the stress of RANs.	1	50	–	–	1	50	–	–	–	–

SA, strongly agree; SD, strongly disagree; N, number; RANs, remote area nurses

Involvement in project

As detailed in the Methods chapter, one section of the BFTE second survey was designed to contribute to the process evaluation of the project. Results demonstrated that most respondents had heard about the project. Less than half of respondents (47%) had discussed potential actions with colleagues while about a quarter had discussed actions with members of the research team. Most (56%) who had attended workshops had only attended one, while smaller numbers (44%) attended two or three workshops. (Table 7.7)

Table 7.7 **BFTE Survey 2 respondents' involvement in project**

<i>Involvement in project</i>	<i>Number</i>	<i>%</i>
Heard about the project	47	39
Discuss potential actions with colleagues	21	17
Discussed actions with research team	12	10
Attended 1 workshop	15	12
Attended 2 workshops	6	5
Attended 3 workshops	6	5
Attended implementation committee	6	5
None of above	74	61
Total	121	100

Responses to Survey 2, two to twelve months after the completion of the workshops indicated that most participants, 87% (36) found the workgroups engaging and interesting. The majority, 80% (33) thought their input was valued and 78% (32) of participants were committed to following through with the action plan. Whilst 90% (37) had discussed the study with colleagues and 80% (33) thought they had been listened to. (Table 7.8)

Table 7.8 BFTE Survey 2 respondents' involvement in workshops

	<i>Not at all</i>	<i>Not very much</i>	<i>To some extent</i>	<i>Somewhat</i>	<i>To a large extent</i>	<i>Total</i>
Involved in workgroups	18	5	7	4	7	41
Found workgroups engaging and interesting	10	5	6	4	11	36
Felt input was valued	8	5	3	8	9	33
Committed to follow through with action plan	6	7	6	7	6	32
Discussed project with colleagues	8	3	5	12	9	37
Felt listened to in the project	13	7	3	6	4	33

The majority (51%) of respondents felt that the project had built trust 'not at all' or 'not very much'. A majority (79%) felt that action plans had not been addressed or had not been addressed very much.

Table 7.9 BFTE Survey 2 respondents, actions implemented

	<i>Not at all</i>		<i>Not very much</i>		<i>To some extent</i>		<i>Somewhat</i>		<i>To a large extent</i>		<i>Total</i>	
	<i>No.</i>	<i>%</i>	<i>No.</i>	<i>%</i>	<i>No.</i>	<i>%</i>	<i>No.</i>	<i>%</i>	<i>No.</i>	<i>%</i>	<i>No.</i>	<i>%</i>
<i>To what extent ...</i>												
Has trust been built	15	41	11	30	9	24	2	5	–	–	37	100
Have action plans been addressed	15	41	14	38	6	16	1	2.5	1	2.5	37	100

Table 7.10 BFTE Survey 2 respondents, line manager attitudes and actions

<i>To what extent ...</i>	<i>Not at all</i>		<i>Not very much</i>		<i>To some extent</i>		<i>Somewhat</i>		<i>To a large extent</i>		<i>Total</i>	
	<i>N</i>	<i>%</i>	<i>N</i>	<i>%</i>	<i>N</i>	<i>%</i>	<i>N</i>	<i>%</i>	<i>N</i>	<i>%</i>	<i>N</i>	<i>%</i>
Has the remote health management team (Top End, CA, Katherine West Health Board) made an effort to involve RANs throughout the Back from the Edge project?	6	16	8	22	13	35	6	16	4	11	37	100
Has the remote health management team (Top End, CA, Katherine West Health Board) made an effort to involve health centre managers throughout the Back from the Edge project?	7	19	8	22	14	38	4	11	4	11	37	100
Did your immediate manager share whatever he/she knew about the Back from the Edge project?	12	33	9	25	9	25	3	8	3	8	36	100
Was information concerning the Back from the Edge project accessible?	4	11	9	25	9	25	9	25	5	14	36	100
Was the remote health management team positive about the Back from the Edge project?	4	11	9	26	12	35	4	11	5	14	34	100
Have you had the opportunity to speak with your immediate manager about the Back from the Edge project?	13	36	7	19	8	22	5	14	3	8	36	100

N = number

CA, Central Australia; RANs, remote area nurses

The majority of participants (62%) thought that the remote health management team (Top End, CA and Katherine West Health Board) made an effort 'to some extent' or 'to a large extent' to involve RANs and health centre managers throughout the project. However, the majority (58%) perceive their immediate manager shared what they knew about the project 'not at all' or 'not very much'. The majority (64%) did find information was accessible 'to some extent' or 'to a large extent', but most (55%) did not have much of an opportunity to speak with their immediate manager about the project. (Table 7.10)

Outcome evaluation

To evaluate the outcomes of the study, the two BFTE surveys were analysed to determine if there had been any improvement in occupational stress, decrease in job demands, increase in job resources or improvement in system capacity. The results from the hospital samples were also compared with the NT RAN samples. The results are organised following the JD-R3 model, detailed in the methodology. The means and standard deviations were tested for changes between Survey 1 and Survey 2 of the combined very remote samples as compared with the combined NT hospital sample. Resources were tested for any statistically significant changes between Survey 1 and Survey 2 in the very remote intervention group as compared with the control group. In addition, the evaluation of outcomes included the results of questions regarding improvements in the previous twelve months, which were asked only of the intervention groups.

Survey returns

Survey 1

Three hundred and forty-nine (349) nurses working in very remote Australia participated in the study, generating an overall response rate of 34.6%. The majority of respondents from this sample were female (88.5%), with ages ranging from 20 to 68 years ($m = 44 \pm 11$).

The response rate for nurses working in major hospitals was lower (17.6%). Two hundred and seventy-seven (277) nurses comprised this sample; 89.6% were female, ranging in age from 22 to 71 years ($M = 42$, $SD = 11$). (Table 6.1)

Survey 2

Four hundred and forty-four (444) nurses working in very remote Australia participated in the study, generating an overall response rate of 44%. In NT Hospital 1, the second survey was distributed to 820 registered nurses with 173 returned, generating a return rate of 22%. In NT Hospital 2, the survey was distributed to 432 registered nurses with 133 returned, generating a return rate of 30.7%. (Table 7.11)

Table 7.11 **BFTE survey returns**

	<i>Number sent</i>	<i>Number returned</i>	<i>Percentage returned</i>
NT Hospital 1, Survey 1	750	103	13.7
NT Hospital 1, Survey 2	820	173	22.0
NT Hospital 2, Survey 1	350	75	21.4
NT Hospital 2, Survey 2	432	133	30.8
Total Very Remote Survey 1	1009	349	34.2
Total Very Remote Survey 2	1009	444	44.0
NT Very Remote Survey 1	256	105	41.0
NT Very Remote Survey 2	291	156	53.6
QLD Very Remote Survey 1	311	98	31.5
QLD Very Remote Survey 2	296	106	35.8
SA Very Remote Survey 1	72	33	45.8
SA Very Remote Survey 2	71	37	52.1
WA Very Remote Survey 1	324	92	28.4
WA Very Remote Survey 2	312	125	40.0

NT, Northern Territory; QLD, Queensland; SA, South Australia; WA, Western Australia

Representativeness of the samples

The representativeness of the very remote sample obtained at Survey 1 ($N = 349$) was assessed in comparison with the wider RAN population identified in the database. The proportions of responses from each state and territory were representative of overall workforce distribution. The proportions of the Survey 1 sample working in very remote clinics and other very remote facilities across

Australia were also representative of proportions within actual health care settings. Comparisons between Survey 1 respondents in the NT to a sample of RANs who participated in a NT study of nurse and midwife mobility (Garnett et al. 2008) were also assessed and revealed no significant differences in age distribution and gender distribution (Opie et al. 2010b).

The very remote sample at Survey 2 were representative of the original sample by gender (non-significant chi-square tests) and age (non-significant unrelated samples *t*-test), with the exception that workers were slightly older in the Survey 2 sample (Opie et al. 2010a).

Negative outcomes

Psychological distress

There was no significant difference between the psychological stress scores in either Survey 1 or Survey 2 for very remote nurses and those in either NT hospital, although the difference between very remote and NT Hospital 1 in Survey 1 approached significance ($p = 0.059$). There was no significant change in psychological distress scores for nurses in Very Remote between Survey 1 and Survey 2. Scores for nurses in the two major hospitals were lower in Survey 2 than in Survey 1. This change was significant in NT Hospital 1 (Tables 7.12 and 7.13).

Table 7.12 Psychological distress, Very Remote and NT hospitals

<i>Psychological distress GHQ</i>	<i>Very Remote</i>		<i>NT Hospital 1</i>		<i>NT Hospital 2</i>	
	<i>Survey 1</i>	<i>Survey 2</i>	<i>Survey 1</i>	<i>Survey 2</i>	<i>Survey 1</i>	<i>Survey 2</i>
Number	342	426	71	133	101	166
Mean	12.92	12.53	14.52	12.33	13.74	12.30
Std deviation	7.80	5.95	6.21	5.75	6.44	5.65
Sig.	$p = 0.44$ n/s		$p = 0.013^*$		$p = 0.057$ n/s	

n/s, not significant, *significant

Higher numbers = higher psychological distress

Scale 0–24

Table 7.13 **Psychological distress, NT samples and control groups**

<i>Psychological distress GHQ</i>	<i>Top End</i>		<i>CA</i>		<i>KWHB</i>		<i>Control</i>	
	<i>Survey 1</i>	<i>Survey 2</i>	<i>Survey 1</i>	<i>Survey 2</i>	<i>Survey 1</i>	<i>Survey 2</i>	<i>Survey 1</i>	<i>Survey 2</i>
Number	34	57	27	26	6	6	62	88
Mean	13.58	13.12	11.56	12.58	14.17	14.88	12.08	11.56
Std. deviation	7.08	6.94	5.27	6.23	5.91	5.55	5.31	5.10
Sig.	$p = 0.813$ n/s		$p = 0.522$ n/s		$p = 0.835$ n/s		$p = 0.546$	

n/s, not significant

CA, Central Australia; KWHB, Katherine West Health Board

Higher numbers = higher psychological distress

Scale 0–24

Emotional exhaustion

All groups had moderate to high levels of emotional exhaustion at Survey 1. In particular, both NT hospitals had extremely high levels. Both hospitals showed a statistically significant decrease in emotional exhaustion in Survey 2. There was no significant change in Very Remote samples (Tables 7.14 and 7.15).

Table 7.14 **Emotional exhaustion, Very Remote and NT hospitals**

<i>Emotional exhaustion</i>	<i>Very Remote</i>		<i>NT Hospital 1</i>		<i>NT Hospital 2</i>	
	<i>Survey 1</i>	<i>Survey 2</i>	<i>Survey 1</i>	<i>Survey 2</i>	<i>Survey 1</i>	<i>Survey 2</i>
Number	342	443	101	170	71	131
Mean	23.81	22.34	28.94	20.77	28.24	23.89
Standard deviation	14.04	13.93	13.93	11.47	15.79	13.62
Sig.	$p = 0.144$ n/s		$p < 0.0001^{**}$		$p = 0.0174^{*}$	

n/s, not significant, *significant, **highly significant

Higher numbers = higher emotional exhaustion

Scale 0–30

Table 7.15 **Emotional exhaustion, NT samples and control groups**

<i>Emotional exhaustion</i>	<i>Top End</i>		<i>CA</i>		<i>KWHB</i>		<i>Control</i>	
	<i>Survey 1</i>	<i>Survey 2</i>	<i>Survey 1</i>	<i>Survey 2</i>	<i>Survey 1</i>	<i>Survey 2</i>	<i>Survey 1</i>	<i>Survey 2</i>
Number	33	62	29	27	6	8	63	88
Mean	20.82	20.01	25.33	20.59	27.31	22.05	21.42	20.11
Std. deviation	14.02	12.76	14.66	11.97	12.65	12.91	12.62	12.13
Sig.	$p = 0.7766$ n/s		$p = 0.193$ n/s		n/s		n/s	

n/s, not significant

CA, Central Australia; KWHB, Katherine West Health Board

Higher numbers = higher emotional exhaustion

Scale 0–30

PTSD symptoms

NT Hospital 1 had higher levels of PTSD symptoms than the very remote sample in the first survey. There were no significant changes in PTSD in Very Remote samples; however, there was a very significant reduction in NT Hospital 1. The majority of people without PTSD symptoms would have a score of zero (Tables 7.16 and 7.17).

Table 7.16 PTSD symptoms, Very Remote and NT hospitals

<i>PTSD symptoms</i>	<i>Very Remote</i>		<i>NT Hospital 1</i>		<i>NT Hospital 2</i>	
	<i>Survey 1</i>	<i>Survey 2</i>	<i>Survey 1</i>	<i>Survey 2</i>	<i>Survey 1</i>	<i>Survey 2</i>
Number	337	424	96	157	67	121
Mean	10.61	9.44	14.64	8.18	12.03	10.69
Std. deviation	11.33	11.87	14.42	10.85	12.03	12.25
Sig.	$p = 0.171$ n/s		$p = 0.0001^{**}$		$p = 0.471$ n/s	

n/s, not significant, **highly significant

Higher numbers = higher PTSD symptoms

Scale 0–60

Table 7.17 PTSD symptoms, NT samples and control groups

<i>PTSD symptoms</i>	<i>Top End</i>		<i>CA</i>		<i>KWHB</i>		<i>Control</i>	
	<i>Survey 1</i>	<i>Survey 2</i>	<i>Survey 1</i>	<i>Survey 2</i>	<i>Survey 1</i>	<i>Survey 2</i>	<i>Survey 1</i>	<i>Survey 2</i>
Number	34	56	26	27	6	7	60	87
Mean	10.41	11.34	11.19	9.89	15.33	20.14	10.72	9.77
Std. deviation	11.74	12.17	10.54	11.00	16.17	15.55	10.71	12.01
Significance	$p = 0.723$ n/s		$p = 0.663$ n/s		$p = 0.597$ n/s		$p = 0.623$ n/s	

n/s, not significant

CA, Central Australia; KWHB, Katherine West Health Board

Higher numbers = higher PTSD symptoms

Scale 0–60

Physical health

There was a statistically significant decline in physical health for nurses in the Top End and a significant improvement for nurses working at Katherine West Health Board although the sample size of the latter is very small and no conclusions can be drawn from this data (Tables 7.18 and 7.19).

Table 7.18 **Physical health, Very Remote and NT hospitals**

<i>Physical health</i>	<i>Very Remote</i>		<i>NT Hospital 1</i>		<i>NT Hospital 2</i>	
	<i>Survey 1</i>	<i>Survey 2</i>	<i>Survey 1</i>	<i>Survey 2</i>	<i>Survey 1</i>	<i>Survey 2</i>
Number	337	426	100	162	70	130
Mean	4.68	4.73	5.24	5.93	5.80	5.67
Std. deviation	4.17	4.70	4.31	5.06	4.89	4.81
Sig.	n/s		n/s		n/s	

n/s, not significant

Higher numbers = better physical health

Scale 0–30

Table 7.19 **Physical health, NT samples and control groups**

<i>Physical health</i>	<i>Top End</i>		<i>CA</i>		<i>KWHB</i>		<i>Control</i>	
	<i>Survey 1</i>	<i>Survey 2</i>	<i>Survey 1</i>	<i>Survey 2</i>	<i>Survey 1</i>	<i>Survey 2</i>	<i>Survey 1</i>	<i>Survey 2</i>
Number	34	55	25	27	6	7	61	87
Mean	3.62	5.82	5.56	5.63	7.83	2.86	4.05	4.85
Std. deviation	3.61	4.85	4.99	4.53	5.27	1.95	3.67	4.48
Sig.	$p = 0.025^*$		n/s		$p = 0.040^*$		$p = 0.252$	

n/s, not significant, *significant

CA, Central Australia; KWHB, Katherine West Health Board

Higher numbers = better physical health

Scale 0–30

Positive outcomes

Work engagement

NT Hospital 1 had significantly lower levels of work engagement than the very remote Top End sample. There was a significant increase between Survey 1 and Survey 2 for work engagement among nurses in very remote Australia. However, there was no statistical significance seen in the samples in the Top End, CA, Katherine West Health Board or the control group. In Survey 1, nurses in the Top End had significantly better work engagement than nurses working at NT Hospital 1 (Tables 7.20 and 7.21).

Table 7.20 **Work engagement, Very Remote and NT hospitals**

<i>Work engagement</i>	<i>Very Remote</i>		<i>NT Hospital 1</i>		<i>NT Hospital 2</i>	
	<i>Survey 1</i>	<i>Survey 2</i>	<i>Survey 1</i>	<i>Survey 2</i>	<i>Survey 1</i>	<i>Survey 2</i>
Number	331	411	93	167	68	133
Mean	4.19	4.40	4.06	4.03	3.99	4.20
Std. deviation	1.16	1.16	1.16	1.33	1.28	1.29
Sig.	$p = 0.0184^*$		n/s		$p = 0.275$ n/s	

n/s, not significant, *significant,

Difference between Very Remote Survey 1 and NT Hospital 2: $p = 0.204$ n/s

Difference between NT Hospital 1 and Top End Survey 1: $p = 0.0185^*$

Difference between NT Hospital 2 and CA Survey 1 $p = 0.1397$ n/s

Higher numbers = higher work engagement

Scale 0–6

Table 7.21 **Work engagement, NT samples and control groups**

<i>Work engagement</i>	<i>Top End</i>		<i>CA</i>		<i>KWHB</i>		<i>Control</i>	
	<i>Survey 1</i>	<i>Survey 2</i>	<i>Survey 1</i>	<i>Survey 2</i>	<i>Survey 1</i>	<i>Survey 2</i>	<i>Survey 1</i>	<i>Survey 2</i>
Number	33	55	27	26	6	7	60	88
Mean	4.61	4.54	4.42	4.56	4.72	4.14	4.35	4.41
Std. deviation	1.07	1.03	1.24	0.98	0.55	0.86	1.22	1.18
Sig.	$p = 0.762$ n/s		$p = 0.651$ n/s		$p = 0.184$ n/s		$p = 0.765$ n/s	

n/s, not significant

CA, Central Australia; KWHB, Katherine West Health Board

Higher numbers = higher work engagement

Scale 0–6

Job satisfaction

There were significant increases in job satisfaction for both NT hospitals from Survey 1 to Survey 2. There were no significant differences among the very remote samples (Tables 7.22 and 7.23).

Table 7.22 **Job satisfaction, Very Remote and NT hospitals**

<i>Job satisfaction</i>	<i>Very Remote</i>		<i>NT Hospital 1</i>		<i>NT Hospital 2</i>	
	<i>Survey 1</i>	<i>Survey 2</i>	<i>Survey 1</i>	<i>Survey 2</i>	<i>Survey 1</i>	<i>Survey 2</i>
Number	344	411	99	166	70	129
Mean	4.01	4.09	3.70	4.06	3.61	4.12
Std. deviation	1.22	1.31	1.31	1.23	1.39	1.24
Sig.	$p = 0.389$ n/s		$p = 0.0253^*$		$p = 0.0253^*$	

n/s, not significant, *significant

Higher numbers = higher job satisfaction

Scale 0–6

Table 7.23 **Job satisfaction, NT samples and control groups**

<i>Job satisfaction</i>	<i>Top End</i>		<i>CA</i>		<i>KWHB</i>		<i>Control</i>	
	<i>Survey 1</i>	<i>Survey 2</i>	<i>Survey 1</i>	<i>Survey 2</i>	<i>Survey 1</i>	<i>Survey 2</i>	<i>Survey 1</i>	<i>Survey 2</i>
Number	35	53	27	26	6	5	61	85
Mean	4.29	4.02	4.26	4.31	4.17	4.00	4.16	4.19
Std. deviation	1.07	1.41	1.40	1.26	1.17	1.22	0.97	1.16
Sig.	$p = 0.338$ n/s		$p = 0.892$ n/s		n/s		$p = 0.869$ n/s	

n/s, not significant

CA, Central Australia; KWHB, Katherine West Health Board

Higher numbers = higher job satisfaction

Scale 0–6

Job demands

The job demands for the very remote sample groups were assessed using the remote area nursing stress scale. Nurses working at the hospitals were not asked to complete this scale; their job demands were assessed via the Nursing Stress Scale (NSS).

Emotional demands

The Top End very remote sample had significantly higher levels of emotional demands than the very remote control group in Survey 1, which was at the start of the study.

Nurses in the Top End showed significantly higher emotional demands in Survey 1 compared with the control sample. At Survey 2, this difference was not significant and there were no significant changes between other sample groups (Table 7.24).

Table 7.24 **Emotional demands**

	<i>Very Remote</i>		<i>Top End</i>		<i>CA</i>		<i>KWHB</i>		<i>Control</i>	
	<i>S1</i>	<i>S2</i>	<i>S1</i>	<i>S2</i>	<i>S1</i>	<i>S2</i>	<i>S1</i>	<i>S2</i>	<i>S1</i>	<i>S2</i>
No.	345	428	34	57	27	27	6	7	63	89
Mean	7.19	7.12	8.32	7.88	7.78	7.63	6.50	8.71	7.19	7.01
SD	2.72	2.76	2.04	3.02	3.25	2.63	3.39	3.04	2.79	2.66
Sig.	$p = 0.724$ n/s		$p = 0.454$ n/s		n/s		$p = 0.241$ n/s		$p = 0.688$ n/s	

Difference between Top End and control samples in Survey 1, $p = 0.0403^*$

Difference between Top End and control samples in Survey 2, $p = 0.0696$

n/s, not significant, *significant

CA, Central Australia; KWHB, Katherine West Health Board

Higher numbers = higher emotional demands

Scale 0–16

Management

Both Top End and CA samples showed a trend towards increased perception of problems with management; however, this change did not reach statistical significance (Table 7.25).

Table 7.25 Management

	<i>Very Remote</i>		<i>Top End</i>		<i>CA</i>		<i>KWHB</i>		<i>Control</i>	
	<i>S1</i>	<i>S2</i>	<i>S1</i>	<i>S2</i>	<i>S1</i>	<i>S2</i>	<i>S1</i>	<i>S2</i>	<i>S1</i>	<i>S2</i>
No.	328	411	34	43	24	24	6	6	57	86
Mean	14.09	15.40	13.32	16.05	14.67	16.50	16.50	17.67	14.77	15.74
SD	11.61	11.33	9.86	11.63	10.60	10.09	16.77	11.40	10.75	12.46
Sig.	$p = 0.123$ n/s		$p = 0.278$ n/s		$p = 0.543$ n/s		n/s		n/s	

n/s, not significant

CA, Central Australia; KWHB, Katherine West Health Board

Higher numbers = higher management problems

Scale 0–48

Staffing difficulties

The control sample had relatively low staffing difficulties at Survey 1. This was significantly lower than the Top End and in CA. There were no significant differences at Survey 2 (Table 7.26).

Table 7.26 Staffing difficulties

	<i>Very Remote</i>		<i>Top End</i>		<i>CA</i>		<i>KWHB</i>		<i>Control</i>	
	<i>S1</i>	<i>S2</i>	<i>S1</i>	<i>S2</i>	<i>S1</i>	<i>S2</i>	<i>S1</i>	<i>S2</i>	<i>S1</i>	<i>S2</i>
No.	334	425	35	44	26	26	6	7	60	86
Mean	11.80	12.27	13.03	13.27	11.77	12.38	15.17	17.29	8.55	11.92
SD	6.91	7.57	6.61	7.44	7.24	6.71	8.61	4.11	6.41	9.23
Sig.	$p = 0.378$ n/s		n/s		n/s		n/s		$p = 0.0157^*$	

Difference between Top End and control group at Survey 1, $p = 0.0008^{**}$

Difference between CA and control group at Survey 1, $p = 0.0316^*$

n/s, not significant, *significant, **highly significant

CA, Central Australia; KWHB, Katherine West Health Board

Higher numbers = increased staffing difficulties

Scale 0–30

On-call

The NT samples had significantly higher levels of on-call than the total very remote sample but not compared to the control group. This reflects the composition of the total very remote sample, which includes nurses at small remote hospitals and community health services who would not do the level of on-call that nurses at remote PHC facilities are required to. The control group is composed of nurses working at Very Remote PHC facilities outside the NT but have similar levels of on-call (Table 7.27).

Table 7.27 **On-call**

	<i>Very Remote</i>		<i>Top End</i>		<i>CA</i>		<i>KWHB</i>		<i>Control</i>	
	<i>S1</i>	<i>S2</i>	<i>S1</i>	<i>S2</i>	<i>S1</i>	<i>S2</i>	<i>S1</i>	<i>S2</i>	<i>S1</i>	<i>S2</i>
No.	339	423	35	45	27	26	4	7	60	85
Mean	11.88	13.48	15.63	17.69	18.19	17.73	10.00	21.00	16.93	18.47
SD	8.64	8.95	4.26	6.44	3.10	7.81	6.38	2.77	8.21	7.12
Sig.	$p = 0.013$ n/s		$p = 0.106$ n/s		n/s		$p = 0.0028^{**}$		$p = 0.751$ n/s	

Difference between very remote and control groups Survey 1, $p < 0.0001^{**}$

Difference between very remote and Top End Survey 1, $p = 0.0117^*$

Difference between very remote and CA Survey 1, $p = 0.0002^{**}$

n/s, not significant, *significant, **highly significant

CA, Central Australia; KWHB, Katherine West Health Board

Higher numbers = higher on-call

Scale 0–30

Workload

There were no significant differences between Survey 1 and Survey 2 for any sample. Both Top End and CA, however, showed significantly higher workloads than the control group at Survey 1 and for CA at Survey 2 (Table 7.28).

Table 7.28 **Workload**

	<i>Very Remote</i>		<i>Top End</i>		<i>CA</i>		<i>KWHB</i>		<i>Control</i>	
	<i>S1</i>	<i>S2</i>	<i>S1</i>	<i>S2</i>	<i>S1</i>	<i>S2</i>	<i>S1</i>	<i>S2</i>	<i>S1</i>	<i>S2</i>
No.	342	429	35	45	26	27	6	7	61	89
Mean	17.59	16.62	21.54	20.76	22.00	19.37	20.00	18.00	18.54	17.63
SD	7.17	7.02	5.39	6.82	5.96	7.76	6.42	9.17	7.21	6.18
Sig.	$p = 0.0594$ n/s		$p = 0.581$ n/s		$p = 0.159$ n/s		n/s		$p = 0.409$ n/s	

Difference between Top End and control at Survey 1, $p = 0.0349^*$

Difference between Top End and control at Survey 2, $p = 0.0085^{**}$

Difference between CA and control at Survey 1, $p = 0.0343^*$

Difference between CA and control at Survey 2, $p = 0.2308$ n/s

n/s, not significant, *significant, **highly significant

CA, Central Australia; KWHB, Katherine West Health Board

Higher numbers = higher workload

Scale 0-30

Responsibilities and expectations

There were no significant differences in responsibilities and expectations between samples and between Survey 1 and Survey 2 (Table 7.29).

Table 7.29 **Responsibilities and expectations**

	<i>Very Remote</i>		<i>Top End</i>		<i>CA</i>		<i>KWHB</i>		<i>Control</i>	
	<i>S1</i>	<i>S2</i>	<i>S1</i>	<i>S2</i>	<i>S1</i>	<i>S2</i>	<i>S1</i>	<i>S2</i>	<i>S1</i>	<i>S2</i>
No.	336	420	35	45	27	26	5	7	60	85
Mean	21.13	21.38	25.11	25.69	21.78	22.08	23.40	26.57	23.92	21.93
SD	11.30	12.62	9.50	12.59	11.56	10.33	11.41	10.18	11.55	11.81
Sig.	$p = 0.777$ n/s		n/s		n/s		$p = 0.635$ n/s		$p = 0.4575$ n/s	

Difference between Top End and control group at Survey 2 is $p = 0.0773$ n/s

n/s, not significant

CA, Central Australia; KWHB, Katherine West Health Board

Higher numbers = higher responsibilities and expectations

Scale 0-42

Support

CA sample showed a significant improvement in support from Survey 1 and Survey 2. The control group outside the NT also revealed a highly significant improvement in support (Table 7.30).

Table 7.30 **Support**

	<i>Very Remote</i>		<i>Top End</i>		<i>CA</i>		<i>KWHB</i>		<i>Control</i>	
	<i>S1</i>	<i>S2</i>	<i>S1</i>	<i>S2</i>	<i>S1</i>	<i>S2</i>	<i>S1</i>	<i>S2</i>	<i>S1</i>	<i>S2</i>
No.	338	426	33	44	26	27	6	7	63	88
Mean	16.60	16.61	15.94	13.64	17.50	12.22	18.67	12.71	17.54	13.51
SD	6.76	7.05	6.87	6.97	6.59	5.33	5.50	8.10	6.49	7.52
Sig.	n/s		$p = 0.1535$ n/s		$p = 0.0023^{**}$		$p = 0.1562$ n/s		$p = 0.0008^{**}$	

n/s, not significant, **highly significant

CA, Central Australia; KWHB, Katherine West Health Board

Higher numbers = higher problems with support and less support

Scale 0–30

Infrastructure and equipment

There was an increase in infrastructure and equipment problems in the Top End from Survey 1 and Survey 2. The high problems in the Top End were significantly higher at Survey 2 than the control group (Table 7.31).

Table 7.31 **Infrastructure and equipment**

	<i>Very Remote</i>		<i>Top End</i>		<i>CA</i>		<i>KWHB</i>		<i>Control</i>	
	<i>S1</i>	<i>S2</i>	<i>S1</i>	<i>S2</i>	<i>S1</i>	<i>S2</i>	<i>S1</i>	<i>S2</i>	<i>S1</i>	<i>S2</i>
No.	334	426	35	45	27	26	6	7	59	88
Mean	18.10	19.29	20.66	25.58	25.07	22.15	24.17	22.57	17.90	19.20
SD	9.52	10.26	8.33	11.28	8.53	8.53	11.05	3.41	9.14	11.06
Sig.	$p = 0.1019$ n/s		$p = 0.0337^{*}$		$p = 0.2185$ n/s		n/s		$p = 0.4559$ n/s	

Difference between Top End and control samples at Survey 2, $p = 0.0022^{**}$

n/s, not significant, *significant, **highly significant

CA, Central Australia; KWHB, Katherine West Health Board

Higher numbers = increased problems with infrastructure and equipment

Scale 0–42

Safety concerns

There were no significant changes in safety concerns from Survey 1 to Survey 2 in any sample group (Table 7.33).

Table 7.32 **Safety concerns**

	<i>Very Remote</i>		<i>Top End</i>		<i>CA</i>		<i>KWHB</i>		<i>Control</i>	
	<i>S1</i>	<i>S2</i>	<i>S1</i>	<i>S2</i>	<i>S1</i>	<i>S2</i>	<i>S1</i>	<i>S2</i>	<i>S1</i>	<i>S2</i>
No.	343	425	35	44	27	26	6	7	63	88
Mean	11.06	10.41	9.23	11.59	9.22	9.12	13.17	9.86	10.81	10.68
SD	8.71	8.45	7.20	8.65	7.38	6.41	11.81	6.99	8.69	7.52
Sig.	<i>p</i> = 0.296 n/s		<i>p</i> = 0.199 n/s		n/s		n/s		n/s	

n/s, not significant

CA, Central Australia; KWHB, Katherine West Health Board

Higher numbers = higher safety concerns

Scale 0–36

Social issues

There were no significant changes with social issues among any of the sample groups (Table 7.33).

Table 7.33 **Social issues**

	<i>Very Remote</i>		<i>Top End</i>		<i>CA</i>		<i>KWHB</i>		<i>Control</i>	
	<i>S1</i>	<i>S2</i>	<i>S1</i>	<i>S2</i>	<i>S1</i>	<i>S2</i>	<i>S1</i>	<i>S2</i>	<i>S1</i>	<i>S2</i>
No.	346	429	35	44	27	27	6	7	63	87
Mean	8.90	8.30	9.37	8.48	9.37	10.11	11.33	10.00	10.52	9.02
SD	5.95	6.24	6.20	6.56	5.20	5.67	7.79	5.86	6.43	6.16
Sig.	n/s		<i>p</i> = 0.541 n/s		n/s		n/s		<i>p</i> = 0.1501 n/s	

n/s, not significant

CA, Central Australia; KWHB, Katherine West Health Board

Higher numbers = higher safety concerns

Scale 0–24

Isolation

There were no significant changes in feelings of isolation among nurses in any of the sample groups between Survey 1 and Survey 2 (Table 7.34).

Table 7.34 **Isolation**

	<i>Very Remote</i>		<i>Top End</i>		<i>CA</i>		<i>KWHB</i>		<i>Control</i>	
	<i>S1</i>	<i>S2</i>	<i>S1</i>	<i>S2</i>	<i>S1</i>	<i>S2</i>	<i>S1</i>	<i>S2</i>	<i>S1</i>	<i>S2</i>
No.	345	430	35	45	27	27	5	7	63	88
Mean	9.50	10.28	9.14	10.69	11.07	11.15	8.60	12.57	10.84	12.08
SD	6.23	6.52	5.87	6.24	6.20	6.35	5.32	6.43	6.18	6.59
Sig.	$p = 0.0918$ n/s		$p = 0.2616$ n/s		n/s		$p = 0.286$ n/s		$p = 0.2477$ n/s	

n/s, not significant

CA, Central Australia; KWHB, Katherine West Health Board

Higher numbers = increased feeling of isolation

Scale 0–24

Intercultural factors

There were no significant changes in intercultural factors between Survey 1 and Survey 2. However, the samples in very remote NT had higher levels of intercultural factors than the control group. This reflects the increased percentage of Indigenous people in the NT compared with other states (Table 7.35).

Table 7.35 **Intercultural factors**

	<i>Very Remote</i>		<i>Top End</i>		<i>CA</i>		<i>KWHB</i>		<i>Control</i>	
	<i>S1</i>	<i>S2</i>	<i>S1</i>	<i>S2</i>	<i>S1</i>	<i>S2</i>	<i>S1</i>	<i>S2</i>	<i>S1</i>	<i>S2</i>
No.	340	431	35	45	26	27	6	7	62	89
Mean	8.04	7.87	10.86	10.33	12.27	10.19	13.50	11.14	7.24	8.36
SD	6.35	5.82	4.09	5.70	6.00	5.02	6.35	4.18	6.34	6.38
Sig.	$p = 0.554$ n/s		n/s		$p = 0.176$ n/s		n/s		$p = 0.289$ n/s	

Difference between Top End and control group at Survey 1, $p = 0.0033$ **

Difference between CA and control group at Survey 1, $p = 0.0009$ **

n/s, not significant, **highly significant

CA, Central Australia; KWHB, Katherine West Health Board

Higher numbers = increased impact of cultural factors

Scale 0–24

Remote context

The remote context had a greater negative impact on nurses in the Top End and CA than the control group. There was a significant improvement from Survey 1 to Survey 2 in the Top End (Table 7.36).

Table 7.36 Remote context

	<i>Very Remote</i>		<i>Top End</i>		<i>CA</i>		<i>KWHB</i>		<i>Control</i>	
	<i>S1</i>	<i>S2</i>	<i>S1</i>	<i>S2</i>	<i>S1</i>	<i>S2</i>	<i>S1</i>	<i>S2</i>	<i>S1</i>	<i>S2</i>
No.	344	431	35	45	27	27	6	7	62	89
Mean	9.03	8.78	13.14	11.13	11.41	10.96	11.67	10.14	8.58	9.27
SD	5.49	5.36	3.16	5.15	5.34	3.67	4.23	5.11	5.81	5.42
Sig.	$p = 0.524$ n/s		$p = 0.0458^*$		$p = 0.7197$ n/s		n/s		$p = 0.456$ n/s	

Difference between Top End and control samples at Survey 1, $p < 0.0001^{**}$

Difference between CA and control samples at Survey 1, $p = 0.0333^*$

n/s, not significant, *significant, **highly significant

CA, Central Australia; KWHB, Katherine West Health Board

Higher numbers = increased remote context

Scale 0–18

Culture shock

There were no significant changes in levels of culture shock; however, there was a significant difference between CA and the control group with CA nurses having higher levels of culture shock (Table 7.37).

Table 7.37 Culture shock

	<i>Very Remote</i>		<i>Top End</i>		<i>CA</i>		<i>KWHB</i>		<i>Control</i>	
	<i>S1</i>	<i>S2</i>	<i>S1</i>	<i>S2</i>	<i>S1</i>	<i>S2</i>	<i>S1</i>	<i>S2</i>	<i>S1</i>	<i>S2</i>
No.	345	429	35	45	26	27	6	7	62	89
Mean	6.72	6.13	8.03	6.56	10.35	7.41	8.83	10.57	6.58	6.27
SD	6.34	6.36	5.47	6.23	7.41	6.01	3.43	4.47	6.99	6.65
Sig.	$p = 0.199$ n/s		$p = 0.273$ n/s		$p = 0.118$ n/s		n/s		n/s	

Difference between Top End and control samples at Survey 1, $p = 0.3275$ n/s

Difference between CA and control samples at Survey 1, $p = 0.0299^*$

n/s, not significant, *significant

CA, Central Australia; KWHB, Katherine West Health Board

Higher numbers = increased culture shock

Scale 0–30

Witnessed violence

There were no changes in witnessed violence among any of the samples (Table 7.38).

Table 7.38 **Witnessed violence**

	<i>Very Remote</i>		<i>Top End</i>		<i>CA</i>		<i>KWHB</i>		<i>Control</i>	
	<i>S1</i>	<i>S2</i>	<i>S1</i>	<i>S2</i>	<i>S1</i>	<i>S2</i>	<i>S1</i>	<i>S2</i>	<i>S1</i>	<i>S2</i>
No.	331	416	33	55	27	27	6	7	60	86
Mean	8.88	8.91	11.64	14.75	9.63	10.93	9.00	9.71	9.77	9.88
SD	5.86	8.44	6.10	18.91	6.81	5.87	5.14	6.70	6.44	6.33
Sig.	n/s		n/s		n/s		n/s		n/s	

n/s, not significant

CA, Central Australia; KWHB, Katherine West Health Board

Higher numbers = increased impact of witnessed violence

Scale 0–30

Personal violence

Personal violence remained at similar levels from Survey 1 to Survey 2 (Table 7.39).

Table 7.39 **Personal violence**

	<i>Very Remote</i>		<i>Top End</i>		<i>CA</i>		<i>KWHB</i>		<i>Control</i>	
	<i>S1</i>	<i>S2</i>	<i>S1</i>	<i>S2</i>	<i>S1</i>	<i>S2</i>	<i>S1</i>	<i>S2</i>	<i>S1</i>	<i>S2</i>
No.	338	423	34	53	27	26	6	7	60	88
Mean	5.97	5.86	5.85	7.15	5.44	5.81	4.50	7.29	5.95	6.38
SD	4.60	4.90	4.55	5.31	4.49	4.35	2.74	5.68	4.98	5.16
Sig.	n/s		$p = 0.243$ n/s		n/s		n/s		$p = 0.614$ n/s	

n/s, not significant

CA, Central Australia; KWHB, Katherine West Health Board

Higher numbers = increased impact of personal violence

Scale 0–30

Nursing Stress Scale (NSS)

There was a reduction in the total stress scale for the two hospitals, with NT hospital one being significant (Table 7.40).

Table 7.40 **Total stress, Very Remote and NT hospitals**

	<i>Very Remote</i>		<i>NT Hospital 1</i>		<i>NT Hospital 2</i>	
	<i>Survey 1</i>	<i>Survey 2</i>	<i>Survey 1</i>	<i>Survey 2</i>	<i>Survey 1</i>	<i>Survey 2</i>
Number	292	382	91	154	64	116
Mean	34.88	34.39	38.13	33.72	37.0	34.0
Std. deviation	11.31	12.83	12.37	13.33	13.03	11.63
Sig.	n/s		$p = 0.0108^*$		$p = 0.1144$ n/s	

n/s, not significant; *significant,

Higher numbers = increased nursing stress

Scale 0–102

Job resources

Supervision

There was an improvement in supervision in NT Hospital 1 from Survey 1 to Survey 2, but no other changes (Tables 7.41 and 7.42).

Table 7.41 **Supervision, Very Remote and NT hospitals**

	<i>Very Remote</i>		<i>NT Hospital 1</i>		<i>NT Hospital 2</i>	
	<i>Survey 1</i>	<i>Survey 2</i>	<i>Survey 1</i>	<i>Survey 2</i>	<i>Survey 1</i>	<i>Survey 2</i>
Number	343	432	103	167	70	136
Mean	10.08	9.92	10.17	11.43	10.46	11.06
Std. deviation	3.87	4.23	3.84	3.20	3.64	3.31
Sig.	n/s		$p = 0.0033^{**}$		$p = 0.2351$ n/s	

n/s, not significant, **highly significant

Higher numbers = higher levels of supervision

Scale 0–16

Table 7.42 **Supervision, NT samples and control groups**

	<i>Top End</i>		<i>CA</i>		<i>KWHB</i>		<i>Control</i>	
	<i>Survey 1</i>	<i>Survey 2</i>	<i>Survey 1</i>	<i>Survey 2</i>	<i>Survey 1</i>	<i>Survey 2</i>	<i>Survey 1</i>	<i>Survey 2</i>
Number	34	57	26	26	6	7	63	87
Mean	11.62	10.79	9.38	9.38	10.50	9.00	9.03	9.47
Std. deviation	3.59	4.13	3.32	5.05	3.94	5.35	3.94	4.66
Sig.	$p = 0.3334$ n/s		n/s		n/s		n/s	

n/s, not significant

CA, Central Australia; KWHB, Katherine West Health Board

Higher numbers = higher levels of supervision

Scale 0–16

Social support

There was a significant improvement in social support for NT Hospital 1 from Survey 1 to Survey 2, but no real change in the very remote samples (Tables 7.43 and 7.44).

Table 7.43 **Social support, Very Remote and NT hospitals**

	<i>Very Remote</i>		<i>NT Hospital 1</i>		<i>NT Hospital 2</i>	
	<i>Survey 1</i>	<i>Survey 2</i>	<i>Survey 1</i>	<i>Survey 2</i>	<i>Survey 1</i>	<i>Survey 2</i>
Number	344	435	102	170	70	136
Mean	11.05	11.17	10.73	11.63	10.37	10.81
Std. deviation	2.82	3.03	2.84	2.16	2.42	2.44
Sig.	n/s		$p = 0.0035^{**}$		$p = 0.2204$ n/s	

n/s, not significant; **highly significant

Higher numbers = higher levels of social support

Scale 0-16

Table 7.44 **Social support, NT samples and control groups**

	<i>Top End</i>		<i>CA</i>		<i>KWHB</i>		<i>Control</i>	
	<i>Survey 1</i>	<i>Survey 2</i>	<i>Survey 1</i>	<i>Survey 2</i>	<i>Survey 1</i>	<i>Survey 2</i>	<i>Survey 1</i>	<i>Survey 2</i>
Number	34	57	26	27	6	7	63	89
Mean	11.18	11.42	10.69	11.37	10.00	11.29	11.33	10.72
Std. deviation	2.83	2.63	2.62	2.65	2.53	3.25	2.68	3.56
Sig.	n/s		$p = 0.3182$ n/s		n/s		$p = 0.2525$ n/s	

n/s, not significant

CA, Central Australia; KWHB, Katherine West Health Board

Higher numbers = higher levels of social support

Scale 0–16

Opportunities for professional development

There were no changes in opportunities for professional development from Survey 1 to Survey 2 (Tables 7.45 and 7.46).

Table 7.45 **Opportunities for professional development, Very Remote and NT hospitals**

	<i>Very Remote</i>		<i>NT Hospital 1</i>		<i>NT Hospital 2</i>	
	<i>Survey 1</i>	<i>Survey 2</i>	<i>Survey 1</i>	<i>Survey 2</i>	<i>Survey 1</i>	<i>Survey 2</i>
Number	345	436	103	169	71	135
Mean	8.84	8.57	9.35	9.94	10.18	10.70
Std. deviation	3.63	3.77	3.15	3.06	3.15	3.11
Sig.	n/s		n/s		n/s	

n/s, not significant

Higher numbers = higher opportunities for professional development

Scale 0–16

Table 7.46 **Opportunities for professional development, NT samples and control groups**

	<i>Top End</i>		<i>CA</i>		<i>KWHB</i>		<i>Control</i>	
	<i>Survey 1</i>	<i>Survey 2</i>	<i>Survey 1</i>	<i>Survey 2</i>	<i>Survey 1</i>	<i>Survey 2</i>	<i>Survey 1</i>	<i>Survey 2</i>
Number	34	57	27	27	6	6	63	89
Mean	9.29	9.25	9.56	8.70	10.17	9.00	8.41	8.13
Std. deviation	3.09	3.62	3.79	3.21	3.76	4.90	4.30	4.03
Sig.	n/s		$p = 0.6397$		n/s		n/s	

n/s, not significant

CA, Central Australia; KWHB, Katherine West Health Board

Higher numbers = higher opportunities for professional development

Scale 0–16

Job control

While there was a significant increase in job control among the total very remote nursing workforce, there was no significant changes among the NT samples and control group (Tables 7.47 and 7.48).

Table 7.47 **Job control, Very Remote and NT hospitals**

	<i>Very Remote</i>		<i>NT Hospital 1</i>		<i>NT Hospital 2</i>	
	<i>Survey 1</i>	<i>Survey 2</i>	<i>Survey 1</i>	<i>Survey 2</i>	<i>Survey 1</i>	<i>Survey 2</i>
Number	330	420	99	157	68	128
Mean	23.70	27.89	28.40	27.85	27.40	27.88
Std. deviation	8.50	8.01	9.42	8.22	7.73	8.22
Sig.	$p < 0.0001^{**}$		n/s		n/s	

n/s, not significant, **highly significant

Higher numbers = higher job control

Scale 0–56

Table 7.48 **Job control, NT samples and control groups**

	<i>Top End</i>		<i>CA</i>		<i>KWHB</i>		<i>Control</i>	
	<i>Survey 1</i>	<i>Survey 2</i>	<i>Survey 1</i>	<i>Survey 2</i>	<i>Survey 1</i>	<i>Survey 2</i>	<i>Survey 1</i>	<i>Survey 2</i>
Number	33	52	23	25	5	7	61	88
Mean	21.55	24.19	24.83	23.76	24.80	23.86	21.05	22.82
Std. deviation	8.07	8.31	9.25	9.12	9.58	8.63	8.20	8.47
Sig.	$p = 0.1527$		n/s		n/s		n/s	

n/s, not significant

CA, Central Australia; KWHB, Katherine West Health Board

Higher numbers = higher job control

Scale 0–56

Skill development and application

There was a significant improvement in skill development and application in NT Hospital 2 but again no real change in the remote samples (Tables 7.49 and 7.50).

Table 7.49 Skill development and application, Very Remote and NT hospitals

	<i>Very Remote</i>		<i>NT Hospital 1</i>		<i>NT Hospital 2</i>	
	<i>Survey 1</i>	<i>Survey 2</i>	<i>Survey 1</i>	<i>Survey 2</i>	<i>Survey 1</i>	<i>Survey 2</i>
Number	349	436	103	167	70	136
Mean	1.30	1.27	1.01	1.57	1.84	1.32
Std. deviation	1.71	1.65	2.06	1.79	1.76	1.90
Sig.	n/s		$p = 0.0192^*$		$p = 0.0579$ n/s	

n/s, not significant, *significant

Higher numbers = higher skill development and application

Table 7.50 Skill development and application, NT samples and control groups

	<i>Top End</i>		<i>CA</i>		<i>KWHB</i>		<i>Control</i>	
	<i>Survey 1</i>	<i>Survey 2</i>	<i>Survey 1</i>	<i>Survey 2</i>	<i>Survey 1</i>	<i>Survey 2</i>	<i>Survey 1</i>	<i>Survey 2</i>
Number	35	57	27	27	6	7	63	89
Mean	0.89	0.96	0.81	1.30	2.33	1.00	1.25	1.19
Std. deviation	1.39	1.50	1.49	1.68	2.73	1.29	1.63	1.55
Sig.	n/s		$p = 0.2621$ n/s		$p = 0.273$ n/s		n/s	

n/s, not significant

CA, Central Australia; KWHB, Katherine West Health Board

Higher numbers = higher skill development and application

Resilience

Nurses in remote had higher resilience than the two hospitals, although only with Hospital 2 was significant. There was no real difference between the NT remote samples and the control group (Table 7.51).

Table 7.51 Resilience, Survey 2

	<i>Very Remote</i>	<i>NT hospitals</i>	<i>Top End</i>	<i>CA</i>	<i>KWHB</i>	<i>Control</i>
No.	421	281	57	24	6	86
Mean	146.32**	141.92	147.82	148.75	152.50	148.85
SD	15.81	14.95	13.13	14.67	14.02	20.57
Sig.	Significant difference between Very Remote and combined hospitals, $p < .01$ Significant difference between NT Hospital 1 and Top End, $p = 0.1543$ n/s Significant difference between Very Remote and NT Hospital 2					

n/s, not significant, **highly significant

CA, Central Australia; KWHB, Katherine West Health Board

Higher numbers = higher resilience

System capacity

Flexible and adaptable culture

There was a significant increase in flexible and adaptable culture for both hospitals, but a significant decrease in the Top End with no changes for the other groups (Tables 7.52 and 7.53).

Table 7.52 **Flexible and adaptable culture, Very Remote and NT hospitals**

	<i>Very Remote</i>		<i>NT Hospital 1</i>		<i>NT Hospital 2</i>	
	<i>Survey 1</i>	<i>Survey 2</i>	<i>Survey 1</i>	<i>Survey 2</i>	<i>Survey 1</i>	<i>Survey 2</i>
Number	336	425	100	170	71	135
Mean	4.60	4.62	4.32	5.07	4.55	5.19
Std. deviation	1.91	1.87	1.73	1.45	1.83	1.58
Sig.	$p = 0.8846$ n/s		$p = 0.0002^{**}$		$p = 0.0096^{**}$	

Difference between Very Remote and NT Hospital 1 at Survey 2, $p = 0.0040^{**}$

Difference between Very Remote and NT Hospital 2, $p = 0.0012^{**}$

n/s, not significant; ** highly significant

Higher numbers = stronger flexible and adaptable culture

Table 7.53 **Flexible and adaptable culture, NT samples and control group**

	<i>Top End</i>		<i>CA</i>		<i>KWHB</i>		<i>Control</i>	
	<i>Survey 1</i>	<i>Survey 2</i>	<i>Survey 1</i>	<i>Survey 2</i>	<i>Survey 1</i>	<i>Survey 2</i>	<i>Survey 1</i>	<i>Survey 2</i>
Number	35	60	27	26	6	8	61	89
Mean	5.09	4.60	4.19	4.08	4.00	5.13	4.72	4.31
Std. deviation	1.77	1.65	1.78	1.65	2.76	1.46	2.00	2.12
Sig.	$p = 0.0424^{*}$		n/s		n/s		$p = 0.235$ n/s	

Difference between Top End and CA S1 0.0746, not quite sig

n/s, not significant; * significant

CA, Central Australia; KWHB, Katherine West Health Board

Higher numbers = stronger flexible and adaptable culture

Consultation

There were no significant changes in consultation from Survey 1 to Survey 2; however, at Survey 1, CA has significantly lower consultation than the control group (Tables 7.54 and 7.55).

Table 7.54 **Consultation, Very Remote and NT hospitals**

	<i>Very Remote</i>		<i>NT Hospital 1</i>		<i>NT Hospital 2</i>	
	<i>Survey 1</i>	<i>Survey 2</i>	<i>Survey 1</i>	<i>Survey 2</i>	<i>Survey 1</i>	<i>Survey 2</i>
Number	336	421	99	167	72	135
Mean	8.77	9.04	8.75	9.21	8.69	9.35
Std. deviation	3.25	3.21	2.95	3.15	2.92	3.01
Sig.	$p = 0.261$ n/s		$p = 0.8574$ n/s		$p = 0.1275$ n/s	

n/s, not significant

Higher numbers = higher levels of consultation

Table 7.55 **Consultation, NT samples and control group**

	<i>Top End</i>		<i>CA</i>		<i>KWHB</i>		<i>Control</i>	
	<i>Survey 1</i>	<i>Survey 2</i>	<i>Survey 1</i>	<i>Survey 2</i>	<i>Survey 1</i>	<i>Survey 2</i>	<i>Survey 1</i>	<i>Survey 2</i>
Number	34	44	26	26	6	7	61	84
Mean	8.82	8.91	7.73	8.50	8.50	10.00	9.11	8.90
Std. deviation	2.68	3.48	3.04	2.45	4.32	2.38	3.05	3.58
Sig.	n/s		$p = 0.3194^*$		n/s		$p = 0.7114$ n/s	

Difference between CA and control group Survey 1, $p = 0.0461^*$

n/s, not significant; *significant

CA, Central Australia; KWHB, Katherine West Health Board

Higher numbers = higher levels of consultation

Communication

There were significant improvements in communication from Survey 1 to Survey 2 for the two hospitals, but no real changes to the remote groups (Tables 7.56 and 7.57).

Table 7.56 **Communication, Very Remote and NT hospitals**

	<i>Very Remote</i>		<i>NT Hospital 1</i>		<i>NT Hospital 2</i>	
	<i>Survey 1</i>	<i>Survey 2</i>	<i>Survey 1</i>	<i>Survey 2</i>	<i>Survey 1</i>	<i>Survey 2</i>
Number	344	434	100	171	71	137
Mean	4.06	4.27	3.87	4.70	4.01	4.55
Std. deviation	1.94	1.89	1.73	1.69	1.78	1.75
Sig.	$p = 0.1286$		$p < 0.0001^{**}$		$p = 0.0371^*$	

*significant; **highly significant

Higher numbers = higher levels of communication

Table 7.57 **Communication, NT samples and control group**

	<i>Top End</i>		<i>CA</i>		<i>KWHB</i>		<i>Control</i>	
	<i>Survey 1</i>	<i>Survey 2</i>	<i>Survey 1</i>	<i>Survey 2</i>	<i>Survey 1</i>	<i>Survey 2</i>	<i>Survey 1</i>	<i>Survey 2</i>
Number	35	57	27	27	6	7	63	89
Mean	4.14	4.42	3.70	4.07	4.00	4.86	3.98	4.04
Std. deviation	1.96	1.86	1.92	1.86	1.90	1.46	1.96	1.92
Sig.	$p = 0.4940$ n/s		$p = 0.4752$ n/s		$p = 0.3757$ n/s		n/s	

n/s, not significant

CA, Central Australia; KWHB, Katherine West Health Board

Higher numbers = higher levels of communication

Psychosocial safety climate

There were significant increases in psychosocial safety climate in the total very remote and NT Hospital 1; however, there were no real improvements in the NT remote samples or the control group (Tables 7.58 and 7.59).

Table 7.58 **Psychosocial safety climate, Very Remote and NT hospitals**

	<i>Very Remote</i>		<i>NT Hospital 1</i>		<i>NT Hospital 2</i>	
	<i>Survey 1</i>	<i>Survey 2</i>	<i>Survey 1</i>	<i>Survey 2</i>	<i>Survey 1</i>	<i>Survey 2</i>
Number	343	429	101	169	72	134
Mean	11.59	12.12	11.17	13.22	11.82	12.60
Std. deviation	3.64	3.57	3.40	2.94	3.26	2.94
Sig.	$p = 0.0425^*$		$p < 0.0001^{**}$		$p = 0.1526$ n/s	

n/s, not significant; *significant; **highly significant

Higher numbers = higher levels of PSC

Table 7.59 **Psychosocial safety climate, NT samples and control group**

	<i>Top End</i>		<i>CA</i>		<i>KWHB</i>		<i>Control</i>	
	<i>Survey 1</i>	<i>Survey 2</i>	<i>Survey 1</i>	<i>Survey 2</i>	<i>Survey 1</i>	<i>Survey 2</i>	<i>Survey 1</i>	<i>Survey 2</i>
Number	33	45	31	27	6	7	62	88
Mean	12.09	11.27	10.71	9.78	9.67	12.37	12.02	12.15
Std. deviation	3.52	4.21	3.68	2.89	4.55	2.97	3.70	3.87
Sig.	n/s		$p = 0.1863$, n/s		$p = 0.2246$		n/s	

n/s, not significant

CA, Central Australia; KWHB, Katherine West Health Board

Higher numbers = higher levels of PSC

Total system capacity

There were significant increases in total system capacity in NT Hospital 1 and NT Hospital 2. There were no significant changes in the very remote samples (Tables 7.60 and 7.61).

Table 7.60 Total system capacity, Very Remote and NT hospitals

	Very Remote		NT Hospital 1		NT Hospital 2	
	Survey 1	Survey 2	Survey 1	Survey 2	Survey 1	Survey 2
Number	321	412	93	164	68	128
Mean	25.03	26.03	24.12	28.20	25.07	27.79
Std. deviation	9.03	8.91	8.03	7.36	7.24	7.59
Sig.	$p = 0.1344$		$p < 0.0001^{**}$		$p = 0.0162^{*}$	

*significant; **highly significant

Higher numbers = higher system capacity

Table 7.61 Total system capacity, NT samples and control group

	Top End		CA		KWHB		Control	
	Survey 1	Survey 2	Survey 1	Survey 2	Survey 1	Survey 2	Survey 1	Survey 2
Number	32	43	30s	25	6	7	59	83
Mean	26.13	24.63	22.23	22.52	22.17	27.71	25.61	25.12
Std. deviation	7.49	9.63	8.27	6.97	11.41	5.15	9.29	9.12
Sig.	$p = 0.4669$ n/s		n/s		n/s		n/s	

n/s, not significant

CA, Central Australia; KWHB, Katherine West Health Board

Higher numbers = higher system capacity

Improvements in last 12 months

Respondents from NT Hospital 1 and NT Hospital 2 reported significantly higher levels of improvement over the previous twelve months in the areas of workload, education, staff relief and management, in comparison to the very remote sample. There were no significant differences in levels between the NT samples and the control group. (Table 7.62)

Table 7.62 Improvements in last 12 months

	<i>Very Remote</i>	<i>NT Hospital 1</i>	<i>NT Hospital 2</i>	<i>Top End</i>	<i>CA</i>	<i>KWHB</i>	<i>Control</i>
Workload							
N	429	170	135	62	27	8	85
Mean	1.23	1.82	1.56	1.13	0.89	1.38	1.06
Std deviation	1.15	1.33	1.29	1.19	1.01	1.06	1.07
Sig.	Difference between very remote and NT Hospital 1, $p < 0.0001^{**}$ Difference between very remote and NT Hospital 2, $p = 0.0049^{**}$ Difference between Top End and CA, $p = 0.3634$ n/s Difference between NT Hospital 1 and Top End, $p = 0.0114^{*}$ Difference between NT Hospital 2 and CA, $p = 0.0020^{**}$ Difference between Top End and control, $p = 0.7093$ n/s Difference between CA and control, $p = 0.4678$ n/s Difference between KWHB n/s						
Education							
N	430	170	134	62	27	8	86
Mean	1.56	2.00	2.11	1.69	1.44	1.75	1.44
Std deviation	1.18	1.19	1.24	1.22	1.25	1.28	1.07
Sig.	Difference between very remote and NT Hospital 1, $p < 0.0001^{**}$ Difference between very remote and NT Hospital 2, $p < 0.0001^{**}$ Difference between Top End and control, $p = 0.1895$ n/s Difference between CA and control n/s Difference between KWHB n/s						
Staff relief							
N	430	170	134	62	27	8	86
Mean	1.32	1.89	1.54	1.47	1.11	1.25	1.23
Std deviation	1.14	1.19	1.08	1.10	1.19	1.16	1.14
Sig.	Difference between very remote and NT Hospital 1, $p < 0.0001^{**}$ Difference between very remote and NT Hospital 2, $p = 0.0488^{*}$ Difference between Top End and control, $p = 0.2018$ Difference between CA and control n/s Difference between KWHB n/s						
Management							
N	430	170	134	62	27	8	86
Mean	1.39	1.96	1.72	1.31	1.07	1.13	1.45
Std deviation	1.17	1.19	1.13	1.11	1.07	0.99	1.30
Sig.	Difference between very remote and NT Hospital 1, $p < 0.0001^{**}$ Difference between very remote and NT Hospital 2, $p = 0.0042^{*}$ Difference between Top End and control, $p = 0.4935$ n/s Difference between CA and control n/s Difference between KWHB n/s						
Equipment and infrastructure							
N	431	-	-	50	27	8	86
Mean	1.54	-	-	1.50	1.19	1.63	1.45
Std deviation	1.196	-	-	1.30	0.96	1.30	1.23
Sig.	Difference between Top End and control n/s Difference between CA and control, $p = 0.3169$ n/s Difference between KWHB n/s						

n/s, not significant; *significant; **highly significant

CA, Central Australia; KWHB, Katherine West Health Board

Higher numbers = increased improvements

Results of the outcome evaluation

The results of the evaluation of the outcomes are structured using the JD-R3 model. There was a reduction in the negative outcome measures for nurses working at the two NT hospitals; with a significant reduction in psychological distress for nurses at NT Hospital 2; a significant reduction in emotional exhaustion for nurses at both hospitals; and a significant reduction in PTSD at NT Hospital 2. There was no real improvement in negative outcomes measures for the intervention samples. The only exception was an improvement in physical health for nurses at Katherine West Health Board and this was such a small sample that little can be concluded.

With the positive outcome measures there was a significant increase in work engagement among nurses in very remote Australia. However, this appeared to be with nurses working in small hospitals. There was no real improvement seen in the samples in the Top End, CA, Katherine West Health Board or the control group. There was also no improvement in job satisfaction in nurses in the top end, CA, Katherine West Health Board or in the control group. There was a significant increase in job satisfaction for both NT hospitals from Survey 1 to Survey 2.

There was little improvement in job demands in the intervention groups between Survey 1 and Survey 2. CA sample showed a significant improvement in support from Survey 1 and Survey 2, however, the control group outside the NT also revealed a highly significant improvement in support. There was some increase in job demands for the intervention groups with the Top End having significant increase in infrastructure and equipment problems. All other job demands showed no real changes.

There were differences between the intervention groups and the control group. Compared to the control group the Top End had significantly higher problems with infrastructure and equipment. There were greater staffing difficulties and higher workloads for both the top end and CA at Survey 1, and higher workloads for CA at Survey 2. The intervention samples in the NT also had higher levels of intercultural factors, greater negative impact of the remote context and higher levels of culture shock with CA having significantly higher levels than the control group. These

differences are most probably related to the increased percentage of Indigenous people in the NT compared with other states.

There was an improvement in some resources with the two NT hospitals with an improvement in supervision in NT hospital one from Survey 1 to Survey 2, and an improvement in social support for NT hospital two from Survey 1 to Survey 2, but no real change in the very remote samples.

Orientation and resilience were not included the first survey so comparisons between Survey 1 and Survey 2 could not be made, however the two hospitals had higher levels of nursing staff receiving an orientation compared to very remote samples and had higher adequacy rates in the areas of orientation to their position, to the organization and to cultural awareness.

There was a significant increase in flexible / adaptable culture and communication for both hospitals from Survey 1 to Survey 2. There were also significant increases in psychosocial safety climate in the total very remote and NT hospital one; however, there were no real improvements in the NT remote samples or the control group. Overall, there were significant increases in total system capacity in NT Hospital 1 and NT hospital 2. There was a significant decrease in the Top End with no changes for the other groups.

Conclusion

Evaluations of the workshops were mainly positive. Participants found the RAN and health centre manager workgroups and implementation committee meetings generally interesting and engaging, the facilitators effective and participants thought that their input was valued. In contrast, the results from the process evaluation obtained from the BFTE second survey, completed some months after the end of the PAR/organisational development process were far less positive. The majority of respondents felt that little or no trust had been built during the process, and that the action plans had not really been addressed. The majority of respondents thought that the remote health management teams had made an effort to involve RANs and health centre managers throughout the project.

However, the majority did not perceive that their immediate manager shared what they knew about the project. The majority did find information was accessible to some or to a large extent, but most did not have much of an opportunity to speak with their immediate manager about the project.

The outcome evaluation was largely negative. While the two NT hospitals demonstrated strong improvements in reducing psychological stress and emotional exhaustion, there was little or no improvement in the NT remote samples. Respondents from the NT hospitals also showed significantly higher levels of improvement over the previous 12 months in the areas of workload, education, staff relief and management, in comparison to the very remote sample. There were no significant differences in levels between the NT very remote samples and the control group. However, the research translation was extensive and the results have been well documented in various forms.

CHAPTER 8

DISCUSSION



Dunes near Docker River
Central Australia
Northern Territory
Photo - Ciara O'Sullivan

Introduction

The 'Back from the edge (BFTE): reducing occupational stress among RANs in the Northern Territory' study participants developed and implemented interventions designed to reduce occupational stress among NT RANs. The study was a partnership between the Centre for Remote Health, NT DoH&F and CRAN*Aplus*. The Katherine West Health Board later joined the project and agreed to attempt to reduce occupational stress among the RANs they employed. Interventions were developed in the study using an adapted participatory action research/organisational development (PAR/OD) model. Workshops were conducted with RANs, health centre managers and middle and senior managers from the NT DoH&F and the Katherine West Health Board to develop the interventions.

Considerable information was gathered throughout the study that contributes to new knowledge in a number of areas. This chapter has been organised into eight sections:

- **Occupational stress interventions**

The development and attempted implementation of interventions (a theoretical framework) provides a blueprint for action to reduce occupational stress among RANs. Wakerman et al. (2006) identified five essential requirements for effective and sustainable primary health care services. These include: (1) workforce organisation and supply; (2) funding; (3) governance, management and leadership; (4) linkages; and (5) infrastructure. The most crucial aspect to reducing occupational stress is workforce organisation and supply. However, all aspects are 'linked and do not operate independently' (Wakerman et al. 2006, p. 35). This chapter discusses the occupational stress interventions in relation to these essential requirements.

- **Differences between hospital and very remote results**

The impact of this study was not as comprehensive as anticipated. Results varied according to location of employment; there were significant improvements in occupational stress among hospital nurses that did not occur among RANs. A comparison of the study settings provides new information on

resources that influence the work conditions and impact on the effectiveness of interventions to reduce occupational stress.

- **Examination of the PAR/OD process**

The process of developing the interventions and their implementation was evaluated as to what factors in addition to resources, influenced the success or failure of the PAR/OD process. These process variables, or 'who did what, when, why, and to what effect' have been grouped into characteristics of the organisation, employees, managers, process and the interventions.

- **Research transfer**

An extensive research transfer plan was undertaken that was supported by the literature; however, this had varying degrees of success.

- **Theoretical implications**

This study developed two main theoretical frameworks. It developed the PAR/OD model to develop occupational stress interventions and multilevel frameworks emphasising organisational, job and individual, combined with a components with a wider more comprehensive systems approach.

- **Future research**

The study identified several gaps in knowledge with regard to reducing stress levels among RANs and in the delivery of effective remote health services

- **Limitations**

Limitations to the study included uncontrolled changes in the circumstances of RANs in the NT, including the Australian Government Intervention into the NT and the outbreak of the H1N1 virus or swine flu.

- **Significance**

This study has generated and applied new knowledge about mitigating and preventing stress in the RAN workforce and valuable information and savings to employers about improving retention rates and stability of staff.

Occupational stress interventions

Occupational stress interventions were examined by organising the occupational stress interventions into a theoretical matrix, according to the operational level and the five essential service requirements that underpin an effective and sustainable PHC health service identified by Wakerman et al. (2006) (see Table 8.1). Workforce supply and organisation was arguably the most significant essential service requirement that impacted on the BFTE study. Staff turnover, retention, the education of RANs including orientation, increasing ancillary staff particularly Aboriginal staff, and the unresolved issue of workplace safety were targeted by the interventions, but also prevented the interventions from being implemented or from being successful. Management and leadership/governance in remote areas have been identified as lacking sufficient depth and experience (Bailie et al. 2004). Poor management was identified as a job demand and stressor in this study. Adequate ongoing funding is a critical factor underpinning any sustainable primary health service (Wakerman et al. 2006) and lack of funding greatly limits the implementation of many of the occupational stress interventions developed. Adequate infrastructure is another of the essential service requirements identified by (Wakerman et al. 2006). However, this proved to be an extremely difficult and frustrating area to the workgroups and the research team to improve. Some of the difficulties with attempting to improve infrastructure were the lack of linkages (the last essential service agreement) between different NT government departments and between senior management and health centre staff. Each of these factors is discussed in more detail on the following pages. The results from this study are compared and contrasted to the literature, and areas of new knowledge and remaining gaps in knowledge are highlighted.

Table 8.1 **Blueprint for action: NT DoH&F matrix of occupational stress interventions**

	<i>Workforce organisation and supply</i>	<i>Management/leadership and governance</i>	<i>Funding and financing</i>	<i>Infrastructure</i>	<i>Linkages</i>
Organisation	Increase pool of permanent relief staff Improved education of RANs including appropriate orientation of all RANs Establish career pathway for RANs Reduce single nurse clinics	Improve education of managers Reduce workload associated with forms for leave, travel, etc. Increase RANs completing exit interviews	Increase permanent relievers Improve orientation Increase number of RANs to reduce single nurse clinics Increase accommodation	Increase accommodation in remote communities	
Operational unit CA or TE	Reduce workload from visiting teams by centralising teams going to remote communities Increase employment of RANs Increase employment and training of ancillary staff including admin, cleaners, drivers, etc.	Information from exit interviews received by management team Staff to complete performance reviews Introduce feedback system for management Establish OH&S committees	Increase employment and training of ancillary staff including admin, cleaners, drivers, etc. Improve management of equipment Improve maintenance and repairs to clinic and staff accommodation Improve internet access	Improve management of equipment Improve maintenance and repairs to clinic and staff accommodation Improve internet access	Linkages were required between different government departments that managed facilities and equipment
Clinic level	Improve safety while on-call		Improve ability of clinics to purchase minor items easily Each clinic to have minimum of 2 vehicles Increase cleanliness of clinics and accommodation	Each clinic to have minimum of 2 vehicles Increase cleanliness of clinics and accommodation	
Individual	Improve understanding and reporting of vicarious trauma and PTSD by health centre managers and RANs				

PTSD, post-traumatic stress disorder; RANs, remote area nurses; OH&S, occupational health and safety

Workforce organisation and supply

At an organisational level there were numerous interventions identified that were aimed at improving the orientation and education of RANs, increasing permanent relievers, and establishing a RAN career structure. In many ways, the difficulties of workplace organisation and supply were a reinforcing negative cycle. The high turnover of RANs in the NT resulted in an increase in many of the job demands, such as the levels of responsibilities, high workload, and staffing difficulties.

However, the high turnover also limited the introduction and impact of many of the occupational stress interventions. Orientation and education were seen as central interventions to reduce staff turnover, yet employers were reluctant to invest in employees or agency staff who were only there for short periods.

At the operational level, recruitment and retention were key drivers of organisational engagement in this study. The main operational aims of the interventions were to increase the employment of RANs and the employment and training of ancillary staff including administrators, cleaners, and drivers. In particular, an increase of Aboriginal staff was considered important. At a clinic level, the issue of safety, particularly on-call, remained unresolved. RANs were perhaps the only health professionals in Australia who attend call-outs at night unaccompanied.

Staff turnover

In 2008, the turnover of RANs in the Northern Territory was an estimated 57% (Garnett et al. 2008). Voluntary turnover incurs significant costs, both in terms of direct costs (replacement, recruitment, selection, temporary staff and management time) and indirect costs (morale, pressure on remaining staff, costs of learning, product/service quality and organisational memory) and the loss of social capital (Humphreys et al. 2007).

One outcome of the Australian Government Intervention in the NT was the policy of recruiting agency staff from urban centres, generally from the east coast, for short-term contracts, usually 6 weeks to 3 months. The implementation groups and the high level reference group (HLRG) valued the recruitment of these short-term

agency staff. The agency staff provided health services with access to relief staff for leave and professional development purposes, the lack of which has been identified by workgroups and the literature (Garnett et al. 2008; Lenthall et al. 2011; Productivity Commission 2006). The use of agency also provided health professionals who are new to remote work, an opportunity to have a valuable experience and to determine if they are suited to this work. On the other hand, the failing of the strategy of recruiting agency staff is the lack of preparation for the RAN role and any strategies to support longer-term staff. Agency staff were often better paid than their longer-term counterparts were, and because of the short-term nature of their employment, they need a lower level of responsibility.

While the employers valued the use of agency staff, the Sunrise Health Service, annual report stated that 'Remote Area Health Corps (RAHC) - has ensured we receive exceptional quality and timely replacement staff for those going on leave or training courses' (Sunrise Health Board 2014, p. 12), this differed with the RANs and health centre managers in the workgroups. They reported that this increase in poorly prepared short-term staff resulted in RANs and health centre managers experiencing increased stress levels. With high staff turnovers and increased short-term staff, many reported 'orientation burnout' with the demand of continually orientating new staff to the clinic and community. Longer term RANs reported being unsure of short-term staff knowledge and abilities, and unsure if they were safe practitioners. There were also conflicting values between the two groups, with reports from RANs and health centre managers that many short-term staff were interested in doing as much overtime as possible and sometimes encouraged people to come to the clinic after hours. It is standard practice that only emergencies and sick children are seen after hours. Overtime, however, can more than double a RAN's salary and in some cases, depending on the contract with the agency, result in four or more times the base salary. Longer-term staff reported being less interested in doing overtime as they were more committed to primary health care, including encouraging independence among community members.

While most agency staff came from the urban centres on the east coast of Australia, feedback from workgroups and implementation committees indicated that an increasing number of more experienced remote area staff elected to work for an

agency. Remuneration is more attractive and access to leave is more straightforward. While this trend is improving the quality of agency staff, it is also reducing the pool of experienced staff being recruited to longer-term work. The major negative impact of the increase in short-term staff is the lack of continuity of health care. Knowing and being known by the community is crucial to the delivery of high quality health care to populations in remote Indigenous communities. There is, however, little empirical work about the impact of short-term staff in remote communities making this an important focus for future research.

Improving RAN retention

It has been argued that minimising avoidable turnover and retaining the most valuable health workers is the key to workforce stability and the delivery of high quality health care (Humphreys et al. 2007). A systematic review of retention of the rural and remote primary health care workforce, developed a useful 'Rural and remote health workforce retention framework' see Table 8.2 (Humphreys et al. 2007, p. 42).

Contrasted with Humphrey's (2007) work, the results from the current study indicate that the RAN workforce in the NT, whether within the NT DoH&F or an Aboriginal Medical Service (AMS), is not adequate or stable. Face-to-face interviews for recruitment are rare and there is, as yet, no personality profiling conducted prior to employment contracts being offered. Participants indicated that infrastructure is poor in most remote communities and housing is limited which sometimes restricts the number of RANs employed in the community. Access to vehicles is also limited, as is internet access. Of concern in relation to perceived isolation and professional development or educational opportunities, participants indicated that internet access was available in the health centre but not generally available in the RAN's accommodation. Air conditioning was generally available, but child care and family support was extremely limited. Financial remuneration for RANs has improved significantly over the last 10 years and most RANs considered it adequate.

Table 8.2 Rural and remote health workforce retention framework

1. Maintaining an adequate and (stable) staffing
This helps to ensure a reasonable workload for employees and thereby minimises stresses associated with overload or learning new aspects of work to cover gaps. Face-to-face interviews and personality profiling in recruitment can help to ensure the right types of people are hired.
2. Providing appropriate and adequate infrastructure
Previous research has highlighted the significance of good infrastructure for workforce recruitment, retention, and service sustainability. Aspects include: • ready access to IM/IT, good communications, and technical support • ready access to vehicles, adequate housing, etc. • air conditioning • child care and family support
3. Maintaining realistic and competitive remuneration
Remuneration and pay equity is an important aspect of employment. This includes employment benefits (packaging, health care insurance, etc.) and retention bonuses.
4. Fostering a workplace culture that recognises and rewards individuals making a significant contribution to patient care
Workplace support and incentives include: • good communication • preceptor/mentorship program • collegial support and supervision • funding for conferences • CPD opportunities • management training • engaging in research and scholarships for academic pursuits
5. Shaping the workplace environment
Desire to stay with an organisation is strongly influenced by the nature of: • employee induction and orientation program • leadership and management role • degree of autonomy • opportunities for promotion
IM/IT, information management/information technology; CPD, continuing professional development Adapted from Humphreys et al. (2007, p. 42)

Workplace support and incentives are limited. Communication within the DoH&F appears mainly to be top down, with little communication between senior management and RANs on the ground. Members of the HLRG, who were also senior managers with the NT DoH&F, demonstrated surprise at some of the information coming from the workgroups. The high turnover appears to influence how some members of senior management perceive staff on the ground, with RANs reporting that they were viewed more as ‘disposable numbers’ rather than valued staff members. This perception, and the cost of workplace support and incentives, limits preceptor and mentorship programs, collegial support and supervision, funding for conferences, and continuing professional development opportunities for RANs.

While the employee induction and orientation program for RANs is strong, promotion, leadership and managerial roles are limited. Again, this appears to be related to both the high turnover and managers' perceptions of RANs.

Education of RANs

Effective orientation and continuing professional development (CPD) is vital for ensuring an adequate workforce (Humphreys et al. 2007). However, orientation rates, as detailed in Chapter 3, were low for nurses in very remote Australia, with 35% of respondents in the NT to this study, not receiving any orientation at all. Of those who had received an orientation, less than half thought it was adequate in relation to improving their cultural awareness. The study identified the need for improved orientation and education, particularly around advanced clinical skills, public health and PHC. While there are orientation programs available, the NT DoH&F has a four-week orientation and induction program for new staff, but this and other similar programs should be available to all RANs.

Orientation gaps

While RANs with the NT DoH&F receive some orientation, they only make up part of the workforce. Agency staff and RANs working with AMS do not receive this orientation. The AMS of the NT have stated that they do not have the funding to pay for orientation and to release staff for the period required (personal communication). There has been an increase in agency staff funding themselves to attend the Transition to Remote Area Nursing program offered by the Centre for Remote Health. However, the overall percentage is low.

Different employers, including State and Territory governments, do have minimum education standards for RANs. The NT DoH&F currently require RANs to complete the CRAN*ap*lus Remote Emergency Course (REC), Maternity Emergency Course (MEC) (both 2.5 day workshops), the Pharmacotherapeutics for RANs (2 day workshop with a workbook) conducted by the Centre for Remote Health, and the immunisation endorsement course (external workbook with clinical element) conducted through NT DoH&F. Some of this is completed during orientation as detailed above and the rest within the first year of work.

Further education

Orientation is also only the beginning of the RANs' education (Eckermann & Dowd 2001; Lenthall, Wakerman & Knight 2009). For a number of years, RANs have argued that remote area nursing is an advanced practice role that requires adequate education. This message is gradually gaining acceptance among health services and governments. Employers, however, are understandably reluctant to invest in short-term staff. In discussion with participants, it does appear that with the increase in short-term staff, and with few policies to promote or support the employment of longer-term staff, the drive for adequate education of RANs appears to have diminished.

At a national level, RANs are able to apply for scholarships for postgraduate studies. An examination of the scholarships available to RANs has seen a decrease in those available over the last three years.

The benchmark for the education requirements for RANs was set in 1997, when a national forum organised by the Council of Remote Area Nurses (CRANA, now CRANAp*lus*) outlined the requirements for the education of remote health professionals. The forum concluded that all remote health professionals should have:

- an understanding of remote health history, cultural, and social principles;
- an understanding of clear models of remote area practice;
- the ability to deliver high quality primary health care;
- a commitment to community development;
- a capacity for teamwork and management skills;
- the capacity to cope in isolated and cross-cultural situations; and
- the ability to practise in a culturally safe manner.

(Czulowski 1997)

The *National remote area nurse competencies: the challenge of competence* states that RANs:

- will be able to demonstrate the core competencies that are required of all registered nurses;
- will be required to practise at an advanced level in the unique context of remote area nursing practice;
- will frequently be working in isolation (geographically, socially, culturally and professionally);
- may be a sole practitioner or a member of a small team;
- will be required to deliver comprehensive primary health care (PHC) related not only to individuals and families but to whole communities;
- will be required to provide care across the lifespan of diverse groups;
- will be required to provide health care across a diverse range of health specialties;
- will be required to work in partnership and negotiate with a variety of community groups and other health professionals;
- will be required to reflect on and acknowledge the values and norms of own socio-cultural traditions in order to appreciate those associated with others; and
- will frequently be working in a cross cultural environment and will consequently be required to adapt skills, knowledge and attitudes to local customs and traditions.

(Eckermann & Dowd 2001, p. 6)

As a result of several coronial investigations involving RANs in the NT over the last 10 years, the NT coroner has recommended that all RANs undertake the REC (CRAN*Apus* 2011).

There has also been also been an increasing requirement for RANs to undertake a pharmacotherapeutics course or equivalent. This is linked to poisons Acts in different states and in the NT, and registered nurses' endorsement to dispense and prescribe medications in isolated areas by the Nursing and Midwifery Board of Australia.

As a result, the primary focus on education requirements for the last few years has been on emergency care and medications. In comparing this to the objectives set out by the national forum and the statement around RAN competencies, there is an obvious mismatch. The areas that seem not to be addressed are cultural safety; comprehensive PHC, and management and teamwork.

Delivery of education

Many of the occupational stress interventions aimed at increasing access to orientation and education of RANs focused on low cost delivery methods such as via the internet. However, face-to-face interaction among remote health professionals is valued more than internet-based education (Aitken 2008). Face-to-face interaction facilitates the formation of supportive networks, and is seen as essential for teaching certain skills, particularly where 'hands-on' teaching and learning are required. It is particularly suited to experienced health professionals (Humphreys et al. 2007). This is consistent with the evaluations of face-to-face workshops for RANs conducted at the Centre for Remote Health (CRH). Participants completing course evaluations often cited the networking and sharing experiences among the most valuable aspects of the face-to-face workshops. Academic staff at the CRH, have also found that clinical skills cannot be taught adequately via the internet (Aitken 2008). However, face-to-face learning poses considerable costs to the individual and/or the employer. There is a continual debate between lecturers, participants, and employers over what must be taught face-to-face, and what should be taught via the internet. This debate is likely to continue.

Clinical support

A key ingredient in the education of RANs is the clinical support they receive. In discussions with workgroups and the implementation committees, clinical support was the major area that needed improvement. Orientation and orientation burnout have been discussed above. It was suggested by the HLRG that clinical supervision and support should be part of a HCM's role. However, HCMs made it clear that they felt they did not have the time to undertake this role. Unfortunately as mentioned above, the HLRG did not support the employment of additional educators.

Indigenous staff

Employing Indigenous health professionals and health workers has been identified as a key strategy to promote culturally safe service delivery aimed at improving accessibility of health services for Indigenous peoples (Ware 2013). However, there has been a 30% reduction of Aboriginal health practitioners in the Northern Territory over the last decade (Paterson 2011). It has been argued that the

Aboriginal health professional role has never been clearly described; that they are overburdened with being the 'jack of all trades'; that the amount of training they receive does not match the level of responsibility expected of them; that there are few opportunities for promotion; and that they are the lowest paid of community service and health workers, but are assumed to be able to deal with some of the country's worst health issues (Hudson 2012).

Increasing the employment and training of Indigenous staff was one of the priority interventions generated by the BFTE project. This is consistent with the *National strategic framework for Aboriginal and Torres Strait Islander health*, which clearly supports the increased employment of Indigenous health professionals (National Aboriginal and Torres Strait Islander Health Council 2003). The Northern Territory Aboriginal Health Forum *Workforce implementation plan* identified five action areas:

- increasing the number of Aboriginal and Torres Strait Islander people in the health sector
- improving the clarity of roles and vocational education
- addressing role and development needs
- improving recruitment, training and retention
- including clear accountability to achieve the previous objectives (Northern Territory Aboriginal Health Forum 2003).

While there has been some work on achieving the above, a great deal more needs to be done.

There are also numerous sources (Jackson, Brady & Stein 1999; Tregenza & Abbott 1995) that report a poor relationship between Aboriginal health professionals and work colleagues, in particular with RANs. Jackson, Brady and Stein's (1999) research into the relationship between Indigenous health workers (now professionals) and nurses found that an improved professional relationship was necessary, desirable and achievable. Key themes identified to improve this relationship were learning to know and understand each other, workplace equity and learning from each other

(Jackson, Brady & Stein 1999). Although this research was completed a number of years ago, in discussion with participants, little appears to have changed. This leads back to the importance of cultural safety orientation and education of RANs.

Violence and safety concerns

Safety concerns identified during the BFTE project mainly involved the safety of staff when called out especially after hours. Members of the workgroups had quite different impressions about safety in communities. A number of participants were quite dismissive about concerns, while there was a group of RANs who had experienced violence and who felt that some participants were being naïve and underestimating safety concerns. As mentioned in Chapter 6, in Survey 1, 86.4% of RANs indicated that they felt concerned about violence in the community and 33.2% of these felt concerned at least once a week.

In a model of intervention layers for the prevention and management of aggression, Brooks et al. Figure 8.1 (2010, reproduced in Opie et al. 2012) identified levels, aims and strategy areas.

Most of the suggested interventions concerned prevention. One suggested intervention was to increase drivers for after hours call-outs. This was dismissed by members of the HLRG, and created some conflict, when concerns were raised about their dismissal of this intervention.

In addition to prevention, the area that was of concern to RANs, educators and members of the Bush Support Services is 'abating the impact following violence and learning from incidents' (Opie, Lenthall & Dollard 2011, p. 29). Feedback to the Bush Support Services (via their telephone counselling service) was that RANs who had experienced a critical incident have been poorly managed by middle and senior management. RANs' feelings of being unsafe or stressed after a critical incident have been dismissed or minimised by their managers (personal communication).

Identification of violence and safety concerns in the BFTE study has resulted in a joint research project between CRANAp^{plus}' Bush Support Services and the CRH. The project aims to improve the management of remote health professionals who have experienced a traumatic event. Remote health practitioners' experiences of the

management of a traumatic event they have experienced as well as remote health service managers' experiences of managing staff who have experienced a traumatic event will be investigated. Factors that hinder or help recovery will be identified through in-depth interviews and thematic analysis and will be used to develop strategies to improve future management.

Level	Aim	Strategy areas	
SUPPORT STRATEGIES	<i>CULTURE</i> Encouraging a societal and organisational climate that underpins the entire program	Public awareness	Gaining community support through development of a communication and public awareness campaign with a variety of partners such as the police, media, and victim support centres.
		Organisational culture and climate	Creating and maintaining an organisational climate that supports the goals of the anti-violence program by using principles of organisational justice in all policy and procedures, and measuring and building psychosocial safety climate, ensuring effective communication and collaboration with employees, and management commitment.
PRIMARY	<i>PREVENTION</i> Reducing opportunity for violent incidents to occur	Environment and equipment design	Making changes to physical aspects of the environment including layout and design of buildings, and the equipment and furniture within. Referred to as 'Crime prevention through environmental design' (CPTED), this strategy aims to minimise the likelihood and costs of violence.
		Job and task design	Altering job designs and staffing patterns to reduce situations where staff are at higher risk of violence.
		Staff training and education	Strengthening the capacity of individual staff members to prevent/respond to violence in an educational program covering training in post-incident action, response, prevention, and theory.
SECONDARY	<i>PROTECTION</i> Implementing effective response strategies	Emergency situation response	Planning and educating staff on response strategies for when violence occurs or is imminent to help manage incidents safely and protect people involved.
TERTIARY	<i>TREATMENT</i> Abating the impact following violence and learning from incidents	Incident reporting	Implementing an effective and well used incident reporting system to provide a means of assessing risk and effectiveness of management strategies, and learning from events.
		Support for victims	Post-incident follow-ups, debriefing, and evaluation to support victims and help them to cope after they have been involved in an incident.

Adapted from Brooks et al. (2010)

Figure 8.1 Intervention layers for the prevention and management of aggression

Management/leadership and governance

Poor management, described under 'Job demands', was identified as a job demand by RANs and health centre managers. This has also been noted in the literature (Wakerman & Davey 2008). In the NT, there is a relatively small pool from which managers and leaders are drawn. Typically, clinicians are promoted to management positions without additional education or training. In some cases, the health centre manager is 'the last man standing'. The study identified a need for stronger education for managers and improved communication between staff on the ground and senior management.

Funding

Significant systemic impediments to the provision of appropriate sustainable health services have been identified in the literature. These include:

- Inflexibility in existing funding streams—the inability to move resources across programs limits the ability of health services to respond to community needs and changes within the system and in the community generally.
- Insufficient funding—there is substantial evidence of under allocation of funds for Indigenous health services (AIHW 2008c) and workforce shortages in rural and remote areas (AIHW 2005).
- Inbuilt perverse incentives for cost shifting between Commonwealth and state governments—Commonwealth-state relations continue to be a complex and fraught area. The pattern has been generally one of Commonwealth funding being utilised to overcome state under-servicing in rural and remote primary health care.
- Poor coordination and fragmentation in health program funding—divided responsibilities for funding different health programs limit the scope for an integrated approach to health care politically, as well as limiting continuity of care on the ground.
- A funding focus on remuneration of service providers, particularly general practitioners, rather than the needs of consumers, leading to a significant

degree of supplier induced demand. That is, a financing system which is neither person-centred nor needs based.

- A disease-based rather than PHC focus—many rural communities would benefit from financing structures that support models emphasising a PHC approach which focuses on the determinants of health, disease prevention, and early intervention.
- The shortage and maldistribution of the health workforce in rural and remote regions—where funding is provided for an episode of care on a fee-for-service basis, rural areas which are characterised by a reduced availability of health providers effectively forego resources to which communities are ‘entitled’, thereby exacerbating geographical inequities in the provision of health services. (Humphreys & Wakerman 2008).

Most of the above were difficult or impossible to influence by this study and remain barriers to reducing occupational stress among RANs.

Infrastructure and equipment

As detailed in the evaluation results, numerous interventions relating to improving infrastructure and equipment were identified, however, the implementation of these interventions proved to be extremely difficult. The three main reasons for non-implementation identified by the research team are outlined below.

1. Lack of funding

There was no additional funding attached to this project. While it was thought that the project could influence the way funding was allocated, this proved difficult. The lack of any identified funding meant that those occupational stress interventions that required additional funding were not implemented. The systemic impediments to the provision of appropriate sustainable health services have been identified.

2. Acceptance of poorer standards in remote Indigenous communities

Members of the HLRG, stated that lower standards of equipment and infrastructure were to be expected in remote Indigenous communities.

Maintenance of buildings and equipment was generally poor, and would not meet the standards set by health facilities in urban areas.

3. Interagency difficulties

Some of the buildings and accommodation are owned by departments other than the DoH&F. Additionally, other departments have authority over various pieces of equipment. Implementing some of the interventions required agreement by multiple departments and proved extremely difficult.

For example, the 'fit out' of ambulances in the Top End caused considerable debate at all levels. What at first seemed to be a relatively minor problem that could easily be resolved became an apparently intractable issue. There were different departments involved in the fit out of ambulances and this created significant obstacles to achieving any agreement. CA did not seem to have the same difficulties. Perhaps this is because CA is smaller which may make the communication between different departments easier. In the Top End, communication seemed more difficult, and although numerous attempts were made, an agreement on what should go in the ambulances and where the equipment should be located, was not reached.

Linkages

Linkages, both 'integration' (linking up within an organisation) and 'coordination' (linking up with related external agencies), were difficult to achieve. In particular, the linkages between senior management and health centre staff need bi-directional strengthening. Linkages between different departments involved with equipment and infrastructure need to be strengthened also.

Differences between hospital and very remote results

Nurses at two major hospitals were surveyed at the same time as RANs. In the second survey there was a significant reduction in psychological distress for nurses at Hospital 2; a reduction in emotional exhaustion for nurses at both hospitals; a reduction in post-traumatic stress disorder symptoms at Hospital 2; a significant increase in job satisfaction for both hospitals; and an improvement in some

resources with an improvement in supervision and social support for Hospital 1. There was also a significant increase in flexible/adaptable culture and communication, in psychosocial safety climate in Hospital 1, and in total system capacity in both hospitals. Respondents also reported significantly higher levels of improvement over the previous 12 months in the areas of workload, education, staff relief, and management, in comparison to the very remote sample.

While the two hospitals were not part of the intervention phase of the BFTE project, there were important organisational developments occurring at both hospitals between the two surveys. The impetus for this appears to have been a number of coronial inquiries with negative findings in relation to the hospitals and the associated public outcry with political involvement, which influenced the development of the nurses Enterprise Agreement. The Directors of Nursing (DONs), at both hospitals reported low levels of morale at the time of the first survey. This may partly explain the extremely high levels of psychological distress and emotional exhaustion in the first survey.

Occupational stress interventions at NT hospitals

Occupational stress interventions to reduce stress and turnover among nurses into NT hospitals were triggered by an Enterprise Bargaining Agreement. A workload intervention was implemented from 2005 to 2010. The key interventions were:

- a nursing workload tool. This resulted from the NT public sector nurse's Union Certified Agreement in 2008 and was implemented after extensive review and analysis for impact in the NT hospitals. The implementation of the nursing workload tool was further enhanced by the development of NT DoH&F, *Acute care: best practice rostering and deployment principles* (2009) with an associated education program for clinical nurse managers and nursing directors throughout 2010. Random audits of rosters were also undertaken to assess compliance with the rostering and deployment principles
- assessment of nursing workloads in all wards and units in NT public hospitals
- additional nursing positions were then implemented to address an identified shortfall and job demand requirements in October 2009

- long-term funded recruitment strategy to increase the number of nurses employed in the NT
- an actual increase in staff from 1490 full-time equivalent (FTE) in 2005 to 2000 FTE in 2010 across the two hospitals
- expansion of the DoH&F nursing graduate program, with increased access to clinical supervision and support for graduates
- increased access to continuing professional development including postgraduate qualifications and short courses, with the establishment of the CDU Graduate School for Health Practice, in 2005
- a recruitment campaign for new graduates and continuing employees (Rickard et al. 2012).

A number of reasons seem to explain the difference in results between the hospital nurses and the remote samples.

Resources

The directors of nurses at the two hospitals reported that the hospitals received an additional budget of \$9 million that year. A full-time project officer was also employed in the hospitals project. There was no additional funding associated with the BFTE project. There was additional funding to NT Remote Health from the Expanded Health Services Delivery Initiative, the program which followed the Australian Government Intervention. BFTE researchers encouraged use of the Expanded Health Services Delivery Initiative funding to interventions from the BFTE project. In a few areas this was achieved. From the Expanded Health Services Delivery Initiative funding an equipment manager was employed, three additional RAN places were created to reduce single nurse clinics, and a number of Aboriginal community workers were employed. However, the majority of the Expanded Health Services Delivery Initiative funding went into the creation of area services manager positions. Eight new Area Services Managers were employed which created another level of management.

Management

The NT DoH&F, through Expanded Health Services Delivery Initiative funding, made a significant investment in the creation of the Area Services Manager positions. However, in examining poor management as a job demand, both the Top End and CA samples showed a non-statistically significant increase in management problems. In examining improvements in the previous 12 months in management, the TE and CA samples had statistically significantly lower improvements than the two NT hospitals. In discussions in the workgroups, most RANs and health centre managers reported management as becoming poorer, with the extra layer of management reducing job control, particularly for health centre managers, and creating confusion with regard to reporting relationships.

Political and public pressure for change

Another major difference between the results of reducing occupational stress among RANs and NT hospital nurses was the political and public pressure for change. There had been a number of coronial investigations into deaths at the Royal Darwin Hospital. In particular, one case highlighted the issue of nursing shortages at RDH.

Mrs. Margaret Winter died at 3:46am on 16 December 2006 in the Intensive Care Unit at the Royal Darwin Hospital from an acute subdural bleed which she sustained after she fell on Ward 4A in the late afternoon of 13 December 2006. After the fall her doctor prescribed ½ hourly neurological observations however there was a period of almost 2 hours where they weren't done, and then she was found, unconscious, and never recovered. (Cavanagh 2008)

Mr Greg Cavanagh, the NT Coroner, found that her death may well have been preventable. He concluded that:

Nursing staffing deficiencies on 13 December 2006 contributed to both the fall and the failure to do observations; the total number of nurses was too low, the proportion of agency and overtime nurses and nurses from a different area in the hospital were too high, and the nursing skills mix was problematic. This situation was compounded by barriers to calling in additional nurses if patient acuity required it. This was not a one-off situation but a representation of a nursing staffing crisis at the Royal Darwin Hospital in 2006-7. Dr Burrow, an experienced neurologist said that 2006 seemed to be a very busy year and that a 'feeling of weariness and

low morale was certainly communicated to me on many occasions by the nursing staff'. (Cavanagh 2008)

In response, the then Health Minister, Dr Chris Burns stated that:

The Coroner's report points to deficiencies within Royal Darwin Hospital and the Health Department in relation to ensuring adequate numbers of nurses to care for patients on the medical wards at RDH.

I have directed the department to implement, without delay, the Nursing Hours per Patient Day staffing model as recommended by the Coroner. I have also directed the department to ensure that decision-making in terms of staffing numbers be made by senior nursing staff within RDH – in line with the Coroner's recommendations. (Burns 2008)

The various coronial inquiries and the surrounding publicity resulted in considerable political pressure on the DoH&F and hospital management to ensure that the organisational changes did occur. The nursing workload tool, Nursing Hours per Patient Presentation (NHpPD) was built into the Enterprise Bargaining Agreement which caused the nursing union to become involved and apply additional pressure (Rickard et al. 2012).

While there have been several coronial inquiries that focused on the delivery of health care by RANs in remote communities, there has not been the level of public concern or media attention that occurred with the deaths at RDH. There is also no accepted funding formula related to HR resources in PHC.

Lessons learned

There are some important lessons learned about organisation change from the above comparison between the BFTE and the hospitals studies. These lessons include:

- Ensure that an employee from the organisation is employed within the project. While a DoH&F staff member was part of the research team, not having a staff member working on the project, made the project more 'external' than was originally planned.
- Ensure strong involvement of the union. In this case the Australian Nursing and Midwifery Federation. While the president and executive officer were asked to

participate in the HLRG their involvement was minimal. Stronger encouragement for their involvement may have resulted in an increased involvement and input into the study.

- Foster political pressure for change. This is difficult to achieve but could be encouraged with the stronger involvement of the Australian Nursing and Midwifery Federation and CRAN*Aplus*.
- Ensure roles are clearly defined and agreed to.
- Negotiate designated funding to support the organisational changes.
- Invite the Chief Executive Officer of the DoH&F to become a member of the HLRG.

Examination of the PAR/organisational development process

The evaluations from workshop participants were very positive, with the most positive comments provided by the least powerful group (RANs) within the organisation. RANs were the most appreciative of any of the groups for the opportunity to participate in the workgroups. The level of appreciation of the workgroups decreased with the seniority of the groups. Although the health centre manager groups were very positive about the workgroups they were slightly less so than the RANs. The implementation groups were less positive than the health centre managers. The HLRG was not asked to complete an evaluation but observations by the workshop facilitators of participant behaviour, participation, and attendance indicated that the HLRG were the least positive about the process.

As argued in Chapter 3, an approach that evaluates the process of developing the intervention and the implementation should be included to understand how and why interventions succeed or fail. The process variables, or, 'who did what, when, why, and to what effect' have been grouped into characteristics of the organisation, employees, managers, process, and the interventions. Each of these are examined below.

Characteristics of the DoH&F

Resources

Within the NT DoH&F and the Katherine West Health Board there were limited organisational capacity and resources to support change. There was no dedicated funding within these two organisations for the organisational changes suggested from the BFTE project. There was also a lack of human resources with no member of the NT DoH&F employed as part of the study.

In the initial agreement between partners, the NT DoH&F agreed to the following responsibilities:

- contributing to the design of the study and being involved in the implementation, analysis, and dissemination of results
- facilitating the partnership with, and involvement of, NT DoH&F staff at operational and senior management levels
- facilitating access to the RAN workforce and supporting RANs choosing to participate in this study
- convening meetings of RANs including costs of travel and accommodation
- facilitating and contributing to the organisation and running of workgroups and the implementation of the interventions
- committing time of senior and operational managers in the HLRG and regional implementation committees respectively
- providing the agreed financial contribution.

Some of these responsibilities, which were key to the success of the project, were not fulfilled. The department made a commitment that two remote educators would work on the project for two days a week. In discussions with the remote educators, it appeared this commitment was made without their knowledge and with only one remote educator employed in Top End and one in CA, considering their current workload, committing them to a research project of this magnitude was unrealistic, and they were unable to be involved. Without these departmental

positions employed on the project as agreed, arranging the workgroups of RANs and health centre managers was extremely difficult and time consuming. It proved particularly difficult in CA where there seemed to be a lower capacity to be involved in the project. For example, several workshops had to be cancelled due to the inability to arrange for RANs to travel to town.

Trust

The lack of trust between senior management and staff on the ground was reported by RANs and health centre managers as a significant issue. For example, there were several key actions developed by RANs and health centre managers that were dismissed by senior department management without discussion. Consequently, RANs and health centre managers indicated that they did not believe that senior management would listen to what they had to say. Moreover, there were changes that were implemented that staff on the ground (RANs and health centre managers), were unaware of, and there was also a lack of knowledge from senior management about what was happening on the ground. Thus, there seemed to be a bi-directional lack of communication.

This project did not appear to increase the trust between the levels of staff within the NT DoH&F. In fact, there were complaints by a member of the HLRG that the project placed management in opposition to the RANs and that it increased distrust in the organisation. The structure of the PAR/organisational development process itself may have contributed to this mistrust. The workgroups of RANs and health centre managers were separated, as were the implementation groups and the HLRG. Communication between these groups was via the research team. The RANs did not meet with the health centre managers and neither group met with the Implementation groups and the HLRG. Separation of the groups did seem to be effective in promoting openness but, in hindsight, the structure did not allow any direct communication between the groups, which may have been helpful in ultimately increasing trust. In future projects of this nature it may yield improved outcomes to have periods of time where the workgroups are separated but also planned tasks and activities that require the combined participation of the groups.

There appeared to be little social climate of learning from failure within the NT DoH&F. The high turnover rate of staff may have been responsible for preventing learning. There were few processes of evaluation within the DoH&F, so it was difficult to identify with any certainty or precision what it was that was failing. With the lack of communication occurring in both directions there was an inability to detect obstacles early within the department.

Characteristics of the employees

Most RANs and health centre managers demonstrated through their engagement with the project that they were prepared for, and accepting of, the need for change. They were concerned about the issue of occupational stress before the project began and demonstrated a commitment to develop action to decrease occupational stress. They also demonstrated strong motivation and willingness to participate in the project. There the evaluations of the workgroups also demonstrated a level of cynicism about whether they would be listened to.

RANs and health centre managers had a role in the development of the interventions. A bottom up model was adopted where RANs and health centre managers developed actions and referred these to the Implementation Committee, then the HLRG for implementation. However, their role in decision making was limited. While the Implementation Committee were generally supportive of the actions developed, the HLRG had the final decision and, unfortunately, did not support the implementation of some of the actions, in particular the employment of additional educators; internet connection in all staff accommodation; increasing own staff relief pool; increased employment of drivers for on-call and establishing an educational requirements for managers.

Characteristics of the managers

Evidence from the implementation groups indicated that middle management had a good knowledge and understanding of what was happening on the ground and were strongly supportive of the project. The members of the HLRG, however, did not have the same level of understanding and were often surprised at feedback from the workgroups. There seemed to be a lack of any processes that enabled

communication from clinic staff to senior management. There were some processes, such as email and a newsletter, which allowed senior management to communicate down the DoH&F hierarchy.

In general, while the department invested in the project, there often appeared to be a limited commitment to change through the BFTE study by senior management. Change, however, was supported through a separate change process that was already in progress associated with the Expanded Health Services Delivery Initiative funding. There was a separate agenda associated with this and unfortunately, an attempt to align the two processes was unsuccessful, and changes with the Expanded Health Services Delivery Initiative sometimes worked against the change implementation required for the BFTE project.

Characteristics of the process

The composition of the HLRG was arranged to ensure that the project had the necessary influence to implement the occupational stress interventions that were developed. While the group did have the ability to influence, they did not use this influence to ensure that the implementation occurred as intended.

The project structure was very participatory at all levels with high levels of participation at RAN, health centre manager, and implementation committee levels. However, there appeared to be different expectations of the groups' roles, particularly between the research team and some members of the HLRG. The research team encouraged and expected a greater involvement of the 'grass roots' (RANs and health centre managers) than the HLRG appeared to find acceptable. The HLRG and the research team also appeared to have had different expectations of the roles of the author, as the main facilitator of the workshops, and of the chief investigator. The HLRG expressed concern that the research team members were not 'objective', and at one HLRG meeting stated we should 'keep our opinions to ourselves'. This indicated a lack of understanding of the PAR/organisational development model in which the researchers are also participants. To improve a project such as this in the future it would be helpful clarify roles and the research

process at the beginning of the study, and reinforce an understanding of those roles as needed throughout the study.

The process with the different levels of committees whereby the research team acted as the communicators between the committees was established to allow RANs and health centre managers to speak freely in workshops. However, the DoH&F members of the HLRG stated that they felt the process set the RANs and health centre managers against senior management. The process did not allow direct communication between the workgroups and senior management. There did seem to be a lack of trust both ways and this lack of direct communication may have reinforced the distrust rather than reduced it.

Characteristics of the interventions

Most of the interventions developed were clearly defined with appropriate targets. However, it was often unclear who was responsible for implementing them. In developing occupational stress interventions, the workgroups and committees were encouraged to focus on feasible interventions. Several of the initiatives devised, however, required funding and this did not occur due to funding restrictions. Interventions aimed at increasing staff, including numbers of permanent relievers, RANs, and ancillary staff, as well as increasing the number of vehicles and improving maintenance and repairs to health centres and accommodation, were all potentially valuable suggestions. However, they could not be implemented due to lack of funds.

A key aim of interventions is that they should be important in relation to other ongoing changes and projects. There was additional funding available and considerable organisational change within the health department associated firstly with the Australian Government Intervention and then with the Expanded Health Services Delivery Initiative. An attempt was made to match the interventions. However, as discussed above this was not successful.

Katherine West Health Board

The attempt to develop occupational stress interventions with the Katherine West Health Board proved extremely difficult. The health service lacked the capacity to be involved in the project despite their initial interest. While several meetings were arranged with RANs in Katherine to develop an action plan, the duration of these meetings was reduced to an hour. Though feedback was provided, no action plan was developed. Due to the difficulty with meeting RANs in Katherine, two members of the research team, visited the four remote Katherine West Health Board communities where RANs were employed: Lajamanu in the Tanami Desert, Kalkarindji (Wave Hill), Timber Creek, and Yarrlin. A draft action plan was developed and sent to Katherine West Health Board management for input and comment. The next step was to meet and workshop the action plan with the management of Katherine West Health Board. The action plan has still not been implemented and, despite numerous reminder and motivational emails, it appears unlikely at this stage that it will be implemented.

While the management of Katherine West Health Board was enthusiastic about the project, they lacked the capacity to participate. They are a relatively small health service with limited resources. They found it impossible to enable RANs to leave their communities to meet in Katherine. Even when an action plan was developed, they found it difficult to arrange a meeting of managers with the research team. This lack of capacity to be involved in research or other activities has implications for the health service and for researchers in remote areas.

Research translation

As detailed in the Methods chapter, the research translation strategy was multifaceted and extensive. The components of the strategy were consistent with the knowledge transfer and exchange literature. These included:

face-to-face exchange (consultation, regular meetings) between decision makers and researchers; education sessions for decision makers; networks and communities of practice facilitated meetings between decision makers and researchers; interactive, multidisciplinary workshops; capacity building within health services and health delivery organizations; web-based

information, electronic communications; steering committees (to integrate views of local experts into design, conduct, and interpretation of research). (Mitton et al. 2007, p. 744)

This study involved all the above strategies. There were extensive face-to-face meetings with the HLRG, but the chief executive officer of the NT DoH&F was not a member of the group, which limited the ability of the group to commit funding.

Theoretical implications

Many occupational stress intervention models have proposed multilevel frameworks emphasising organisational, job and individual components. To improve the occupational stress among RANs, this study developed a wider more comprehensive systems approach that includes the five essential service requirements that underpin an effective and sustainable PHC health service (Table 8.1). In examining the occupational stresses developed, the research suggests boundaries around the extent to which interventions may work. Primarily, lack of additional resources and influence prevented many of the interventions from being implemented. Without attention to these boundary conditions, the theoretical intervention models will fail.

The PAR/organisational development model, with its bottom up approach, is concerned with action, reflection, participation, empowerment and change. The emphasis was the involvement of the 'workers', in this case RANs and health centre managers, were involved and empowered. However, the model led to friction between the workers and management that was unintended. An adaptation of the model that allows direct contact between the workers and management aimed at increasing trust is recommended.

Future research

The BFTE study identified several gaps in knowledge with regard to reducing stress levels among RANs and in the delivery of effective remote health services. One, as noted previously, was the research planned in partnership with the CRAN*plus* Bush Support Services, investigating the management of remote health practitioners

experiencing a traumatic event. Traumatic events experienced by health professionals may result in symptoms of post-traumatic stress that cause distress for the health professional and may result in decreased productivity in the workplace (Gates, Gillespie & Succop 2011). How factors surrounding the traumatic event are managed and how the individual is managed following the traumatic stress impacts on the levels of traumatic stress experienced as well as on productivity (Watson & Shalev 2005). Having a sense of support may shape an individual's perception of the traumatic event, their own responses, and their belief in a positive outcome of the situation. Secondary stressors, including poor or insensitive management and deterioration of resources may interfere with recovery (Watson & Shalev 2005). These findings from the literature concur with anecdotal reports from the Bush Support Services (personal communication).

By investigating remote health practitioners' experience of a traumatic event, how they were managed and their managers' experiences of managing these staff, it is hoped to identify factors that hinder or help in recovery. Strategies may then be developed that will improve the management of remote health professionals who have experienced a traumatic event. This should result in improved retention, decreased turnover, decreased long post-traumatic stress disorder, and improved psychological health.

The BFTE study also identified a difference in understanding around the value and importance of continuity of primary health care staff in remote Indigenous communities. Throughout the project, RANs and health centre managers commented on the importance of continuity and on the negative impact of short-term staff on the delivery of health services. However, there is little evidence that supports this. Government policies with the recruitment of short-term staff and lack of strategies to support longer-term staff seem not to value continuity. Future research into the value of continuity of staff and the impact of short-term staffing is needed.

There is little recognition by some in the NT and Commonwealth Governments of the difference between a nurse who has come straight from a metropolitan hospital and an experienced, well-educated RAN. Currently there has been no research to

identify the differences in their health care delivery and health outcomes. There are currently no tools to identify or measure an effective functioning RAN and there is little understanding of the qualities of a 'good' or effective functioning RAN. While there has been a lot of work identifying the educational needs of RANs, there is, at present, no method of evaluating what an effective RAN is. A study is necessary to identify attributes and measure what is an effective functioning nurse.

Limitations

Prior and during the research period, there was considerable turmoil within the Indigenous communities and health services in the NT. There was a great deal of political action including the Australian Government Intervention into the NT. The Australian Government Intervention, which morphed into the Expanded Health Services Delivery Initiative, was controversial and impacted significantly on health services in the NT who were involved in the research. The Expanded Health Services Delivery Initiative was a joint initiative between the Australian Government, NT Government, and the Aboriginal Medical Services Alliance Northern Territory (AMSANT). It targeted four main areas: expanded primary health care services, regionalisation, capital and infrastructure, and evaluation of the program (NT DoH 2011).

In the 2008–09 financial year, an additional \$20.2 million was budgeted by the NT government to expand primary health care services (NT DoH 2015). The NT DoH&F identified lack of management as part of the gap and created areas within the TE and CA regions with area managers. This created an additional management level.

Remote Area Health Corps was funded \$5 million a year for several years. They were tasked with recruiting health professionals mainly from the east coast to undertake short-term contracts in remote Indigenous communities within the NT (NT DoH&F 2011).

The Australian Government Intervention and the resultant Expanded Health Services Delivery Initiative, introduced so many changes, some positive and some

arguably negative, that it is impossible to differentiate the impact of these changes against the changes brought about from the BFTE project (NT DoH&F 2011).

In 2009 when the workgroups of RANs and health centre managers were being conducted there was an outbreak of H1N1 influenza (human swine flu). The first confirmed infection of a person was on 30 May 2009 and Australia moved into the 'PROTECT' phase of H1N1 on 17 June 2009. This phase involved identifying and treating early infection in the vulnerable in whom the disease may lead to severe outcomes like pregnant women and Indigenous Australians, controlling outbreaks, voluntary home isolation, limited school access, and focused monitoring of outcomes such as hospitalisations (Department of Health and Ageing 2009). Several people in remote Indigenous communities in the NT contracted H1N1 influenza and subsequently died. Considerable resources within the NT DoH&F were redirected to managing this outbreak and to providing immunisations for people in remote Indigenous communities. This greatly increased the workload of RANs, health centre managers, and managers within the health department and made it more difficult for these groups to attend the BFTE workshops.

Self-selection bias

Respondents chose to complete the questionnaire, so they self-selected rather than randomly sampled. This may have led to some self-selection bias. For example, those who experience stress may have been more inclined to complete the questionnaire, although the opposite may also be true. The representativeness of the sample groups was established (as above).

Significance

A model of developing occupational stress interventions aimed at an organisation level has been implemented and evaluated. This model, with lessons learnt, will provide valuable information to other studies that aim to develop occupational stress interventions.

This study has generated and applied new knowledge about mitigating and preventing stress in the RAN workforce. Before this study, there was negligible

knowledge in this area. This study has identified the main job demands and the most appropriate interventions to address these. This provides valuable information for health organisations and employers and will contribute to reduction of costs to organisations and employees of occupational stress.

The study also provides valuable information and savings to employers about improving retention rates and stability of staff. The savings can be redirected to the provision of quality care. The social benefits stem from improving stability in the RAN workforce. This may lead to improvements in the quality of service provision through greater continuity of care, greater client focus, improved service outputs, and a contribution to improved health outcomes.

In relation to innovation, this was the first systematic examination of occupational stress in the remote area nursing workforce in Australia and internationally. While occupational stress has been examined in numerous nursing contexts, it has received very little attention in relation to remote area nursing. This study addressed issues critical to the retention of RANs and the viability of health services in remote areas, in particular the cost and quality of those services.

Conclusion

The 'Back from the edge: reducing occupational stress among RANs in the NT' study, utilised an adapted PAR/OD model to develop and implement occupational stress interventions. The process evaluations of the study were very positive but the outcome evaluations were disappointing. To reduce occupational stress among RANs, further implementation of the identified interventions is necessary. The main interventions centre on creating a stable and well-educated workforce. To achieve this, education standards for RANs need to be established at a reasonable level and should include adequate orientation for RANs. To implement adequate orientation for RANs in Aboriginal Medical Services, additional funding may be required. In addition, strategies and funding are needed to encourage the development of an experienced, longer-term workforce. Improved clinical support, by employing additional RAN educators who can mentor RANs, and clarifying health centre

managers' position descriptions to clearly include clinical education and mentoring as part of their role has been identified.

The increase of Indigenous staff was identified as a major future intervention. This could be supported by the further implementation of the five action areas of the Northern Territory Aboriginal Health Forum *Workforce implementation plan*.

Violence and safety of RANs remains a major issue. To improve the current situation a review of violence and safety measures should be undertaken. In particular, strategies need to be developed to reduce the current number of times RANs attend call-outs at night on their own. There should also be increased education on PTSD and vicarious trauma, for RANs and managers. To enable effective interventions, funding needs to be increased and reorganised to reduce the identified impediments. Linkages between senior management and health centre staff need strengthening. Linkages between different departments involved with equipment and infrastructure also need to be strengthened.

In contrast to the results of the remote samples, results at two NT hospitals showed reductions in psychological distress and emotional exhaustion, and increases in job satisfaction and system capacity. The key interventions in the two hospitals included a considerable investment in increased funding, a nursing workload tool, increases in staff numbers, and increases in professional development. There was also strong and public pressure for change within the hospitals.

The study has shown to be significant for our understanding of the RAN workforce. The PAR/OD model, with lessons learnt, will provide valuable information to other future studies. It has also generated and applied new knowledge about mitigating and preventing stress in the remote nursing workforce and will contribute to the reduction of costs to organisations and employees of occupational stress. This will lead to improvements in the quality of service provision through greater continuity of care, greater client focus, improved service outputs, and a contribution to improved health outcomes.

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APPENDIX A

BACK FROM THE EDGE SURVEY 1

Page | 1

Back from the Edge: Preventing and Reducing Stress in the Nursing Workforce

Dear Colleague:

Many nurses have been concerned about the levels of stress among nurses for some years. Our work context and work role can put us at risk of emotional and physical burnout.

We have received an Australian Research Council grant to investigate stress among nurses and to develop strategies and activities to prevent and reduce occupational stress.

As part of this project we have enclosed a questionnaire. This questionnaire has been sent to nurses working in a variety of nursing contexts, and accordingly you will notice that some sections are of more relevance to your position as a nurse than other sections. However, please try to respond to all questions to enable us to accurately compare and contrast working conditions across all areas of nursing.

Your participation in the questionnaire will be anonymous, however, we do ask for some demographic details and a personal code for follow-up purposes.

Please complete the questionnaire and if you are posting it, please return to:

Back From the Edge
Centre for Remote Health
PO Box 4066
Alice Springs NT 0871

Thank you in anticipation,
The Research Team.

THE SYSTEM

The statements in this section ask about attributes of the health care system in which you are employed as a nurse.
Please indicate the extent to which you agree or disagree with each statement.

1. Flexible/Adaptable Culture

	Strongly disagree	Disagree	Neither disagree nor agree	Agree	Strongly agree
1. My organisation progresses effectively through change and challenge.	☐	☐	☐	☐	☐
2. My organisation responds quickly and efficiently to emergency situations.	☐	☐	☐	☐	☐

2. Pre-Employment Training

	Strongly disagree	Disagree	Neither disagree nor agree	Agree	Strongly agree
3. I feel that my nursing training, prior to taking this position, provided me with an adequate knowledge base for nursing in my current position.	☐	☐	☐	☐	☐
4. I feel that I would have benefited from more pre-employment nursing training.	☐	☐	☐	☐	☐

3. Consultation & Preparation

	Strongly disagree	Disagree	Neither disagree nor agree	Agree	Strongly agree
5. I feel I was adequately informed about the conditions of health care in my workplace prior to taking this position.	☐	☐	☐	☐	☐
6. I feel I was adequately prepared for cultural sensitivity and cross-cultural awareness.	☐	☐	☐	☐	☐
7. I am involved in decision-making that affects my workplace.	☐	☐	☐	☐	☐
8. I am involved in policy development, reviews or amendments.	☐	☐	☐	☐	☐

4. Clarity of Work Role

	Strongly disagree	Disagree	Neither disagree nor agree	Agree	Strongly agree
9. I know exactly what is expected of me at work.	☐	☐	☐	☐	☐
10. There are conflicting demands / responsibilities placed on me at work.	☐	☐	☐	☐	☐

5. Recognition

	Strongly disagree	Disagree	Neither disagree nor agree	Agree	Strongly agree
11. I feel valued as a nurse.	☐	☐	☐	☐	☐
12. I feel I receive the recognition and appreciation that I deserve as a nurse.	☐	☐	☐	☐	☐

6. Psychosocial Safety

	Strongly disagree	Disagree	Neither disagree nor agree	Agree	Strongly agree
13. In my organisation, senior management show support for stress prevention through involvement and commitment.	☐	☐	☐	☐	☐
14. Participation and consultation in occupational health and safety occurs with employees, unions and health & safety representatives in my organisation.	☐	☐	☐	☐	☐
15. My contributions to resolving occupational health & safety concerns in my organisation are listened to.	☐	☐	☐	☐	☐
16. In practice, the prevention of stress involves all levels of my organisation.	☐	☐	☐	☐	☐

7. Communication

	Strongly disagree	Disagree	Neither disagree nor agree	Agree	Strongly agree
17. I receive the information I need from colleagues and managers to perform my job effectively.	☐	☐	☐	☐	☐
18. Existing communication systems between health care providers are effective.	☐	☐	☐	☐	☐

8. Physical Environment

	Strongly disagree	Disagree	Neither disagree nor agree	Agree	Strongly agree
19. I am satisfied with the accommodation that is available to me.	☐	☐	☐	☐	☐
20. I am satisfied with the physical environment of the hospital/health service/clinic in which I work.	☐	☐	☐	☐	☐

THE JOB DEMANDS

1. Nursing Stress

Below is a list of situations that may occur in a hospital, health service or clinic. For each item, please indicate by means of a tick **how often** in your present workplace or unit **you have found the situations to be stressful**.

Please tick one box for EACH question.

	Never	Occasionally	Frequently so	Very frequently
21. Breakdown of the computer.	☐	☐	☐	☐
22. Criticism by a doctor.	☐	☐	☐	☐
23. Performing procedures that patients experience as painful.	☐	☐	☐	☐
24. Feeling helpless in the case of a patient who fails to improve.	☐	☐	☐	☐
25. Conflict with a supervisor.	☐	☐	☐	☐
26. Listening or talking to a patient about his/her approaching death.	☐	☐	☐	☐
27. Lack of an opportunity to talk openly with other personnel about problems in your workplace or unit.	☐	☐	☐	☐
28. The death of a patient.	☐	☐	☐	☐
29. Conflict with a doctor.	☐	☐	☐	☐
30. Fear of making a mistake in treating a patient.	☐	☐	☐	☐
31. Lack of an opportunity to share experiences and feelings with other personnel in your workplace or unit.	☐	☐	☐	☐
32. The death of a patient with whom you develop a close relationship.	☐	☐	☐	☐
33. Doctor not being present when a patient dies.	☐	☐	☐	☐
34. Disagreement (with other nurses) concerning the treatment of a patient.	☐	☐	☐	☐
35. Feeling inadequately prepared to help with the emotional needs of a patient's family.	☐	☐	☐	☐
36. Lack of an opportunity to express to other personnel in your workplace or unit your negative feelings toward patients.	☐	☐	☐	☐
37. Inadequate information from a doctor regarding the medical condition of a patient.	☐	☐	☐	☐

	Never	Occasionally	Frequently so	Very frequently
38. Being asked a question by a patient for which you do not have a satisfactory answer.	☐	☐	☐	☐
39. Making a decision concerning a patient when the doctor is unavailable.	☐	☐	☐	☐
40. Floating to other units that are short-staffed.	☐	☐	☐	☐
41. Watching a patient suffer.	☐	☐	☐	☐
42. Difficulty working with a particular nurse (or nurses) outside my workplace or unit.	☐	☐	☐	☐
43. Feeling inadequately prepared to help with the emotional needs of a patient.	☐	☐	☐	☐
44. Criticism by a supervisor.	☐	☐	☐	☐
45. Unpredictable staffing and scheduling.	☐	☐	☐	☐
46. A doctor ordering what appears to be inappropriate treatment for a patient.	☐	☐	☐	☐
47. Too many non-nursing tasks required such as clerical work.	☐	☐	☐	☐
48. Not enough time to provide emotional support to a patient.	☐	☐	☐	☐
49. Difficulty working with a nurses (or nurses) in my workplace or unit.	☐	☐	☐	☐
50. Not enough time to complete all of my nursing tasks.	☐	☐	☐	☐
51. A doctor not being present in a medical emergency.	☐	☐	☐	☐
52. Not knowing what a patient or patient's family ought to be told about the patient's medical condition and it's treatment.	☐	☐	☐	☐
53. Uncertainty regarding the operation and functioning of specialised equipment.	☐	☐	☐	☐
54. Not enough staff to adequately cover my workplace or unit.	☐	☐	☐	☐

2. Violence in the Workplace

The aim of this series of questions is to gain an understanding of the type of violence experienced by nurses in the workplace. Please use the following definitions of violence as a guide when answering these questions.

Violence against nurses or 'nurse abuse' is defined in this study as an incident where a nurse experiences any of the following:

- **Physical assault** - e.g. punching, pushing, spitting.
- **Threat of assault** - verbal or written threats intending harm.
- **Emotional abuse** - e.g. hurtful attitudes/remarks, insults, gestures, humiliation, coercion.
- **Verbal sexual harassment** - repeated, unwanted intimate questions or remarks of a sexual nature.
- **Sexual assault** - any forced physical sexual contact, including forcible touching and fondling, any forced sexual acts including forcible intercourse.
- **Stalking** – purposeful stalking or following from home or place of work.
- **Property damage** – purposeful damage or attempts to damage property.
- **Verbal aggression/obscene language** - e.g. swear words or obscene comments.

55.) In the past 12 months, how many times have you experienced each of the following incidents?

Please tick one box for EACH item.

	Never	1 time	2 -3 times	4 or more times
1. Physical assault.	☐	☐	☐	☐
2. Threat of assault.	☐	☐	☐	☐
3. Emotional abuse.	☐	☐	☐	☐
4. Verbal sexual harassment.	☐	☐	☐	☐
5. Sexual assault.	☐	☐	☐	☐
6. Stalking.	☐	☐	☐	☐
7. Property damage.	☐	☐	☐	☐
8. Verbal aggression/obscene language.	☐	☐	☐	☐

The aim of this series of questions is to gain an understanding of the type of violence that nurses may witness in the workplace. Once again, please use the above definitions of violence as a guide when answering these questions.

56.) In the past 12 months, how many times have you witnessed each of the following incidents occurring between other people?

Please tick one box for EACH item.

	Never	1 time	2 -3 times	4 or more times
1. Physical assault.	☐	☐	☐	☐
2. Threat of assault.	☐	☐	☐	☐
3. Emotional abuse.	☐	☐	☐	☐
4. Verbal sexual harassment.	☐	☐	☐	☐
5. Sexual assault.	☐	☐	☐	☐
6. Stalking.	☐	☐	☐	☐
7. Property damage.	☐	☐	☐	☐
8. Verbal aggression/obscene language.	☐	☐	☐	☐

Comments:

3. Emotional Demands

The questions in this section ask about the emotional demands in relation to your work as a nurse.

Please tick one box for EACH question.

	Very rarely/Never	Rarely	Occasionally	Often	Very often/Always
57. Does your work put you in emotionally demanding situations?	☐	☐	☐	☐	☐
58. Does your work require that you become emotionally involved in your work?	☐	☐	☐	☐	☐
59. Does your work require you to hide your true feelings?	☐	☐	☐	☐	☐

THE COMMUNITY

1. Community Connectedness

The statements in this section are about feeling safe and connected to the community within which you work. If you work in more than one community, please use the community in which you work most often as your point of reference.

Please indicate the extent to which you agree or disagree with each statement.

Please tick one box for EACH question.

	Strongly disagree	Disagree	Neither disagree nor agree	Agree	Strongly agree
60. I feel safe walking to my home after dark.	☐	☐	☐	☐	☐
61. I feel that most people in the community can be trusted.	☐	☐	☐	☐	☐
62. The community I am in has a reputation for being a safe place.	☐	☐	☐	☐	☐
63. I feel connected to this community.	☐	☐	☐	☐	☐
64. I feel at home in this community.	☐	☐	☐	☐	☐
65. I feel a strong sense of belonging to this community.	☐	☐	☐	☐	☐

THE JOB RESOURCES

The statements in this section ask about job resources in relation to your work as a nurse. Please indicate the extent to which you agree or disagree with each statement.

1. Supervision

Please tick one box for EACH question.

	Strongly disagree	Disagree	Neither disagree nor agree	Agree	Strongly agree
66. My supervisor is concerned about the welfare of those under him/her.	☐	☐	☐	☐	☐
67. My supervisor pays attention to what I am saying.	☐	☐	☐	☐	☐
68. My supervisor is helpful in getting the job done.	☐	☐	☐	☐	☐
69. My supervisor is successful in getting people to work together.	☐	☐	☐	☐	☐

2. Social Support

Please tick one box for EACH question.

	Strongly disagree	Disagree	Neither disagree nor agree	Agree	Strongly agree
70. People I work with are competent in doing their job.	☐	☐	☐	☐	☐
71. People I work with take a personal interest in me.	☐	☐	☐	☐	☐
72. People I work with are friendly.	☐	☐	☐	☐	☐
73. People I work with are helpful in getting the job done.	☐	☐	☐	☐	☐

3. Opportunity for Professional Development

Please tick one box for EACH question.

	Strongly disagree	Disagree	Neither disagree nor agree	Agree	Strongly agree
74. There are active in-service/continuing education programs for me.	☐	☐	☐	☐	☐
75. There are career development/clinical ladder opportunities.	☐	☐	☐	☐	☐
76. Opportunities exist for me to participate in policy decisions.	☐	☐	☐	☐	☐
77. Opportunities exist for occupational advancement or development.	☐	☐	☐	☐	☐

4. Job Control

The statements in this section relate to the level of control you have over your work as a nurse. Please indicate the extent to which you agree or disagree with each statement.

Please tick one box for EACH question.

	Always	Often	Sometimes	Seldom	Never
78. I can decide when to take a break.	☐	☐	☐	☐	☐
79. I can take holidays more or less when I wish.	☐	☐	☐	☐	☐
80. I can leave my work to have a chat with a colleague.	☐	☐	☐	☐	☐
81. If I have some private business, it is possible for me to leave my place of work for half an hour without special permission.	☐	☐	☐	☐	☐
82. Other people make decisions concerning my work.	☐	☐	☐	☐	☐
83. I have a large degree of influence concerning my work.	☐	☐	☐	☐	☐
84. I can influence how quickly I work.	☐	☐	☐	☐	☐
85. I have a say in choosing who I work with.	☐	☐	☐	☐	☐
86. I can influence the amount of work assigned to me.	☐	☐	☐	☐	☐
87. I have some influence on when I work.	☐	☐	☐	☐	☐
88. I have some influence on HOW I do my work.	☐	☐	☐	☐	☐
89. I have some influence on WHAT I do at work.	☐	☐	☐	☐	☐
90. I have some influence on my work environment.	☐	☐	☐	☐	☐
91. I can influence the quality of my work.	☐	☐	☐	☐	☐

5. Meaning of Work

The questions in this section ask about the meaning of your work as a nurse. Please indicate the extent to which you agree or disagree with each statement.

Please tick one box for EACH question

	To a large extent	To some extent	Somewhat	Not very much	To a very small extent
92. Is your work meaningful?	☐	☐	☐	☐	☐
93. Do you feel that the work you do is important?	☐	☐	☐	☐	☐
94. Do you feel motivated and involved in your work?	☐	☐	☐	☐	☐
95. Is your work useful to the recipients?	☐	☐	☐	☐	☐
96. Is your work part of a larger whole?	☐	☐	☐	☐	☐

6. Possibilities for Development

The questions in this section ask about the meaning of your work as a nurse. Please indicate the extent to which you agree or disagree with each statement.

	To a large extent	To some extent	Somewhat	Not very much	To a very small extent
97. Does your work require you to take the initiative?	☐	☐	☐	☐	☐
98. Do you have the possibility of learning new things through your work?	☐	☐	☐	☐	☐
99. Can you use your skills or expertise in your work?	☐	☐	☐	☐	☐

OCCUPATIONAL STRESS

1. Stress and Trauma

Below is a list of problems that people sometimes have after experiencing a traumatic event. In this section we are interested in ***if and how*** you have been bothered by any of these reactions over the **past MONTH**. Please rate each reaction with respect to the traumatic event you may have in mind.

Please tick one box for EACH question.

	Not at all		Somewhat		Extremely
100. Intrusive images	☐	☐	☐	☐	☐
101. Nightmares	☐	☐	☐	☐	☐
102. Reliving of the trauma	☐	☐	☐	☐	☐
103. Emotionally upset when reminded of the trauma	☐	☐	☐	☐	☐
104. Physical reactions when reminded of the trauma	☐	☐	☐	☐	☐
105. Trying not to think, talk, or have feelings about the trauma	☐	☐	☐	☐	☐
106. Trying to avoid activities, places or people	☐	☐	☐	☐	☐
107. Memory loss	☐	☐	☐	☐	☐
108. Loss of interest	☐	☐	☐	☐	☐
109. Feeling distant or cut off	☐	☐	☐	☐	☐
110. Feeling emotionally numb	☐	☐	☐	☐	☐
111. Lack of future plans	☐	☐	☐	☐	☐
112. Difficulty sleeping	☐	☐	☐	☐	☐
113. Irritability	☐	☐	☐	☐	☐
114. Difficulty concentrating	☐	☐	☐	☐	☐
115. Overly alert	☐	☐	☐	☐	☐
116. Easily startled	☐	☐	☐	☐	☐

2. Psychological Distress

In this section we are interested in how you have felt over the **past TWO weeks**. Please tick one box for each question. It is important that you try to answer ALL of the questions.

	Better than usual	Same as usual	Less than usual	Much less than usual
117. Have you recently been able to concentrate on whatever you've been doing?	☐	☐	☐	☐
	Not at all	No more than usual	Rather more than usual	Much more than usual
118. Have you recently lost much sleep over worry?	☐	☐	☐	☐
	More than usual	Same as usual	Less than usual	Much less than usual
119. Have you recently felt that you are playing a useful part in things?	☐	☐	☐	☐
	More than usual	Same as usual	Less than usual	Much less than usual
120. Have you recently felt capable of making decisions about things?	☐	☐	☐	☐
	Not at all	No more than usual	Rather more than usual	Much more than usual
121. Have you recently felt constantly under strain?	☐	☐	☐	☐
	Not at all	No more than usual	Rather more than usual	Much more than usual
122. Have you recently felt that you couldn't overcome your difficulties?	☐	☐	☐	☐
	More so than usual	Same as usual	Less so than usual	Much less than usual
123. Have you recently been able to enjoy your normal day-to-day activities?	☐	☐	☐	☐
	More so than usual	Same as usual	Less so than usual	Much less than usual
124. Have you recently been able to face up to your problems?	☐	☐	☐	☐
	Not at all	No more than usual	Rather more than usual	Much more than usual
125. Have you recently been feeling unhappy or depressed?	☐	☐	☐	☐
	Not at all	No more than usual	Rather more than usual	Much more than usual
126. Have you recently been losing confidence in yourself?	☐	☐	☐	☐
	Not at all	No more than usual	Rather more than usual	Much more than usual
127. Have you recently been thinking of yourself as a worthless person?	☐	☐	☐	☐
	More so than usual	Same as usual	Less so than usual	Much less than usual
128. Have you recently been feeling reasonably happy, all things considered?	☐	☐	☐	☐

3. Emotional Exhaustion

The following statements are about how you feel at work. Please read each statement carefully and decide if you ever feel this way. If you have never had this feeling, tick the box corresponding with the number '0'. If you have had this feeling, please indicate how often you experience it by ticking the box that corresponds best with how frequently you feel this way.

Please tick one box for EACH question

0 Never	1 A few times a year or less	2 Once a month or less	3 A few times a month	4 Once a week	5 A few times a week	6 Everyday
------------	------------------------------------	------------------------------	-----------------------------	------------------	----------------------------	---------------

	0	1	2	3	4	5	6
129. I feel emotionally drained from my work.	☐	☐	☐	☐	☐	☐	☐
130. I feel used up at the end of the work day.	☐	☐	☐	☐	☐	☐	☐
131. I feel tired when I get up in the morning and have to face another day at the job.	☐	☐	☐	☐	☐	☐	☐
132. Working all day is a real strain for me.	☐	☐	☐	☐	☐	☐	☐
133. I feel burned out from my work.	☐	☐	☐	☐	☐	☐	☐

4. Physical Health

The following questions are about your physical health. Please read each question carefully and indicate whether you are bothered by these symptoms.

Please tick one box for EACH question.

	Not at all	Several days	More than half the days	Nearly every day
134. During the past 7 days, how much were you bothered by headaches?	☐	☐	☐	☐
135. During the past 7 days, how much were you bothered by back or neck pain?	☐	☐	☐	☐
136. During the past 7 days, how much were you bothered by pain in your arms, legs, or joint areas like your knee or hips?	☐	☐	☐	☐
137. During the past 7 days, how much were you bothered by muscle soreness?	☐	☐	☐	☐
138. During the past 7 days, how much were you bothered by watery eyes, a runny nose or a stuffy head?	☐	☐	☐	☐
139. During the past 7 days, how much were you bothered by cough or sore throat?	☐	☐	☐	☐
140. During the past 7 days, how much were you bothered by a fever, chills, or any other cold or flu symptoms?	☐	☐	☐	☐
141. During the past 7 days, how much were you bothered by constipation, loose bowels, or diarrhoea?	☐	☐	☐	☐
142. During the past 7 days, how much were you bothered by nausea, gas or indigestion?	☐	☐	☐	☐
143. During the past 7 days, how much were you bothered by skin infections, such as sores, boils or impetigo?	☐	☐	☐	☐

Are you experiencing any other symptoms or physical health concerns?

ENGAGEMENT & SATISFACTION

1. Satisfaction

144.) Taking everything into consideration, how do you feel about your job?

Extremely Dissatisfied	Very dissatisfied	Moderately dissatisfied	Not sure	Moderately satisfied	Very satisfied	Extremely satisfied
☐	☐	☐	☐	☐	☐	☐
(0)	(1)	(2)	(3)	(4)	(5)	(6)

2. Engagement

The following statements are about how you feel at work. Please read each statement carefully and decide if you ever feel this way. If you have never had this feeling, tick the box corresponding with the number '0'. If you have had this feeling, please indicate how often you experience it by ticking the box that corresponds best with how frequently you feel this way.

0 Never	1 A few times a year or less	2 Once a month or less	3 A few times a month	4 Once a week	5 A few times a week	6 Everyday
------------	------------------------------------	------------------------------	-----------------------------	------------------	----------------------------	---------------

	0	1	2	3	4	5	6
145. At my work, I feel bursting with energy.	☐	☐	☐	☐	☐	☐	☐
146. At my job, I feel strong and vigorous.	☐	☐	☐	☐	☐	☐	☐
147. I am enthusiastic about my job.	☐	☐	☐	☐	☐	☐	☐
148. My job inspires me.	☐	☐	☐	☐	☐	☐	☐
149. When I get up in the morning, I feel like going to work.	☐	☐	☐	☐	☐	☐	☐
150. I feel happy when I am working intensely.	☐	☐	☐	☐	☐	☐	☐
151. I am proud of the work that I do.	☐	☐	☐	☐	☐	☐	☐
152. I am immersed in my work.	☐	☐	☐	☐	☐	☐	☐
153. I get carried away when I am working.	☐	☐	☐	☐	☐	☐	☐

3. Feeling Valued

The following statement is about how you feel at work. Please indicate the extent to which you agree or disagree with this item.

154.) I feel valued as a nurse by the community in which I live?

Strongly disagree	Disagree	Neither disagree or agree	Agree	Strongly agree
☐	☐	☐	☐	☐

OTHER ASPECTS OF NURSING

The following scales contain possible situations that may have the potential to cause occupational stress in nurses.

Please indicate how frequently you experience each of these situations by placing the corresponding number in the spaces provided.

If you have not experienced the situation listed, please place a '0' in the space provided.

HOW OFTEN:

0 Never	1 A few times a year or less	2 Once a month or less	3 A few times a month	4 Once a week	5 A few times a week	6 Everyday
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1. Management

In this section we would like you to consider the person who has management authority over your position. For example, this may be your manager in the Regional Centre/Town for remote area nurses or the Director of Nursing for hospital-based nurses.

How often does your manager . . .

1. ____	Fail to address issues you raise concerning your colleagues.	155.
2. ____	Have unrealistic expectations of you as a nurse.	156.
3. ____	Carry out site visits or face-to-face contact.	157.
4. ____	Fail to be accessible for support or advice.	158.
5. ____	Show a poor understanding of the issues impacting on you as a nurse.	159.
6. ____	Provide inadequate clinical support.	160.
7. ____	Fail to appropriately manage critical incidents.	161.
8. ____	Perpetrate bullying behaviour.	162.

2. Staff

How often do you experience . . .

1. ____	Interpersonal conflict between colleagues.	163.
2. ____	Inadequate staffing levels.	164.
3. ____	No staff relief.	165.
4. ____	High staff turnover.	166.
5. ____	Colleagues perpetrating bullying behaviour.	167.

HOW OFTEN:

0 Never	1 A few times a year or less	2 Once a month or less	3 A few times a month	4 Once a week	5 A few times a week	6 Everyday
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3. On-call

How often are you . . .

1. ____	On-call 24 hours a day.	168.
2. ____	Called-out.	169.
3. ____	Called-out for non-urgent issues.	170.
4. ____	On-call on 'days off'.	171.
5. ____	On-call when unwell.	172.

4. Workload

How often do you . . .

1. ____	Work overtime.	173.
2. ____	Perceive your workload as unmanageable.	174.
3. ____	Perform administrative duties.	175.
4. ____	Feel unable to plan or control your workload.	176.
5. ____	Feel as though you never achieve your work-related goals or outcomes.	177.

5. Responsibilities & Expectations

How often do you feel . . .

1. ____	The responsibilities of the health service exceed the capacity of staff.	178.
2. ____	The community has unrealistic expectations of you as a nurse.	179.
3. ____	The healthcare system has unrealistic expectations of you as a nurse.	180.
4. ____	An overwhelming sense of responsibility for the community.	181.
5. ____	Strained by the requirement to manage daily crises and critical incidents.	182.
6. ____	You are performing an extended role in areas beyond the scope of nursing.	183.
7. ____	Pressured to work outside of your clinical training or scope of practise.	184.

HOW OFTEN:

0 Never	1 A few times a year or less	2 Once a month or less	3 A few times a month	4 Once a week	5 A few times a week	6 Everyday
------------	------------------------------------	------------------------------	-----------------------------	------------------	----------------------------	---------------

6. Support

How often do you experience adequate. . .

1. ____	Mentor support.	185.
2. ____	Clinical support.	186.
3. ____	Support from the community.	187.
5. ____	Collaboration with other health services or other sections of the health system.	188.
6. ____	Administrative/ancillary support.	189.

7. Infrastructure & Equipment

How often do you experience difficulties with. . .

1. ____	Equipment.	190.
2. ____	Infrastructure.	191.
3. ____	Information technology.	192.
4. ____	Transport.	193.
5. ____	Vehicle maintenance.	194.
6. ____	Visitor accommodation.	195.
7. ____	Response times to requests for repairs of equipment or infrastructure.	196.

8. Safety concerns

How often do you feel concerned about . . .

1. ____	Violence in the community.	197.
2. ____	Insecure or unsafe housing.	198.
3. ____	Your personal safety.	199.
4. ____	Client-initiated violence towards nursing staff.	200.
5. ____	Client-initiated threats of violence towards nursing staff.	201.
6. ____	The ability of police to provide adequate support in the case of a critical incident.	202.

HOW OFTEN:

0 Never	1 A few times a year or less	2 Once a month or less	3 A few times a month	4 Once a week	5 A few times a week	6 Everyday
------------	------------------------------------	------------------------------	-----------------------------	------------------	----------------------------	---------------

9. Social Issues

How often do you experience difficulty . . .

1. ____	Establishing professional boundaries – friends are often patients.	203.
2. ____	Finding time to unwind as you are always ‘the nurse’.	204.
3. ____	Initiating or maintaining social interaction.	205.
4. ____	Maintaining personal relationships.	206.

10. Isolation

How often do you feel isolated from . . .

1. ____	Family and friends.	207.
2. ____	The community.	208.
3. ____	Services and colleagues.	209.
4. ____	Professional development opportunities.	210.

11. Inter-Cultural Factors

How often do you . . .

1. ____	Feel you are the target of prejudice, discrimination or racism.	211.
2. ____	Experience conflict between western nursing practices and prevailing cultural practices.	212.
3. ____	Feel you have an inadequate understanding of different cultures, values or beliefs.	213.
4. ____	Experience an inability to speak or understand the local language.	214.

12. Context

How often is your work affected by practising in a context of . . .

1. ____	Social and economic inequity.	215.
2. ____	Complex health care needs.	216.
3. ____	Frequent funerals in the community	217.

HOW OFTEN:

0 Never	1 A few times a year or less	2 Once a month or less	3 A few times a month	4 Once a week	5 A few times a week	6 Everyday
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13. Acknowledging New Cultures

How often do you experience . . .

1. ____	Uneasiness about living or working in a different culture.	218.
2. ____	A sense of uncertainty due to the expectations of another culture.	219.
3. ____	Difficulty adjusting to an unfamiliar culture.	220.
4. ____	Uneasiness about misunderstandings or disagreements arising from cultural differences.	221.
5. ____	Feeling confronted by an absence of familiar attitudes, value systems, or behaviours.	222.

14. Absenteeism, Presenteeism and Pay

223.) How many hours have you missed at work due to physical or mental health concerns in the past 4 weeks (28 days)? _____

224.) How many hours were you expected to work in the past 7 days? _____

225.) How many hours did you actually work in the past 7 days? _____

226.) If the hours you worked are different to those you were expected to work, why was that?

227.) On an annual basis, before tax is taken out, and including superannuation (or superannuation loading), which of the following options best describes your income from your current nursing position:

- | | |
|------------------------|--------------------------|
| a. up to \$20,000 | g. \$70,001 - \$80,000 |
| b. \$20,001 - \$30,000 | h. \$80,001 - \$90,000 |
| c. \$30,001 - \$40,000 | i. \$90,001 - \$100,000 |
| d. \$40,001 - \$50,000 | j. \$100,001 - \$120,000 |
| e. \$50,001 - \$60,000 | k. More than \$120,000 |
| f. \$60,001 - \$70,000 | l. Don't know |

15. Occupational Attributes

What are the most positive aspects of your job?

What changes to your job would you like to see?

How could you, as an individual nurse, contribute to these changes?

Have any stress-related strategies been implemented in your workplace in the past 12 months?
If yes, please describe these strategies and their effectiveness.

Have there been any other events in your community, in the past 12 months, that have
decreased levels of occupational stress in your workplace? If yes, please explain.

Have there been any other events in your community, in the past 12 months, that have
increased levels of occupational stress in your workplace? If yes, please explain.

DEMOGRAPHIC INFORMATION

A. PERSONAL DETAILS

1. Age : _____
2. Gender: **M / F**
3. Are you married or do you have a partner? **Y / N**
4. If yes, does your partner live with you? **Y / N**
5. Do you have a child/children? **Y / N**
6. If yes, does your child/children live with you? **Y / N**
7. How long have you been a registered nurse? _____ yrs _____ mths
8. What is your current employment level? _____
9. How long have you worked at this level? _____ yrs _____ mths

B. THE FOLLOWING 6 QUESTIONS ARE FOR REMOTE AREA NURSES ONLY

10. In total, how long have you worked in remote areas? _____ yrs _____ mths
11. How long did you live remotely before becoming a remote area nurse? _____ yrs _____ mths
12. How long have you been employed in your current position? _____ yrs _____ mths
13. Are you of Aboriginal or Torres Strait Islander origin? **Y / N**
12. Are you aware of the Bush Crisis Line? **Y / N**
13. If yes, have you accessed the Bush Crisis Line in past 12 months? **Y / N**

C. QUALIFICATIONS

1. What is your basic nursing qualification? (e.g. general, midwifery, child health, mental health)

2. Which university or college qualifications do you hold?

- 2a.) Certificates: _____
- 2b.) Diplomas: _____
- 2c.) Postgraduate certificates: _____
- 2d.) Postgraduates diplomas: _____
- 2e.) Masters: _____

3. Please list any short courses you have completed in the past 5 years. (e.g. REC, MEC, Self-Care)

C. MEMBERSHIPS**1. Please list any memberships you have with professional organisations. (e.g. RCNA, ANF, AMC)**

D. REGIONAL DETAILS

1. In which state are you currently living? _____
2. In which city/town/community are you currently working? _____
3. Are you employed by: (please tick)
- | | |
|---|--|
| State Government ☐ | Aboriginal Community Controlled Service ☐ |
| Federal Government ☐ | Private Provider ☐ |

**FOLLOW-UP**

This study will be followed-up in the future to investigate any changes that may occur. This will involve completing the same questionnaire again. In order to match this survey with one you may complete in the future, we ask you to provide a unique code that you can easily remember. This will ensure your anonymity throughout the project.

First 3 letters of mother's first name
(e.g. MAR for MARY)

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First 3 letters of father's first name
(e.g. KEV for KEVIN)

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APPENDIX B

BACK FROM THE EDGE ACTION PLAN

Back From The Edge

Reducing & Preventing Occupational Stress in the Remote Area Nursing Workforce

Northern Territory Department of Health & Families		
Central Australia Remote		
Strategies	Activities	Progress
Workload		
Reduce single nurse clinics	One community will have a shared position Extra position at three communities	Extra positions employed
Reduce workload from visiting teams	Introduce Area business plans, agreements between remote health areas and teams. Visiting team schedule developed 6 monthly in advance	Trail of intranet based schedule East Arnhem, updated
Increase employment and training of ancillary staff including admin, cleaners, drivers etc	Identify additional positions/ hours attached to each clinic Develop training strategy for ancillary staff Drivers to undertake basic vehicle maintenance and first aid courses Cleaners to have completed training	CA organizing package of training staff.
Reduce workload associated with forms for leave travel etc	Increased training on MYHR	Not implemented yet
Education		
Improved education of RANS	Strengthen pathways program (education program for RANS) or create a new program Establish a steering group to drive strengthening program Introduce more on-site education Additional remote educator	Steering group being organized high level reference group would prefer increase in educational opportunities out sourced rather than additional remote educator
Establish career pathway for RANs	Introduce career pathway for RANs, allowing some to be learners	Career structure has been introduced to a

		degree
Improve education of managers	Establish education requirements for managers, linked to career pathway health centre managers to undertake Grad studies Considers scholarship x 5 offered to health centre managers to complete Grad Cert in management	Not implemented yet
Ensues appropriate orientation of all RANS and reduce orientation burnout among staff	Introduce buddying system for all new RANS (when possible) Investigate available on-line modules ANF, RAHC, CRH, CRANaplus Investigate possibility of virtual clinic Develop orientation information for Remote Health website Revise orientation package	Website for remote health being developed.
Improve understanding and reporting of Vicarious trauma, Post Traumatic Stress Disorder (PTSD) by health centre managers and RANs	Provide health centre managers and RANs with education on vicarious trauma, Post Traumatic Stress Disorder culture shock Introduce Risk Man in reporting of critical incidents	Not implemented yet
On-call		
Improve safety while on-call	ASMs to review security and report to OH&S Reintroduce managing aggression and risk management as part of orientation	Not implemented yet
Relief		
Increase relief staff	Increase own casual pool Establish permanent reliever position Identify relief position numbers Advertising campaign in Alice Springs, think there are nurses who would apply	Not implemented yet
Management		
Information from exit interviews received by management team	Increase RANs completing exit interviews Establish system of information from exit interviews being forwarded to management teams	CA Remote executive officer following up with Darwin re getting reports on exit interviews and starting to follow up exit interviews with managers
Staff to complete partnership plans (performance reviews)	Staff complete partnership plans	Happening

Introduce feedback system for management	Distribute employee opinion survey	Happening
Improve OH&S	Introduce OH&S committee, with a senior manager on committee OH&S committee review aspects of Psychosocial Safety Climate, including this plan	OH&S committee happening
Equipment and Infrastructure		
Improve management of equipment	Employ equipment manager in CA Introduce tracking system Loan equipment same standard as clinic equipment	One equipment manager will be funded. NT wide. Inadequate funding for 2. MEM has contract for maintenance of medical equipment includes annual site visits and will start soon
Improve maintenance and repairs to clinic and staff accommodation. More proactive rather than reactive	Investigate travelling teams of plumber and electrician	Not implemented yet
Improve feedback about minor new works	Introduce feedback system about minor new works	Has been ordered
Increase access to vehicles	Every community to have 2 vehicles	Funding dependent
Increase cleanliness of clinics and accommodation	Major clean of clinics and accommodation once a year by visiting teams RANs, visitors pay a bond or be charged a cleaning fee if condition not acceptable to monitor condition of accommodation	Not implemented yet
Increase accommodation	Lobby for additional accommodation Obtain OATSIH report of Infrastructure audit	Lobbying continuing
Access to digital images of wounds and assault cases	Investigate potential for telemedicine equipment	Not implemented yet
Improve internet access	Investigate funding for internet hard wear for communities without phone coverage Discuss with ANF re EBA	Not implemented yet
Include fencing for dogs	Increase dog proof fences in accommodation Dog enclosures in some of the Bloomfield Street flats (Dog flats)	Implemented

The workgroups and implementation committee in Central Australia agreed on the following priorities if funding were available:-

1. Permanent relief staff;
2. Improved education of RANs, including adequate orientation for all staff;
3. Two vehicles at each community;
4. Equipment manager;
5. More staff (especially Aboriginal staff) at clinic level.

Back From The Edge

Reducing & Preventing Occupational Stress in the Remote Area Nursing Workforce

Northern Territory Department of Health & Families		
Top End Remote		
Strategies	Activities	Progress
Workload		
Reduce workload from visiting teams	Introduce Area business plans, agreements between remote health areas and teams. Visiting team schedule developed 6 monthly in advance	Trail of intranet based schedule East Arnhem, updated
Build teams with new ASM positions	Introduce regular team meetings with ASM ASMs to send out planned movements to clinic staff	Happening
Increase employment and training of ancillary staff including admin, cleaners, drivers etc	Identify additional positions/ hours attached to each clinic Develop training strategy for ancillary staff Drivers to undertake basic vehicle maintenance and first aid courses Cleaners to have completed training	Community positions employed
Reduce workload associated with forms for leave travel etc	Investigate introduction of TRIPS	No implemented yet
Education		
Improved education of RANS	Strengthen pathways program or create a new program Establish a steering group to drive strengthening program Introduce more on-site education Additional remote educator for TE	Not being implemented as yet
Establish career pathway for RANS	Introduce career pathway for RANS, allowing some to be learners	Career pathway being established with lower positions created with additional educational

		support
Improve education of managers	Establish education requirements for managers, linked to career pathway health centre managers to undertake Grad studies	Not implemented as yet
Ensues appropriate orientation of all RANS and reduce orientation burnout among staff	Introduce buddying system for all new RANS (when possible)	Not implemented as yet
	Investigate available on-line modules ANF RAHC CRH CRANaplus Investigate possibility of virtual clinic Develop orientation information for Remote Health website Revise orientation package	Website for remote health being developed. Rest not being implemented
Increase number of RANs having a period of one to several weeks in Royal Darwin hospital for upskilling	Develop further agreements with RDH (already have one for midwifery) Introduce into pathways as an option	Not implemented yet
Improve understanding and reporting of Vicarious trauma, Post Traumatic Stress Disorder (PTSD) by health centre managers and RANs	Provide health centre managers and RANs with education on vicarious trauma, Post Traumatic Stress Disorder culture shock Introduce Risk Man in reporting of critical incidents	Risk Man being introduced
On-call		
Improve safety while on-call	All clinics get Dallas Delta system or similar. Reintroduce managing aggression and risk management as part of orientation Review risk assessment procedures. Discuss in professional practice committee.	Delta system being introduced Rest doesn't seem to be happening
Relief		
Increase relief staff	Increase own casual pool Establish permanent reliever positions	Not being implemented
Improve back-up of RANs on weekends on communities on highways because of MVA (Adelaide River, Pine Creek and Batchelor)	Investigate upskilling drivers to provide support Improve back up from St John's	Not being implemented
Management		

Information from exit interviews received by management team	Increase RANs completing exit interviews Establish system of information from exit interviews being forwarded to management teams	Has been an increase
Staff to complete partnership plans (performance reviews)	Staff complete partnership plans	Has been an increase in partnership plans
Improve OH&S	Introduce OH&S committees in TE remote health, with a senior manager on committee OH&S committee review aspects of Psychosocial Safety Climate, including this plan	OH&S committees introduced but not reviewing PSC and plan
Equipment and Infrastructure		
Improve management of equipment	Employ equipment manager in TE Manager to introduce tracking system Loan equipment same standard as clinic equipment	One equipment manager will be funded. Staff feel 2 are needed.
Improve maintenance and repairs to clinic and staff accommodation. More proactive rather than reactive	Cost out travelling repair teams ASMs to review system of repairs for each area	Not implemented yet
Improve feedback about minor new works	Introduce feedback system about minor new works	Has been ordered
Introduce standard fit out of ambulances	Review fit out of ambulances, 3 models of ambulance fit out 1. Higher level trauma 2. bush trauma 3. people movers plus some trauma.	Not implemented yet
Increase access to vehicles	Every community to have 2 vehicles	Not implemented yet
Improve ability of clinics to purchase minor items easily	Introduce use of credit cards	Has been introduced
DH&F accounts paid promptly	TE reorganizing who is responsible for payment of accounts	Has been revised
Air Medical Ensure Prompt evacuations	Re-tender of air- medical contract	Has been retendered
Increase accommodation	Lobby for additional accommodation Get OATSIH report of Infrastructure audit	On-going
Improve management of equipment	Employ equipment manager in TE Manager to introduce tracking system Loan equipment same standard as clinic equipment	One equipment manager will be funded. Staff feel 2 are needed.

Top End Priorities

The workgroups and implementation committee in the top end agreed on the following priorities if funding were available:-

1. Ensure adequate staff;
2. 2nd vehicle in each community;
3. Standard basic fit out of ambulances;
4. Increased accommodation;
5. Increased permanent relief pool;
6. Improved education for RANS;
 - Adequate orientation,
 - Education pathways/ undergrad to postgrad, increase on site education,
 - Introduce career structure,
7. Internet access in accommodation.

Back From The Edge

Reducing & Preventing Occupational Stress in the Remote Area Nursing Workforce

Katherine West Action Plan		
Equipment and Infrastructure		
Strategies	Activities	Desired outcomes
Improve maintenance and repairs to clinic and staff accommodation. More proactive rather than reactive	Investigate system of repairs and maintenance	System for regular repairs
Increase cleanliness of clinics and accommodation	All accommodation cleaned by professional cleaner once a year.	All accommodation cleaned by professional cleaner once a year.
Improved standard of equipment	Audit of equipment once a year	Audit of equipment completed for 2010
Workload		
Reduce increased workload when Health Workers away	Health workers to be replaced when away	Health replaced when away
Increase employment and training of ancillary staff including admin, cleaners, drivers etc	- Identify additional positions/ hours attached to each clinic - Develop training strategy for ancillary staff - Drivers to undertake basic vehicle maintenance and first aid courses - Cleaners to complete training	- Additional ancillary positions/ hours identified for each clinic - Training strategy developed for ancillary staff - Drivers completed basic vehicle maintenance and first aid courses - Cleaners completed or undertaking training program
Relief Staff		
Increase permanent relievers	Establish pool of permanent relievers	Pool of permanent relievers available
Increase staff		
Increase number of career RANs	Create career structure for RANs within KWHB, learners to experienced RANs with educational support	Career structure established

	Review recruitment package, to include education, bonuses, increased FOIL etc.	Recruitment package reviewed
Education of RANs		
Improve orientation	- Orientation to include PHC, cross cultural skills, advanced clinical skills - One option, full time staff to complete CRH transition to practice. (3 week intensive) Option then to enroll in topics. - Short term staff to complete on-line modules - Investigate what on-line modules are needed – some available from RAHC - Investigate development of workshops or on-line module - Agency staff to receive realistic information - Buddying system introduced for new staff	- Orientation includes PHC, cross cultural skills, advanced clinical skills - RANS undertaking grad cert in remote health practice. - Short term staff orientated to remote practice - Buddying system introduced
Establish clinical sessions by tele/videoconferencing	Staff members take turns in presenting sessions/cases each fortnight.	Clinical sessions by RANS conducted fortnightly
Improve educational standard of agency staff	- Investigate options for education of agency staff - immunization - REC/MEC - pharmacotherapeutics	Options available for education of agency staff
Management		
Improve selection of new staff	- Establish structured interview process for new staff - Formal review of agency staff at end of contract	Structured selection of new staff
Improve information from exit interviews for management	Encourage people to complete exit interview routinely	Employees completing exit interviews

Improve performance appraisals	• Ensure yearly performance appraisals are completed for each staff member	• Ensure yearly performance appraisals completed
Improve OH&S	• Form or reform OH&S committee including RANS • Review policies including on - Needle stick injuries - Manual handling	• OH&S committee involving staff at main communities active. • Written policies on OH&S issues circulated
Zero tolerance for violence or aggressive behaviour towards RANS	• Review policy • All incidents of violence towards RANS to be reported to police	• Policy circulated on violence towards RANS
Improve internet access	• Provide internet access in all accommodation	• Internet access provided in all accommodation
Improve staff access to social activities	• Investigate what opportunities for social activities are available for each community.	• Increased opportunities for social activities available in each community.
Improve staff social infrastructure	• Lobby for funding to establish ? REC hall particularly at Laramanu	• Improved staff social infrastructure

APPENDIX C

BACK FROM THE EDGE SURVEY 2 (RANs)

Back from the Edge: Preventing and Reducing Stress in the Nursing Workforce

Dear Colleague:

Many nurses have been concerned about the levels of stress among nurses in very remote Australia for some years. Our work context and work role can put us at risk of emotional and physical burnout.

We received an Australian Research Council grant to investigate stress among nurses in very remote Australia and to develop strategies and activities to prevent and reduce occupational stress.

We are now in the third year of this project which, as some of you may be aware, involved us sending out a questionnaire to nurses in very remote Australia in 2008. We are looking for any changes that may have occurred in the nursing workforce between then and now, at both an individual and system level. If you did not participate in the previous survey, we ask that you still consider participating in this survey as your responses will help us better understand the current work context from your perspective. **All responses – whether this is your first or second survey – would be greatly appreciated.** This survey will take approximately 30 minutes of your time.

Your participation in the questionnaire is anonymous. The personal code cannot be used to identify you as an individual however it will let us match responses. To ensure anonymity the card to enter the draw to win \$500 will be removed before the questionnaire is given to the research team.

Please complete the questionnaire return in the self addressed envelop with (if you wish to enter the draw for \$500, the entry card.

Thank you in anticipation,
The Research Team.

SYSTEM CAPACITY

The statements in this section ask about attributes of the health care system in which you are employed as a nurse. Please indicate the extent to which you agree or disagree with each statement.

Please tick one box for EACH question.

	Strongly disagree	Disagree	Neither disagree nor agree	Agree	Strongly agree
1. My organisation progresses effectively through change and challenge.	☐	☐	☐	☐	☐
2. My organisation responds quickly and efficiently to emergency situations.	☐	☐	☐	☐	☐
3. I feel I was adequately informed about the conditions of health care in my workplace prior to taking this position.	☐	☐	☐	☐	☐
4. I feel I was adequately prepared for cultural sensitivity and cross-cultural awareness.	☐	☐	☐	☐	☐
5. I am involved in decision-making that affects my workplace.	☐	☐	☐	☐	☐
6. I am involved in policy development, reviews or amendments.	☐	☐	☐	☐	☐
7. In my organisation, senior management shows support for stress prevention through involvement and commitment.	☐	☐	☐	☐	☐
8. Participation and consultation in occupational health and safety occurs with employees, unions and health & safety representatives in my organisation.	☐	☐	☐	☐	☐
9. My contributions to resolving occupational health & safety concerns in my organisation are listened to.	☐	☐	☐	☐	☐
10. In practice, the prevention of stress involves all levels of my organisation.	☐	☐	☐	☐	☐
11. I receive the information I need from colleagues and managers to perform my job effectively.	☐	☐	☐	☐	☐
12. Existing communication systems between health care providers are effective.	☐	☐	☐	☐	☐

THE JOB DEMANDS

1. Nursing Stress

Below is a list of situations that may occur in a hospital, health service or clinic. For each item, please indicate by means of a tick ***how often*** in your present workplace or unit ***you have found the situations to be stressful***.

Please tick one box for EACH question.

	Never	Occasionally	Frequently	Very frequently
13. Breakdown of the computer.	☐	☐	☐	☐
14. Criticism by a doctor.	☐	☐	☐	☐
15. Performing procedures that patients experience as painful.	☐	☐	☐	☐
16. Feeling helpless in the case of a patient who fails to improve.	☐	☐	☐	☐
17. Conflict with a supervisor.	☐	☐	☐	☐
18. Listening or talking to a patient about his/her approaching death.	☐	☐	☐	☐
19. Lack of an opportunity to talk openly with other personnel about problems in your workplace or unit.	☐	☐	☐	☐
20. The death of a patient.	☐	☐	☐	☐
21. Conflict with a doctor.	☐	☐	☐	☐
22. Fear of making a mistake in treating a patient.	☐	☐	☐	☐
23. Lack of an opportunity to share experiences and feelings with other personnel in your workplace or unit.	☐	☐	☐	☐
24. The death of a patient with whom you develop a close relationship.	☐	☐	☐	☐
25. Doctor not being present when a patient dies.	☐	☐	☐	☐
26. Disagreement (with other nurses) concerning the treatment of a patient.	☐	☐	☐	☐
27. Feeling inadequately prepared to help with the emotional needs of a patient's family.	☐	☐	☐	☐
28. Lack of an opportunity to express to other personnel in your workplace or unit your negative feelings toward patients.	☐	☐	☐	☐
29. Inadequate information from a doctor regarding the medical condition of a patient.	☐	☐	☐	☐

	Never	Occasionally	Frequently	Very frequently
30. Being asked a question by a patient for which you do not have a satisfactory answer.	☐	☐	☐	☐
31. Making a decision concerning a patient when the doctor is unavailable.	☐	☐	☐	☐
32. Floating (or being transferred) to other units that are short-staffed.	☐	☐	☐	☐
33. Watching a patient suffer.	☐	☐	☐	☐
34. Difficulty working with a particular nurse (or nurses) outside my workplace or unit.	☐	☐	☐	☐
35. Feeling inadequately prepared to help with the emotional needs of a patient.	☐	☐	☐	☐
36. Criticism by a supervisor.	☐	☐	☐	☐
37. Unpredictable staffing and scheduling.	☐	☐	☐	☐
38. A doctor ordering what appears to be inappropriate treatment for a patient.	☐	☐	☐	☐
39. Too many non-nursing tasks required such as clerical work.	☐	☐	☐	☐
40. Not enough time to provide emotional support to a patient.	☐	☐	☐	☐
41. Difficulty working with a nurses (or nurses) in my workplace or unit.	☐	☐	☐	☐
42. Not enough time to complete all of my nursing tasks.	☐	☐	☐	☐
43. A doctor not being present in a medical emergency.	☐	☐	☐	☐
44. Not knowing what a patient or patient's family ought to be told about the patient's medical condition and it's treatment.	☐	☐	☐	☐
45. Uncertainty regarding the operation and functioning of specialised equipment.	☐	☐	☐	☐
46. Not enough staff to adequately cover my workplace or unit.	☐	☐	☐	☐

2. Violence

The aim of this series of questions is to gain an understanding of the type of violence experienced by nurses in the community/ workplace. Please use the following definitions of violence as a guide when answering these questions.

Violence against nurses or 'nurse abuse' is defined in this study as an incident where a nurse experiences any of the following:

- **Physical assault** - e.g. punching, pushing, spitting.
- **Threat of assault** - verbal or written threats intending harm.
- **Emotional abuse** - e.g. hurtful attitudes/remarks, insults, gestures, humiliation, coercion.
- **Verbal sexual harassment** - repeated, unwanted intimate questions or remarks of a sexual nature.
- **Sexual assault** - any forced physical sexual contact, including forcible touching and fondling, any forced sexual acts including forcible intercourse.
- **Stalking** – purposeful stalking or following from home or place of work.
- **Property damage** – purposeful damage or attempts to damage property.
- **Verbal aggression/obscene language** - e.g. aggressive swear words or obscene comments

In the past 12 months, how many times have you experienced each of the following incidents?

Please tick one box for EACH item.

	Never	1 time	2 -3 times	4 – 6 times	4 or more times
47. Physical assault	☐	☐	☐	☐	☐
48. Threat of assault	☐	☐	☐	☐	☐
49. Emotional abuse	☐	☐	☐	☐	☐
50. Verbal sexual harassment	☐	☐	☐	☐	☐
51. Sexual assault	☐	☐	☐	☐	☐
52. Stalking	☐	☐	☐	☐	☐
53. Property damage	☐	☐	☐	☐	☐
54. Verbal aggression/obscene language	☐	☐	☐	☐	☐

55.) In the past 12 months, how often did you report these episodes of workplace violence?

Please tick one box

Never	25% of the time	50% of the time	75% of the time	Every time
☐	☐	☐	☐	☐

The aim of this series of questions is to gain an understanding of the type of violence that nurses may witness in the community or workplace. Once again, please use the above definitions of violence as a guide when answering these questions.

In the past 12 months, how many times have you witnessed each of the following incidents occurring between other people?

Please tick one box for EACH item.

	Never	1 time	2 -3 times	4 or more times
56. Physical assault.	☐	☐	☐	☐
57. Threat of assault	☐	☐	☐	☐
58. Emotional abuse	☐	☐	☐	☐
59. Verbal sexual harassment	☐	☐	☐	☐
60. Sexual assault	☐	☐	☐	☐
61. Stalking	☐	☐	☐	☐
62. Property damage	☐	☐	☐	☐
63. Verbal aggression/obscene language	☐	☐	☐	☐

3. Emotional Demands

The questions in this section ask about the emotional demands in relation to your work as a nurse.

Please tick one box for EACH question.

	Very rarely/ Never	Rarely	Occasionally	Often	Very often/ Always
64. Does your work put you in emotionally demanding situations?	☐	☐	☐	☐	☐
65. Does your work require that you become emotionally involved in your work?	☐	☐	☐	☐	☐
66. Does your work require you to hide your true feelings?	☐	☐	☐	☐	☐

THE JOB RESOURCES

The statements in this section ask about job resources in relation to your work as a nurse. Please indicate the extent to which you agree or disagree with each statement.

1. Supervision

Please tick one box for EACH question.

	Strongly disagree	Disagree	Neither disagree nor agree	Agree	Strongly agree
73. My supervisor is concerned about the welfare of those under him/her.	☐	☐	☐	☐	☐
74. My supervisor pays attention to what I am saying.	☐	☐	☐	☐	☐
75. My supervisor is helpful in getting the job done.	☐	☐	☐	☐	☐
76. My supervisor is successful in getting people to work together.	☐	☐	☐	☐	☐

2. Social Support

Please tick one box for EACH question.

	Strongly disagree	Disagree	Neither disagree nor agree	Agree	Strongly agree
77. People I work with are competent in doing their job.	☐	☐	☐	☐	☐
78. People I work with take a personal interest in me.	☐	☐	☐	☐	☐
79. People I work with are friendly.	☐	☐	☐	☐	☐
80. People I work with are helpful in getting the job done.	☐	☐	☐	☐	☐

3. Opportunity for Professional Development

Please tick one box for EACH question.

	Strongly disagree	Disagree	Neither disagree nor agree	Agree	Strongly agree
81. There are active in-service/continuing education programs for me.	☐	☐	☐	☐	☐
82. There are career development/clinical ladder opportunities.	☐	☐	☐	☐	☐
83. Opportunities exist for me to participate in policy decisions.	☐	☐	☐	☐	☐
84. Opportunities exist for occupational advancement or development.	☐	☐	☐	☐	☐

6. Possibilities for Development

The questions in this section ask about the meaning of your work as a nurse. Please indicate the extent to which you agree or disagree with each statement.

	To a large extent	To some extent	Somewhat	Not very much	To a very small extent
104. Does your work require you to take the initiative?	☐	☐	☐	☐	☐
105. Do you have the possibility of learning new things through your work?	☐	☐	☐	☐	☐
106. Can you use your skills or expertise in your work?	☐	☐	☐	☐	☐

7. Orientation

107. Did you have an orientation to your current position? Y / N

(If no, please go to the next section – Occupational Stress)

108. Did this orientation occur (tick one only):

- Before you started work ☐
- Within one month of commencing work ☐
- Between one and three months of commencing work ☐
- Between three and six months of commencing work ☐
- Between six and twelve months of commencing work ☐

109. Who was the main provider of the orientation? (tick one only)

Employer ☐ Educational Institution ☐ Other (please specify) _____

Please indicate the extent to which you agree/disagree with the following statements:

Please tick one box for EACH question.

The orientation	Strongly disagree	Disagree	Neither disagree nor agree	Agree	Strongly agree
110. To my current position was adequate	☐	☐	☐	☐	☐
111. To the organisation was adequate	☐	☐	☐	☐	☐
112. Included adequate cultural awareness	☐	☐	☐	☐	☐
113. Included sufficient advanced clinical skills	☐	☐	☐	☐	☐
114. Included sufficient public health	☐	☐	☐	☐	☐
115. Included sufficient primary health care	☐	☐	☐	☐	☐

OCCUPATIONAL STRESS

1. Stress and Trauma

Below is a list of problems that people sometimes have after experiencing a traumatic event. In this section we are interested in ***if and how*** you have been bothered by any of these reactions over the **PAST MONTH**. Please rate each reaction with respect to the traumatic event you may have in mind.

Please tick one box for each row.

	Not at all 0	1	Somewhat 2	3	Extremely 4
116. Intrusive images	☐	☐	☐	☐	☐
117. Nightmares	☐	☐	☐	☐	☐
118. Reliving of the trauma	☐	☐	☐	☐	☐
119. Emotionally upset when reminded of the trauma	☐	☐	☐	☐	☐
120. Physical reactions when reminded of the trauma	☐	☐	☐	☐	☐
121. Trying not to think, talk, or have feelings about the trauma	☐	☐	☐	☐	☐
122. Trying to avoid activities, places or people	☐	☐	☐	☐	☐
123. Memory loss	☐	☐	☐	☐	☐
124. Loss of interest	☐	☐	☐	☐	☐
125. Feeling distant or cut off	☐	☐	☐	☐	☐
126. Feeling emotionally numb	☐	☐	☐	☐	☐
127. Lack of future plans	☐	☐	☐	☐	☐
128. Difficulty sleeping	☐	☐	☐	☐	☐
129. Irritability	☐	☐	☐	☐	☐
130. Difficulty concentrating	☐	☐	☐	☐	☐
131. Overly alert	☐	☐	☐	☐	☐
132. Easily startled	☐	☐	☐	☐	☐

2. Psychological Distress

In this section we are interested in how you have felt over the **past TWO WEEKS**. Please tick one box for each question. It is important that you try to answer ALL of the questions.

Have you recently in the last TWO WEEKS.....	Better than usual 0	Same as usual 1	Less than usual 2	Much less than usual 3
133. Been able to concentrate on whatever you've been doing?	☐	☐	☐	☐
	Not at all	No more than usual	Rather more than usual	Much more than usual
134. Lost much sleep over worry?	☐	☐	☐	☐
	More than usual	Same as usual	Less than usual	Much less than usual
135. Felt that you are playing a useful part in things?	☐	☐	☐	☐
	More than usual	Same as usual	Less than usual	Much less than usual
136. Felt capable of making decisions about things?	☐	☐	☐	☐
	Not at all	No more than usual	Rather more than usual	Much more than usual
137. Felt constantly under strain?	☐	☐	☐	☐
	Not at all	No more than usual	Rather more than usual	Much more than usual
138. Felt that you couldn't overcome your difficulties?	☐	☐	☐	☐
	More so than usual	Same as usual	Less so than usual	Much less than usual
139. Been able to enjoy your normal day-to-day activities?	☐	☐	☐	☐
	More so than usual	Same as usual	Less so than usual	Much less than usual
140. Been able to face up to your problems?	☐	☐	☐	☐
	Not at all	No more than usual	Rather more than usual	Much more than usual
141. Been feeling unhappy or depressed?	☐	☐	☐	☐
	Not at all	No more than usual	Rather more than usual	Much more than usual
142. Been losing confidence in yourself?	☐	☐	☐	☐
	Not at all	No more than usual	Rather more than usual	Much more than usual
143. Been thinking of yourself as a worthless person?	☐	☐	☐	☐
	More so than usual	Same as usual	Less so than usual	Much less than usual
144. Been feeling reasonably happy, all things considered?	☐	☐	☐	☐

3. Burnout

The following statements are about how you feel at work. Please read each statement carefully and decide if you ever feel this way. If you have never had this feeling, tick the box corresponding with the number '0'. If you have had this feeling, please indicate how often you experience it by ticking the box that corresponds best with how frequently you feel this way.

Please tick one box for EACH statement.

0 Never	1 A few times a year or less	2 Once a month or less	3 A few times a month	4 Once a week	5 A few times a week	6 Everyday
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	0	1	2	3	4	5	6
145. I feel emotionally drained from my work	☐	☐	☐	☐	☐	☐	☐
146. I feel used up at the end of the work day	☐	☐	☐	☐	☐	☐	☐
147. I feel tired when I get up in the morning and have to face another day at the job	☐	☐	☐	☐	☐	☐	☐
148. Working all day is a real strain for me	☐	☐	☐	☐	☐	☐	☐
149. I feel burned out from my work	☐	☐	☐	☐	☐	☐	☐
150. I feel frustrated by my job	☐	☐	☐	☐	☐	☐	☐
151. I feel I'm working too hard on my job	☐	☐	☐	☐	☐	☐	☐
152. Working with people directly puts too much stress on me	☐	☐	☐	☐	☐	☐	☐
153. I feel like I'm at the end of my rope	☐	☐	☐	☐	☐	☐	☐
154. I can easily understand how my clients feel about things	☐	☐	☐	☐	☐	☐	☐
155. I deal very effectively with the problems of my clients	☐	☐	☐	☐	☐	☐	☐
156. I feel I'm positively influencing other people's lives through my work	☐	☐	☐	☐	☐	☐	☐
157. I feel very energetic	☐	☐	☐	☐	☐	☐	☐
158. I can easily create a relaxed atmosphere with my clients	☐	☐	☐	☐	☐	☐	☐
159. I feel exhilarated after working closely with my clients	☐	☐	☐	☐	☐	☐	☐
160. I have accomplished many worthwhile things in this job	☐	☐	☐	☐	☐	☐	☐
161. In my work, I deal with emotional problems very calmly	☐	☐	☐	☐	☐	☐	☐

0 Never	1 A few times a year or less	2 Once a month or less	3 A few times a month	4 Once a week	5 A few times a week	6 Everyday
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162. I feel I treat some clients as if they were impersonal 'objects'	☐	☐	☐	☐	☐	☐	☐
163. I've become more callous toward people since I took this job	☐	☐	☐	☐	☐	☐	☐
164. I worry that this job is hardening me emotionally	☐	☐	☐	☐	☐	☐	☐
165. I don't really care what happens to some clients	☐	☐	☐	☐	☐	☐	☐
166. I feel clients blame me for some of their problems	☐	☐	☐	☐	☐	☐	☐

4. Physical Health

The following questions are about your physical health. Please read each question carefully and indicate whether you are bothered by these symptoms.

Please tick one box for EACH question.

During the past 7 (seven) days how much were you bothered by.....	Not at all	Several days	More than half the days	Nearly every day
167. Headaches?	☐	☐	☐	☐
168. Back or neck pain?	☐	☐	☐	☐
169. Pain in your arms, legs, or joint areas like your knee or hips?	☐	☐	☐	☐
170. Muscle soreness?	☐	☐	☐	☐
171. Watery eyes, a runny nose or a stuffy head?	☐	☐	☐	☐
172. Cough or sore throat?	☐	☐	☐	☐
173. Fever, chills, or any other cold or flu symptoms?	☐	☐	☐	☐
174. Constipation, loose bowels, or diarrhoea?	☐	☐	☐	☐
175. Nausea, gas or indigestion?	☐	☐	☐	☐
176. Skin infections, such as sores, boils or impetigo?	☐	☐	☐	☐

ENGAGEMENT & SATISFACTION

1. Satisfaction

177.) Taking everything into consideration, how do you feel about your job?

Please tick one box

Extremely Dissatisfied	Very dissatisfied	Moderately dissatisfied	Not sure	Moderately satisfied	Very satisfied	Extremely satisfied
☐ (0)	☐ (1)	☐ (2)	☐ (3)	☐ (4)	☐ (5)	☐ (6)

2. Engagement

The following statements are about how you feel at work. Please read each statement carefully and decide if you ever feel this way. If you have never had this feeling, tick the box corresponding with the number '0'. If you have had this feeling, please indicate how often you experience it by ticking the box that corresponds best with how frequently you feel this way.

0 Never	1 A few times a year or less	2 Once a month or less	3 A few times a month	4 Once a week	5 A few times a week	6 Everyday
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	0	1	2	3	4	5	6
178. At my work, I feel bursting with energy.	☐	☐	☐	☐	☐	☐	☐
179. At my job, I feel strong and vigorous.	☐	☐	☐	☐	☐	☐	☐
180. I am enthusiastic about my job.	☐	☐	☐	☐	☐	☐	☐
181. My job inspires me.	☐	☐	☐	☐	☐	☐	☐
182. When I get up in the morning, I feel like going to work.	☐	☐	☐	☐	☐	☐	☐
183. I feel happy when I am working intensely.	☐	☐	☐	☐	☐	☐	☐
184. I am proud of the work that I do.	☐	☐	☐	☐	☐	☐	☐
185. I am immersed in my work.	☐	☐	☐	☐	☐	☐	☐
186. I get carried away when I am working.	☐	☐	☐	☐	☐	☐	☐

3. Resilience

The following statements are about you. Please read each statement carefully and decide whether or not each statement relates to you. Please indicate the extent to which you agree with each statement in relation to yourself.

	1 Strongly Disagree	2 Disagree	3 Disagree Somewha	4 Unsure	5 Agree somewh	6 Agree	7 Strongly Agree
187. When I make plans I follow through with them.	☐	☐	☐	☐	☐	☐	☐
188. I usually manage one way or another.	☐	☐	☐	☐	☐	☐	☐
189. I am able to depend on myself more than anyone else.	☐	☐	☐	☐	☐	☐	☐
190. Keeping interested in things is important to me.	☐	☐	☐	☐	☐	☐	☐
191. I can be on my own if I have to.	☐	☐	☐	☐	☐	☐	☐
192. I feel proud that I have accomplished things in my life.	☐	☐	☐	☐	☐	☐	☐
193. I usually take things in stride.	☐	☐	☐	☐	☐	☐	☐
194. I am friends with myself.	☐	☐	☐	☐	☐	☐	☐
195. I feel that I can handle many things at a time.	☐	☐	☐	☐	☐	☐	☐
196. I am determined.	☐	☐	☐	☐	☐	☐	☐
197. I seldom wonder what the point of it all is.	☐	☐	☐	☐	☐	☐	☐
198. I take things one day at a time.	☐	☐	☐	☐	☐	☐	☐
199. I can get through difficult times because I've experienced difficulty before.	☐	☐	☐	☐	☐	☐	☐
200. I have self-discipline.	☐	☐	☐	☐	☐	☐	☐
201. I keep interested in things.	☐	☐	☐	☐	☐	☐	☐
202. I can usually find something to laugh about.	☐	☐	☐	☐	☐	☐	☐
203. My belief in myself gets me through hard times.	☐	☐	☐	☐	☐	☐	☐
204. In an emergency, I'm someone people generally can rely on.	☐	☐	☐	☐	☐	☐	☐
205. I can usually look at a situation in a number of ways.	☐	☐	☐	☐	☐	☐	☐
206. Sometimes I make myself do things whether I want to or not.	☐	☐	☐	☐	☐	☐	☐
207. My life has meaning.	☐	☐	☐	☐	☐	☐	☐
208. I do not dwell on things that I can't do anything about.	☐	☐	☐	☐	☐	☐	☐
209. When I'm in a difficult situation, I can usually find my way out of it.	☐	☐	☐	☐	☐	☐	☐
210. I have enough energy to do what I have to do.	☐	☐	☐	☐	☐	☐	☐
211. It's okay if there are people who don't like me.	☐	☐	☐	☐	☐	☐	☐

OTHER ASPECTS OF NURSING

The following scales contain possible situations that may have the potential to cause occupational stress in nurses. Please indicate how frequently you experience each of these situations by placing the corresponding number in the spaces provided. If you have not experienced the situation listed, please place a '0' in the space provided.

HOW OFTEN:

0 Never	1 A few times a year or less	2 Once a month or less	3 A few times a month	4 Once a week	5 A few times a week	6 Everyday
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1. Management

In this section we would like you to consider the person who has management authority over your position. For example, this may be your manager in the Regional Centre/Town for remote area nurses or the Director of Nursing for hospital-based nurses.

How often does your manager . . .	0	1	2	3	4	5	6
212. Fail to address issues you raise concerning your colleagues.	☐	☐	☐	☐	☐	☐	☐
213. Have unrealistic expectations of you as a nurse.	☐	☐	☐	☐	☐	☐	☐
214. Carry out site visits or face-to-face contact.	☐	☐	☐	☐	☐	☐	☐
215. Fail to be accessible for support or advice.	☐	☐	☐	☐	☐	☐	☐
216. Show a poor understanding of the issues impacting on you as a nurse.	☐	☐	☐	☐	☐	☐	☐
217. Provide inadequate clinical support.	☐	☐	☐	☐	☐	☐	☐
218. Fail to appropriately manage critical incidents.	☐	☐	☐	☐	☐	☐	☐
219. Perpetrate bullying behaviour.	☐	☐	☐	☐	☐	☐	☐

2. Staff

How often do you experience . . .	0	1	2	3	4	5	6
220. Interpersonal conflict between colleagues.	☐	☐	☐	☐	☐	☐	☐
221. Inadequate staffing levels.	☐	☐	☐	☐	☐	☐	☐
222. No staff relief.	☐	☐	☐	☐	☐	☐	☐
223. High staff turnover.	☐	☐	☐	☐	☐	☐	☐
224. Colleagues perpetrating bullying behaviour.	☐	☐	☐	☐	☐	☐	☐

3. On-call

How often are you . . .	0	1	2	3	4	5	6
225. On-call 24 hours a day.	☐	☐	☐	☐	☐	☐	☐
226. Called-out.	☐	☐	☐	☐	☐	☐	☐
227. Called-out for non-urgent issues.	☐	☐	☐	☐	☐	☐	☐
228. On-call on 'days off'.	☐	☐	☐	☐	☐	☐	☐
229. On-call when unwell.	☐	☐	☐	☐	☐	☐	☐

HOW OFTEN:

0 Never	1 A few times a year or less	2 Once a month or less	3 A few times a month	4 Once a week	5 A few times a week	6 Everyday
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4. Workload

How often do you . . .	0	1	2	3	4	5	6
230. Work overtime.	☐	☐	☐	☐	☐	☐	☐
231. Perceive your workload as unmanageable.	☐	☐	☐	☐	☐	☐	☐
232. Perform administrative duties.	☐	☐	☐	☐	☐	☐	☐
233. Feel unable to plan or control your workload.	☐	☐	☐	☐	☐	☐	☐
234. Feel as though you never achieve your work-related goals or outcomes.	☐	☐	☐	☐	☐	☐	☐

5. Responsibilities & Expectations

How often do you feel . . .	0	1	2	3	4	5	6
235. The responsibilities of the health service exceed the capacity of staff.	☐	☐	☐	☐	☐	☐	☐
236. The community has unrealistic expectations of you as a nurse.	☐	☐	☐	☐	☐	☐	☐
237. The healthcare system has unrealistic expectations of you as a nurse.	☐	☐	☐	☐	☐	☐	☐
238. An overwhelming sense of responsibility for the community.	☐	☐	☐	☐	☐	☐	☐
239. Strained by the requirement to manage daily crises and critical incidents.	☐	☐	☐	☐	☐	☐	☐
240. You are performing an extended role in areas beyond the scope of nursing.	☐	☐	☐	☐	☐	☐	☐
241. Pressured to work outside of your clinical training or scope of practise.	☐	☐	☐	☐	☐	☐	☐

6. Support

How often do you experience adequate. . .	0	1	2	3	4	5	6
242. Mentor support.	☐	☐	☐	☐	☐	☐	☐
243. Clinical support.	☐	☐	☐	☐	☐	☐	☐
244. Support from the community.	☐	☐	☐	☐	☐	☐	☐
245. Collaboration with other health services or other sections of the health system.	☐	☐	☐	☐	☐	☐	☐
246. Administrative/ancillary support.	☐	☐	☐	☐	☐	☐	☐

7. Infrastructure & Equipment

How often do you experience difficulties with . . .	0	1	2	3	4	5	6
247. Equipment.	☐	☐	☐	☐	☐	☐	☐
248. Infrastructure.	☐	☐	☐	☐	☐	☐	☐
249. Information technology.	☐	☐	☐	☐	☐	☐	☐
250. Transport.	☐	☐	☐	☐	☐	☐	☐
251. Vehicle maintenance.	☐	☐	☐	☐	☐	☐	☐
252. Visitor accommodation.	☐	☐	☐	☐	☐	☐	☐
253. Response times to requests for repairs of equipment or infrastructure.	☐	☐	☐	☐	☐	☐	☐

HOW OFTEN:

0 Never	1 A few times a year or less	2 Once a month or less	3 A few times a month	4 Once a week	5 A few times a week	6 Everyday
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8. Safety concerns

How often do you feel concerned about . . .	0	1	2	3	4	5	6
254. Violence in the community.	☐	☐	☐	☐	☐	☐	☐
255. Insecure or unsafe housing.	☐	☐	☐	☐	☐	☐	☐
256. Your personal safety.	☐	☐	☐	☐	☐	☐	☐
257. Client-initiated violence towards nursing staff.	☐	☐	☐	☐	☐	☐	☐
258. Client-initiated threats of violence towards nursing staff.	☐	☐	☐	☐	☐	☐	☐
259. The ability of police to provide adequate support in the case of a critical incident.	☐	☐	☐	☐	☐	☐	☐

9. Social Issues

How often do you experience difficulty . . .	0	1	2	3	4	5	6
260. Establishing professional boundaries – friends are often patients.	☐	☐	☐	☐	☐	☐	☐
261. Finding time to unwind as you are always ‘the nurse’.	☐	☐	☐	☐	☐	☐	☐
262. Initiating or maintaining social interaction.	☐	☐	☐	☐	☐	☐	☐
263. Maintaining personal relationships.	☐	☐	☐	☐	☐	☐	☐

10. Isolation

How often do you feel isolated from . . .	0	1	2	3	4	5	6
264. Family and friends.	☐	☐	☐	☐	☐	☐	☐
265. The community.	☐	☐	☐	☐	☐	☐	☐
266. Services and colleagues.	☐	☐	☐	☐	☐	☐	☐
267. Professional development opportunities.	☐	☐	☐	☐	☐	☐	☐

11. Inter-Cultural Factors

How often do you . . .	0	1	2	3	4	5	6
268. Feel you are the target of prejudice, discrimination or racism.	☐	☐	☐	☐	☐	☐	☐
269. Experience conflict between western nursing practices and prevailing cultural practices.	☐	☐	☐	☐	☐	☐	☐
270. Feel you have an inadequate understanding of different cultures, values or beliefs.	☐	☐	☐	☐	☐	☐	☐
271. Experience an inability to speak or understand the local language.	☐	☐	☐	☐	☐	☐	☐

HOW OFTEN:

0 Never	1 A few times a year or less	2 Once a month or less	3 A few times a month	4 Once a week	5 A few times a week	6 Everyday
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12. Context

How often is your work affected by practising in a context of . . .	0	1	2	3	4	5	6
272. Social and economic inequity.	☐	☐	☐	☐	☐	☐	☐
273. Complex health care needs.	☐	☐	☐	☐	☐	☐	☐
274. Frequent funerals in the community	☐	☐	☐	☐	☐	☐	☐

13. Acknowledging New Cultures

How often do you experience . . .	0	1	2	3	4	5	6
275. Uneasiness about living or working in a different culture.	☐	☐	☐	☐	☐	☐	☐
276. A sense of uncertainty due to the expectations of another culture.	☐	☐	☐	☐	☐	☐	☐
277. Difficulty adjusting to an unfamiliar culture.	☐	☐	☐	☐	☐	☐	☐
278. Uneasiness about misunderstandings or disagreements arising from cultural differences.	☐	☐	☐	☐	☐	☐	☐
279. Feeling confronted by an absence of familiar attitudes, value systems, or behaviours.	☐	☐	☐	☐	☐	☐	☐

Changes in the last 12 months

The following questions are about changes in the last 12 months. Please indicate the extent to which these changes, if any, have occurred.

To what extent have you noticed an improvement ...	Not at all 0	Not very much 1	To some extent 2	Somewhat 3	To a large extent 4
280. To management of equipment and infrastructure?	☐	☐	☐	☐	☐
281. To workload?	☐	☐	☐	☐	☐
282. To education of nurses?	☐	☐	☐	☐	☐
283. In staff relief?	☐	☐	☐	☐	☐
284. In the management of nurses?	☐	☐	☐	☐	☐

BACK FROM THE EDGE – DEVELOPING ACTIONS TO REDUCE STRESS

If you were employed by the **NT Department of Health and Families** or **Katherine West Health Board** any time in the period between January and December 2009 please answer these questions. (If not, go to page 23 & complete the demographic section)

285. How were you involved in the BFTE project? (Tick all that apply):

- Heard about the project ☐ From whom _____
- Discussed potential actions with colleagues ☐
- Discussed potential actions with research team ☐
- Attended ONE workgroup to develop an action plan ☐
- Attended TWO workgroups to develop an action plan ☐
- Attended THREE workgroups to develop an action plan ☐
- Attended an implementation committee ☐
- None of the above ☐

(If you answered 'none of the above', go to page 23 & complete the demographic information section)

1. Involvement in Project

To what extent.....	Not at all 0	Not very much 1	To some extent 2	Somewhat 3	To a large extent 4
286. Where you involved in the 'Back From The Edge project'?	☐	☐	☐	☐	☐
287. Where you involved specifically in the workgroups?	☐	☐	☐	☐	☐
288. Did you find the workgroups engaging and interesting?	☐	☐	☐	☐	☐
289. Did you feel your input was valued?	☐	☐	☐	☐	☐
290. Do you feel committed to follow through with the action plan?	☐	☐	☐	☐	☐
291. Did you discuss this project with colleagues?	☐	☐	☐	☐	☐
292. Have you been listened to in the stress project process?	☐	☐	☐	☐	☐

2. Actions Implemented

To what extent.....	Not at all 0	Not very much 1	To some extent 2	Somewhat 3	To a large extent 4
293. Has trust within the organization been built as a result of the BFTE stress project?	☐	☐	☐	☐	☐
294. Are actions from your workgroup action plans being addressed in your workplace?	☐	☐	☐	☐	☐

3. Line manager attitudes and actions

To what extent.....	Not at all 0	Not very much 1	To some extent 2	Somewhat 3	To a large extent 4
295. Has the remote health management team (Top End, Central Australia, KWHB) made an effort to involve RANs throughout the Back from the Edge project?	☐	☐	☐	☐	☐
296. Has the remote health management team (Top End, Central Australia, KWHB) made an effort to involve health centre managers throughout the Back from the Edge project?	☐	☐	☐	☐	☐
297. Did your immediate manager share whatever he/she knew about the Back from the Edge project?	☐	☐	☐	☐	☐
299. Was information concerning the Back from the Edge project accessible?	☐	☐	☐	☐	☐
299. Was the remote health management team positive about the Back from the Edge project?	☐	☐	☐	☐	☐
300. Have you had the opportunity to speak with your immediate manager about the Back from the Edge project?	☐	☐	☐	☐	☐

DEMOGRAPHIC INFORMATION

A. PERSONAL DETAILS

(Please circle)

1. Age : _____ yrs
2. Gender: M / F
3. Are you Aboriginal or Torres Strait Islander Y / N
4. Are you married or do you have a partner? Y / N
5. If yes, does your partner live with you? Y / N
6. Do you have a child/children? Y / N
7. If yes, does your child/children live with you? Y / N
8. In which state are you currently living? _____
9. In which state are you currently working? _____
10. In which town or community are you currently working? _____

B. NURSING CAREER

11. Did you first train to be a nurse:
 In Australia ☐ Overseas ☐
12. In which year did you gain your first registered nursing qualification? _____
13. What is your basic registered nursing qualification:
 Certificate ☐ Diploma ☐ Bachelor ☐
14. In which areas of nursing do you have postgraduate qualifications? (Tick all that apply)

Remote nursing	☐	Rural nursing	☐
Community Health	☐	Mental Health	☐
Midwifery	☐	Family & Child Health	☐
Critical Care/Emergency nursing	☐	Public Health	☐
Other (please specify) _____			
15. What qualification do you have in remote health? (If none go to next question)

16. Do you identify as a Remote Area Nurse (RAN)? Y / N
17. Please list any short courses you have completed in the past 5 years (e.g. REC, MEC, Self-Care).

C. WORKPLACE

18. Where do you work? (please tick)

- a. Very remote hospital with inpatient facilities ☐
- b. Very remote primary health care (PHC) clinic without inpatient facilities ☐
- c. Community health in a community where there is a small hospital ☐
- d. Mine ☐
- e. Aged care facility ☐
- f. Tourist centre ☐
- g. Private general practice ☐

19. Are you employed by: (please tick)

- | | | | |
|------------------|--------------------------|--|--------------------------|
| State Government | ☐ | Aboriginal Community Controlled Health Service | ☐ |
| Other NGO | ☐ | Private Provider (other than agency) | ☐ |
| Agency | ☐ | | |

20. How long have you been in your current position _____ Years _____ Months

21. How long did it take before you felt confident to work to full capacity in your current position?

- | | | | |
|-------------|--------------------------|---------------------|--------------------------|
| 0- 1 month | ☐ | 3-6 months | ☐ |
| 1- 2 months | ☐ | 6 months -12 months | ☐ |
| 2- 3 months | ☐ | more than 12 months | ☐ |

D. CRANApus

- 22. Have you heard of CRANApus Y / N
- 23. Have you heard of CRANApus's training products Y / N
- 24. Are you a member of CRANApus? Y / N
- 25. Are you aware of the Bush Support Services? Y / N
- 26. If yes, have you accessed the Bush Support Services in past 12 months? Y / N



FOLLOW-UP

This study is a follow-up from a previous study conducted in 2008. Some people may have responded to the previous survey and provided a unique code. We ask all respondents to provide this code to enable us to match this survey. This will allow us to investigate any changes that may have occurred over time.

The code will protect your anonymity in this project.

First 3 letters of mother's first name
(e.g. MAR for MARY)

--	--	--

First 3 letters of father's first name
(e.g. KEV for KEVIN)

--	--	--

APPENDIX D

BACK FROM THE EDGE SURVEY 2 (HOSPITAL NURSES)

Back from the Edge: Preventing and Reducing Stress in the Nursing Workforce

Dear Colleague:

Many nurses have been concerned about the levels of stress among nurses in very remote Australia for some years. Our work context and work role can put us at risk of emotional and physical burnout.

We received an Australian Research Council grant to investigate stress among nurses in very remote Australia and to develop strategies and activities to prevent and reduce occupational stress.

We are now in the third year of this project which, as some of you may be aware, involved us sending out a questionnaire to nurses in Darwin and Alice Springs hospitals in 2008. If you did not participate in the previous survey, we ask that you still consider participating in this survey. We are looking for any changes that may have occurred in the nursing workforce between then and now, at both an individual and system level. **All responses – whether this is your first or second survey – would be greatly appreciated.** This survey will take approximately 30 minutes of your time.

Your participation in the questionnaire is anonymous. The personal code cannot be used to identify you as an individual however it will let us match responses. To ensure anonymity the card to enter the draw to win \$500 will be removed before the questionnaire is given to the research team.

Please complete the questionnaire return in the self addressed envelop with (if you wish to enter the draw for \$500, the entry card.

Thank you in anticipation,
The Research Team.

SYSTEM CAPACITY

The statements in this section ask about attributes of the health care system in which you are employed as a nurse. Please indicate the extent to which you agree or disagree with each statement.

Please tick one box for EACH question.

	Strongly disagree	Disagree	Neither disagree nor agree	Agree	Strongly agree
1. My organisation progresses effectively through change and challenge.	☐	☐	☐	☐	☐
2. My organisation responds quickly and efficiently to emergency situations.	☐	☐	☐	☐	☐
3. I feel I was adequately informed about the conditions of health care in my workplace prior to taking this position.	☐	☐	☐	☐	☐
4. I feel I was adequately prepared for cultural sensitivity and cross-cultural awareness.	☐	☐	☐	☐	☐
5. I am involved in decision-making that affects my workplace.	☐	☐	☐	☐	☐
6. I am involved in policy development, reviews or amendments.	☐	☐	☐	☐	☐
7. In my organisation, senior management shows support for stress prevention through involvement and commitment.	☐	☐	☐	☐	☐
8. Participation and consultation in occupational health and safety occurs with employees, unions and health & safety representatives in my organisation.	☐	☐	☐	☐	☐
9. My contributions to resolving occupational health & safety concerns in my organisation are listened to.	☐	☐	☐	☐	☐
10. In practice, the prevention of stress involves all levels of my organisation.	☐	☐	☐	☐	☐
11. I receive the information I need from colleagues and managers to perform my job effectively.	☐	☐	☐	☐	☐
12. Existing communication systems between health care providers are effective.	☐	☐	☐	☐	☐

THE JOB DEMANDS

1. Nursing Stress

Below is a list of situations that may occur in a hospital, health service or clinic. For each item, please indicate by means of a tick ***how often*** in your present workplace or unit ***you have found the situations to be stressful***.

Please tick one box for EACH question.

	Never	Occasionally	Frequently	Very frequently
13. Breakdown of the computer.	☐	☐	☐	☐
14. Criticism by a doctor.	☐	☐	☐	☐
15. Performing procedures that patients experience as painful.	☐	☐	☐	☐
16. Feeling helpless in the case of a patient who fails to improve.	☐	☐	☐	☐
17. Conflict with a supervisor.	☐	☐	☐	☐
18. Listening or talking to a patient about his/her approaching death.	☐	☐	☐	☐
19. Lack of an opportunity to talk openly with other personnel about problems in your workplace or unit.	☐	☐	☐	☐
20. The death of a patient.	☐	☐	☐	☐
21. Conflict with a doctor.	☐	☐	☐	☐
22. Fear of making a mistake in treating a patient.	☐	☐	☐	☐
23. Lack of an opportunity to share experiences and feelings with other personnel in your workplace or unit.	☐	☐	☐	☐
24. The death of a patient with whom you develop a close relationship.	☐	☐	☐	☐
25. Doctor not being present when a patient dies.	☐	☐	☐	☐
26. Disagreement (with other nurses) concerning the treatment of a patient.	☐	☐	☐	☐
27. Feeling inadequately prepared to help with the emotional needs of a patient's family.	☐	☐	☐	☐
28. Lack of an opportunity to express to other personnel in your workplace or unit your negative feelings toward patients.	☐	☐	☐	☐
29. Inadequate information from a doctor regarding the medical condition of a patient.	☐	☐	☐	☐

	Never	Occasionally	Frequently	Very frequently
30. Being asked a question by a patient for which you do not have a satisfactory answer.	☐	☐	☐	☐
31. Making a decision concerning a patient when the doctor is unavailable.	☐	☐	☐	☐
32. Floating (or being transferred) to other units that are short-staffed.	☐	☐	☐	☐
33. Watching a patient suffer.	☐	☐	☐	☐
34. Difficulty working with a particular nurse (or nurses) outside my workplace or unit.	☐	☐	☐	☐
35. Feeling inadequately prepared to help with the emotional needs of a patient.	☐	☐	☐	☐
36. Criticism by a supervisor.	☐	☐	☐	☐
37. Unpredictable staffing and scheduling.	☐	☐	☐	☐
38. A doctor ordering what appears to be inappropriate treatment for a patient.	☐	☐	☐	☐
39. Too many non-nursing tasks required such as clerical work.	☐	☐	☐	☐
40. Not enough time to provide emotional support to a patient.	☐	☐	☐	☐
41. Difficulty working with a nurses (or nurses) in my workplace or unit.	☐	☐	☐	☐
42. Not enough time to complete all of my nursing tasks.	☐	☐	☐	☐
43. A doctor not being present in a medical emergency.	☐	☐	☐	☐
44. Not knowing what a patient or patient's family ought to be told about the patient's medical condition and it's treatment.	☐	☐	☐	☐
45. Uncertainty regarding the operation and functioning of specialised equipment.	☐	☐	☐	☐
46. Not enough staff to adequately cover my workplace or unit.	☐	☐	☐	☐

2. Violence

The aim of this series of questions is to gain an understanding of the type of violence experienced by nurses in the community/ workplace. Please use the following definitions of violence as a guide when answering these questions.

Violence against nurses or 'nurse abuse' is defined in this study as an incident where a nurse experiences any of the following:

- **Physical assault** - e.g. punching, pushing, spitting.
- **Threat of assault** - verbal or written threats intending harm.
- **Emotional abuse** - e.g. hurtful attitudes/remarks, insults, gestures, humiliation, coercion.
- **Verbal sexual harassment** - repeated, unwanted intimate questions or remarks of a sexual nature.
- **Sexual assault** - any forced physical sexual contact, including forcible touching and fondling, any forced sexual acts including forcible intercourse.
- **Stalking** – purposeful stalking or following from home or place of work.
- **Property damage** – purposeful damage or attempts to damage property.
- **Verbal aggression/obscene language** - e.g. aggressive swear words or obscene comments

In the past 12 months, how many times have you experienced each of the following incidents?

Please tick one box for EACH item.

	Never	1 time	2 -3 times	4 – 6 times	4 or more times
47. Physical assault	☐	☐	☐	☐	☐
48. Threat of assault	☐	☐	☐	☐	☐
49. Emotional abuse	☐	☐	☐	☐	☐
50. Verbal sexual harassment	☐	☐	☐	☐	☐
51. Sexual assault	☐	☐	☐	☐	☐
52. Stalking	☐	☐	☐	☐	☐
53. Property damage	☐	☐	☐	☐	☐
54. Verbal aggression/obscene language	☐	☐	☐	☐	☐

55.) In the past 12 months, how often did you report these episodes of workplace violence?

Please tick one box

Never	25% of the time	50% of the time	75% of the time	Every time
☐	☐	☐	☐	☐

The aim of this series of questions is to gain an understanding of the type of violence that nurses may witness in the community or workplace. Once again, please use the above definitions of violence as a guide when answering these questions.

In the past 12 months, how many times have you witnessed each of the following incidents occurring between other people?

Please tick one box for EACH item.

	Never	1 time	2 -3 times	4 or more times
56. Physical assault.	☐	☐	☐	☐
57. Threat of assault	☐	☐	☐	☐
58. Emotional abuse	☐	☐	☐	☐
59. Verbal sexual harassment	☐	☐	☐	☐
60. Sexual assault	☐	☐	☐	☐
61. Stalking	☐	☐	☐	☐
62. Property damage	☐	☐	☐	☐
63. Verbal aggression/obscene language	☐	☐	☐	☐

3. Emotional Demands

The questions in this section ask about the emotional demands in relation to your work as a nurse.

Please tick one box for EACH question.

	Very rarely/ Never	Rarely	Occasionally	Often	Very often/ Always
64. Does your work put you in emotionally demanding situations?	☐	☐	☐	☐	☐
65. Does your work require that you become emotionally involved in your work?	☐	☐	☐	☐	☐
66. Does your work require you to hide your true feelings?	☐	☐	☐	☐	☐

THE JOB RESOURCES

The statements in this section ask about job resources in relation to your work as a nurse. Please indicate the extent to which you agree or disagree with each statement.

1. Supervision

Please tick one box for EACH question.

	Strongly disagree	Disagree	Neither disagree nor agree	Agree	Strongly agree
73. My supervisor is concerned about the welfare of those under him/her.	☐	☐	☐	☐	☐
74. My supervisor pays attention to what I am saying.	☐	☐	☐	☐	☐
75. My supervisor is helpful in getting the job done.	☐	☐	☐	☐	☐
76. My supervisor is successful in getting people to work together.	☐	☐	☐	☐	☐

2. Social Support

Please tick one box for EACH question.

	Strongly disagree	Disagree	Neither disagree nor agree	Agree	Strongly agree
77. People I work with are competent in doing their job.	☐	☐	☐	☐	☐
78. People I work with take a personal interest in me.	☐	☐	☐	☐	☐
79. People I work with are friendly.	☐	☐	☐	☐	☐
80. People I work with are helpful in getting the job done.	☐	☐	☐	☐	☐

3. Opportunity for Professional Development

Please tick one box for EACH question.

	Strongly disagree	Disagree	Neither disagree nor agree	Agree	Strongly agree
81. There are active in-service/continuing education programs for me.	☐	☐	☐	☐	☐
82. There are career development/clinical ladder opportunities.	☐	☐	☐	☐	☐
83. Opportunities exist for me to participate in policy decisions.	☐	☐	☐	☐	☐
84. Opportunities exist for occupational advancement or development.	☐	☐	☐	☐	☐

6. Possibilities for Development

The questions in this section ask about the meaning of your work as a nurse. Please indicate the extent to which you agree or disagree with each statement.

	To a large extent	To some extent	Somewhat	Not very much	To a very small extent
104. Does your work require you to take the initiative?	☐	☐	☐	☐	☐
105. Do you have the possibility of learning new things through your work?	☐	☐	☐	☐	☐
106. Can you use your skills or expertise in your work?	☐	☐	☐	☐	☐

7. Orientation

107. Did you have an orientation to your current position? Y / N

(If no, please go to the next section – Occupational Stress)

108. Did this orientation occur (tick one only):

- Before you started work ☐
- Within one month of commencing work ☐
- Between one and three months of commencing work ☐
- Between three and six months of commencing work ☐
- Between six and twelve months of commencing work ☐

109. Who was the main provider of the orientation? (tick one only)

Employer ☐ Educational Institution ☐ Other (please specify) _____

Please indicate the extent to which you agree/disagree with the following statements:

Please tick one box for EACH question.

The orientation	Strongly disagree	Disagree	Neither disagree nor agree	Agree	Strongly agree
110. To my current position was adequate	☐	☐	☐	☐	☐
111. To the hospital was adequate	☐	☐	☐	☐	☐
112. Included adequate cultural awareness	☐	☐	☐	☐	☐

OCCUPATIONAL STRESS

1. Stress and Trauma

Below is a list of problems that people sometimes have after experiencing a traumatic event. In this section we are interested in ***if and how*** you have been bothered by any of these reactions over the **PAST MONTH**. Please rate each reaction with respect to the traumatic event you may have in mind.

Please tick one box for each row.

	Not at all 0	1	Somewhat 2	3	Extremely 4
113. Intrusive images	☐	☐	☐	☐	☐
114. Nightmares	☐	☐	☐	☐	☐
115. Reliving of the trauma	☐	☐	☐	☐	☐
116. Emotionally upset when reminded of the trauma	☐	☐	☐	☐	☐
117. Physical reactions when reminded of the trauma	☐	☐	☐	☐	☐
118. Trying not to think, talk, or have feelings about the trauma	☐	☐	☐	☐	☐
119. Trying to avoid activities, places or people	☐	☐	☐	☐	☐
120. Memory loss	☐	☐	☐	☐	☐
121. Loss of interest	☐	☐	☐	☐	☐
122. Feeling distant or cut off	☐	☐	☐	☐	☐
123. Feeling emotionally numb	☐	☐	☐	☐	☐
124. Lack of future plans	☐	☐	☐	☐	☐
125. Difficulty sleeping	☐	☐	☐	☐	☐
126. Irritability	☐	☐	☐	☐	☐
127. Difficulty concentrating	☐	☐	☐	☐	☐
128. Overly alert	☐	☐	☐	☐	☐
129. Easily startled	☐	☐	☐	☐	☐

2. Psychological Distress

In this section we are interested in how you have felt over the **past TWO WEEKS**. Please tick one box for each question. It is important that you try to answer ALL of the questions.

Have you recently in the last TWO WEEKS.....	Better than usual 0	Same as usual 1	Less than usual 2	Much less than usual 3
130. Been able to concentrate on whatever you've been doing?	☐	☐	☐	☐
	Not at all	No more than usual	Rather more than usual	Much more than usual
131. Lost much sleep over worry?	☐	☐	☐	☐
	More than usual	Same as usual	Less than usual	Much less than usual
132. Felt that you are playing a useful part in things?	☐	☐	☐	☐
	More than usual	Same as usual	Less than usual	Much less than usual
133. Felt capable of making decisions about things?	☐	☐	☐	☐
	Not at all	No more than usual	Rather more than usual	Much more than usual
134. Felt constantly under strain?	☐	☐	☐	☐
	Not at all	No more than usual	Rather more than usual	Much more than usual
135. Felt that you couldn't overcome your difficulties?	☐	☐	☐	☐
	More so than usual	Same as usual	Less so than usual	Much less than usual
136. Been able to enjoy your normal day-to-day activities?	☐	☐	☐	☐
	More so than usual	Same as usual	Less so than usual	Much less than usual
137. Been able to face up to your problems?	☐	☐	☐	☐
	Not at all	No more than usual	Rather more than usual	Much more than usual
138. Been feeling unhappy or depressed?	☐	☐	☐	☐
	Not at all	No more than usual	Rather more than usual	Much more than usual
139. Been losing confidence in yourself?	☐	☐	☐	☐
	Not at all	No more than usual	Rather more than usual	Much more than usual
140. Been thinking of yourself as a worthless person?	☐	☐	☐	☐
	More so than usual	Same as usual	Less so than usual	Much less than usual
141. Been feeling reasonably happy, all things considered?	☐	☐	☐	☐

3. Burnout

The following statements are about how you feel at work. Please read each statement carefully and decide if you ever feel this way. If you have never had this feeling, tick the box corresponding with the number '0'. If you have had this feeling, please indicate how often you experience it by ticking the box that corresponds best with how frequently you feel this way.

Please tick one box for EACH statement.

0 Never	1 A few times a year or less	2 Once a month or less	3 A few times a month	4 Once a week	5 A few times a week	6 Everyday
------------	------------------------------------	------------------------------	-----------------------------	---------------------	----------------------------	---------------

	0	1	2	3	4	5	6
142. I feel emotionally drained from my work	☐	☐	☐	☐	☐	☐	☐
143. I feel used up at the end of the work day	☐	☐	☐	☐	☐	☐	☐
144. I feel tired when I get up in the morning and have to face another day at the job	☐	☐	☐	☐	☐	☐	☐
145. Working all day is a real strain for me	☐	☐	☐	☐	☐	☐	☐
144. I feel burned out from my work	☐	☐	☐	☐	☐	☐	☐
147. I feel frustrated by my job	☐	☐	☐	☐	☐	☐	☐
148. I feel I'm working too hard on my job	☐	☐	☐	☐	☐	☐	☐
149. Working with people directly puts too much stress on me	☐	☐	☐	☐	☐	☐	☐
150. I feel like I'm at the end of my rope	☐	☐	☐	☐	☐	☐	☐
151. I can easily understand how my clients feel about things	☐	☐	☐	☐	☐	☐	☐
152. I deal very effectively with the problems of my clients	☐	☐	☐	☐	☐	☐	☐
153. I feel I'm positively influencing other people's lives through my work	☐	☐	☐	☐	☐	☐	☐
154. I feel very energetic	☐	☐	☐	☐	☐	☐	☐
155. I can easily create a relaxed atmosphere with my clients	☐	☐	☐	☐	☐	☐	☐
156. I feel exhilarated after working closely with my clients	☐	☐	☐	☐	☐	☐	☐
157. I have accomplished many worthwhile things in this job	☐	☐	☐	☐	☐	☐	☐
158. In my work, I deal with emotional problems very calmly	☐	☐	☐	☐	☐	☐	☐

0 Never	1 A few times a year or less	2 Once a month or less	3 A few times a month	4 Once a week	5 A few times a week	6 Everyday
------------	------------------------------------	------------------------------	-----------------------------	------------------	----------------------------	---------------

159. I feel I treat some clients as if they were impersonal 'objects'	☐	☐	☐	☐	☐	☐	☐
160. I've become more callous toward people since I took this job	☐	☐	☐	☐	☐	☐	☐
161. I worry that this job is hardening me emotionally	☐	☐	☐	☐	☐	☐	☐
162. I don't really care what happens to some clients	☐	☐	☐	☐	☐	☐	☐
163. I feel clients blame me for some of their problems	☐	☐	☐	☐	☐	☐	☐

4. Physical Health

The following questions are about your physical health. Please read each question carefully and indicate whether you are bothered by these symptoms.

Please tick one box for EACH question.

During the past 7 (seven) days how much were you bothered by.....	Not at all	Several days	More than half the days	Nearly every day
164. Headaches?	☐	☐	☐	☐
165. Back or neck pain?	☐	☐	☐	☐
166. Pain in your arms, legs, or joint areas like your knee or hips?	☐	☐	☐	☐
167. Muscle soreness?	☐	☐	☐	☐
168. Watery eyes, a runny nose or a stuffy head?	☐	☐	☐	☐
169. Cough or sore throat?	☐	☐	☐	☐
170. Fever, chills, or any other cold or flu symptoms?	☐	☐	☐	☐
171. Constipation, loose bowels, or diarrhoea?	☐	☐	☐	☐
172. Nausea, gas or indigestion?	☐	☐	☐	☐
173. Skin infections, such as sores, boils or impetigo?	☐	☐	☐	☐

ENGAGEMENT & SATISFACTION

1. Satisfaction

174.) Taking everything into consideration, how do you feel about your job?

Please tick one box

Extremely Dissatisfied	Very dissatisfied	Moderately dissatisfied	Not sure	Moderately satisfied	Very satisfied	Extremely satisfied
☐ (0)	☐ (1)	☐ (2)	☐ (3)	☐ (4)	☐ (5)	☐ (6)

2. Engagement

The following statements are about how you feel at work. Please read each statement carefully and decide if you ever feel this way. If you have never had this feeling, tick the box corresponding with the number '0'. If you have had this feeling, please indicate how often you experience it by ticking the box that corresponds best with how frequently you feel this way.

0 Never	1 A few times a year or less	2 Once a month or less	3 A few times a month	4 Once a week	5 A few times a week	6 Everyday
------------	------------------------------------	------------------------------	-----------------------------	------------------	----------------------------	---------------

	0	1	2	3	4	5	6
175. At my work, I feel bursting with energy.	☐	☐	☐	☐	☐	☐	☐
176. At my job, I feel strong and vigorous.	☐	☐	☐	☐	☐	☐	☐
177. I am enthusiastic about my job.	☐	☐	☐	☐	☐	☐	☐
178. My job inspires me.	☐	☐	☐	☐	☐	☐	☐
179. When I get up in the morning, I feel like going to work.	☐	☐	☐	☐	☐	☐	☐
180. I feel happy when I am working intensely.	☐	☐	☐	☐	☐	☐	☐
181. I am proud of the work that I do.	☐	☐	☐	☐	☐	☐	☐
182. I am immersed in my work.	☐	☐	☐	☐	☐	☐	☐
183. I get carried away when I am working.	☐	☐	☐	☐	☐	☐	☐

3. Resilience

The following statements are about you. Please read each statement carefully and decide whether or not each statement relates to you. Please indicate the extent to which you agree with each statement in relation to yourself.

	1 Strongly Disagree	2 Disagree	3 Disagree Somewha	4 Unsure	5 Agree somewh	6 Agree	7 Strongly Agree
184. When I make plans I follow through with them.	☐	☐	☐	☐	☐	☐	☐
185. I usually manage one way or another.	☐	☐	☐	☐	☐	☐	☐
186. I am able to depend on myself more than anyone else.	☐	☐	☐	☐	☐	☐	☐
187. Keeping interested in things is important to me.	☐	☐	☐	☐	☐	☐	☐
188. I can be on my own if I have to.	☐	☐	☐	☐	☐	☐	☐
189. I feel proud that I have accomplished things in my life.	☐	☐	☐	☐	☐	☐	☐
190. I usually take things in stride.	☐	☐	☐	☐	☐	☐	☐
191. I am friends with myself.	☐	☐	☐	☐	☐	☐	☐
192. I feel that I can handle many things at a time.	☐	☐	☐	☐	☐	☐	☐
193. I am determined.	☐	☐	☐	☐	☐	☐	☐
194. I seldom wonder what the point of it all is.	☐	☐	☐	☐	☐	☐	☐
195. I take things one day at a time.	☐	☐	☐	☐	☐	☐	☐
196. I can get through difficult times because I've experienced difficulty before.	☐	☐	☐	☐	☐	☐	☐
197. I have self-discipline.	☐	☐	☐	☐	☐	☐	☐
198. I keep interested in things.	☐	☐	☐	☐	☐	☐	☐
199. I can usually find something to laugh about.	☐	☐	☐	☐	☐	☐	☐
200. My belief in myself gets me through hard times.	☐	☐	☐	☐	☐	☐	☐
201. In an emergency, I'm someone people generally can rely on.	☐	☐	☐	☐	☐	☐	☐
202. I can usually look at a situation in a number of ways.	☐	☐	☐	☐	☐	☐	☐
203. Sometimes I make myself do things whether I want to or not.	☐	☐	☐	☐	☐	☐	☐
204. My life has meaning.	☐	☐	☐	☐	☐	☐	☐
205. I do not dwell on things that I can't do anything about.	☐	☐	☐	☐	☐	☐	☐
206. When I'm in a difficult situation, I can usually find my way out of it.	☐	☐	☐	☐	☐	☐	☐
207. I have enough energy to do what I have to do.	☐	☐	☐	☐	☐	☐	☐
208. It's okay if there are people who don't like me.	☐	☐	☐	☐	☐	☐	☐

OTHER ASPECTS OF NURSING

The following scales contain possible situations that may have the potential to cause occupational stress in nurses. Please indicate how frequently you experience each of these situations by placing the corresponding number in the spaces provided. If you have not experienced the situation listed, please place a '0' in the space provided.

HOW OFTEN:

0 Never	1 A few times a year or less	2 Once a month or less	3 A few times a month	4 Once a week	5 A few times a week	6 Everyday
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Acknowledging New Cultures

How often do you experience . . .	0	1	2	3	4	5	6
209. A sense of uncertainty due to the expectations of another culture.	☐	☐	☐	☐	☐	☐	☐
210. Uneasiness about misunderstandings or disagreements arising from cultural differences.	☐	☐	☐	☐	☐	☐	☐

Changes in the last 12 months

The following questions are about changes in the last 12 months. Please indicate the extent to which these changes, if any, have occurred.

To what extent have you noticed an improvement ...	Not at all 0	Not very much 1	To some extent 2	Somewhat 3	To a large extent 4
211. To workload?	☐	☐	☐	☐	☐
212. To education of nurses?	☐	☐	☐	☐	☐
213. In staff relief?	☐	☐	☐	☐	☐
214. In the management of nurses?	☐	☐	☐	☐	☐

DEMOGRAPHIC INFORMATION

A. PERSONAL DETAILS

(Please circle)

1. Age : _____ yrs
2. Gender: M / F
3. Are you Aboriginal or Torres Strait Islander Y / N
4. Are you married or do you have a partner? Y / N
5. If yes, does your partner live with you? Y / N
6. Do you have a child/children? Y / N
7. If yes, does your child/children live with you? Y / N
8. In which state are you currently living? _____
9. In which state are you currently working? _____
10. In which town or community are you currently working? _____

B. NURSING CAREER

11. Did you first train to be a nurse:
- | | | | |
|--------------|--------------------------|----------|--------------------------|
| In Australia | ☐ | Overseas | ☐ |
|--------------|--------------------------|----------|--------------------------|
12. In which year did you gain your first registered nursing qualification? _____
13. What is your basic registered nursing qualification:
- | | | | | | |
|-------------|--------------------------|---------|--------------------------|----------|--------------------------|
| Certificate | ☐ | Diploma | ☐ | Bachelor | ☐ |
|-------------|--------------------------|---------|--------------------------|----------|--------------------------|
14. In which areas of nursing do you have postgraduate qualifications? (Tick all that apply)
- | | | | |
|------------------------------|--------------------------|---------------------------|--------------------------|
| Aged care | ☐ | Critical care/emergency | ☐ |
| Community Health | ☐ | Family & child health | ☐ |
| Mixed medical/surgical | ☐ | Rehabilitation-disability | ☐ |
| Medical | ☐ | Mental Health | ☐ |
| Surgical | ☐ | Perioperative | ☐ |
| Midwifery | ☐ | Renal | ☐ |
| Other (please specify) _____ | | | |
15. Please list any short courses you have completed in the past 5 years
- _____

C. WORKPLACE

16. Where do you work?

(please tick)

Aged care	☐	Community Health	☐
Coronary Care	☐	Day Procedure	☐
Emergency	☐	Intensive Care	☐
Maternity	☐	Mental Health	☐
Operating Theatre	☐	Outpatients	☐
Paediatric	☐	Perioperative	☐
Rehabilitation-disability	☐	Renal	☐
Special Care Nursery	☐	Surgical	☐

Other (please specify) _____

20. How long have you been in your current position _____Years _____Months

22. How long did it take before you felt confident to work to full capacity in your current position?

0- 1 month	☐	3-6 months	☐
1- 2 months	☐	6 months -12 months	☐
2- 3 months	☐	more than 12 months	☐

D. CRANApus

23. Have you heard of CRANApus Y / N
24. Have you heard of CRANApus's training products Y / N
25. Are you a member of CRANApus? Y / N
26. Are you aware of the Bush Support Services? Y / N
27. If yes, have you accessed the Bush Support Services in past 12 months? Y / N



FOLLOW-UP

This study is a follow-up from a previous study conducted in 2008. Some people may have responded to the previous survey and provided a unique code. We ask all respondents to provide this code to enable us to match this survey. This will allow us to investigate any changes that may have occurred over time.

The code will protect your anonymity in this project.

First 3 letters of mother's first name
(e.g. MAR for MARY)

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First 3 letters of father's first name
(e.g. KEV for KEVIN)

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APPENDIX E

NURSING POSITIONS IN VERY REMOTE AUSTRALIA DATABASE

Nursing Positions in Very Remote Australia Database

CLINIC NAME	Pop	% of Indigenous	HEALTH SERVICE / COMPANY	STATE	POST CODE	ARIA PLUS 10.53-15	V Remote Clinics	V Remote Hospitals	Community Health	Private GP	Aged care	Mines	Tourist	ACCH
Abrolhos Islands Silver Chain Health Centre	very low, not counted	0.05	Silver Chain	WA	6530	15	1							
Ali Curung (Warraabri) Health Centre	349	0.94	NT DHCS Central Australia	NT	0872	14.86	2							
Alpha Hospital and MPHS	611	0.049	Queensland Health, Central West Health Services District	QLD	4724	12.14	RH	6						
Alpururulam (Lake Nash) Health Centre	343	0.939	NT DHCS Central Australia	NT	4825	12.96	2							
Alyangula Health Centre	956	0.112	NT DHCS Top End	NT	0885	12	2							
Amanbidji (Mialuni) Health Centre	91	0.9	Katherine West Health Board	NT	0851	14.39	0							
Amata Clinic	319	0.906	Nganampa Health Council	SA	0871	14.96	3							
Amplatwatija Health Service	384	0.964	Aherenge Association Inc	NT	0872	14.3	1							
Amunturrngu (Mount Liebig) Clinic	252	0.9	NT DHCS Central Australia	NT	0872	13.58	2							
Angurugu Aged Care Service	956	0.112	Angurugu Community Government Council	NT	0885	12	AC				0			
Angurugu Health Centre	813	0.959	NT DHCS Top End	NT	0885	12.36	5							
Anmatjere Flexible Aged Care Service	153	0.654	Anmatjere Community Government Council	NT	0872	12.76	AC				0			
Anyinginyi Aboriginal Corporation (Tennant Creek)	2919	0.488	Anyinginyi Congress Aboriginal Corporation	NT	0862	12	CH		1					
Aputula (Finke) Community Health Centre	265	0.755	NT DHCS Central Australia	NT	0872	13.56	1							
Aramac Hospital	341	0.056	Queensland Health, Central West Health Services District	QLD	4726	12.56	5							
Areyonga (Ujuj) Health Service	247	0.947	Central Australian Aboriginal Congress (CAAC)	NT	0872	13.05	1							
Argyle Diamond Mine Medical Centre	6078	0.05	Argyle Diamonds, Rio Tinto	WA	6872	13.46	2M					3		
Ashburton Community Health Service	6078	0.096		WA	6751	12	CH		2					
Aitjere (Harts Rangel) Clinic	241	0.925	NT DHCS Central Australia	NT	0870	12.47	2							
Augathella Hospital	395	0.063	Queensland Health, South West Health Services District	QLD	4477	12.25	RH	7						
Aurukun Primary Health Care	1043	0.916	Queensland Health, Cape York	QLD	4871	15	6							
Badu Island Primary Health Care Centre	819	0.864	Queensland Health, Torres Strait Health Service District	QLD	4875	15	2							

CLINIC NAME	Pop	% of Indigenous	HEALTH SERVICE / COMPANY	STATE	POST CODE	ARIA PLUS 10.53-15	V Remote Clinics	V Remote Hospitals	Comm unity Health	Private Aged care GP	Mines	Tourist	ACCH
Balgo Community Health Centre	460	0.891	Kimberley Aboriginal Medical Services Council	WA	6770	15	5						
Bamaga Community Health	784	0.878	Queensland Health, Torres Strait Health Service District	QLD	4876	15	CH		2				
Bamaga Hospital	784	0.878	Queensland Health, Torres Strait Health Service District	QLD	4876	15	RH	7					
Barcaldine Hospital & Multipurpose Health Service	1337	0.102	Queensland Health, Central West Health Services District	QLD	4725	11.12	RH	9					
Barkly Mobile Unit		0.9	NT DHCS Central Australia	NT	0861	15	CH		1				
Barrick Osborne Mine		0.05	Barrick Gold Of Australia	QLD	4810	11.48	zm				2		
Barunga (Bamyili) Community Health Centre	282	0.915	Sunrise Health Service	NT	0852	11.63	2						
Bayulu Remote Area Health Service	259	0.973	WACHS-Kimberley	WA	6765	12.22	1						
Beagle Bay Health Service	199	0.889	Kimberley Aboriginal Medical Services Council	WA	6725	12.54	1						
Bickerton Island (Milyakburra) Health Clinic (NARLURUBA DISTRICT)	110	0.909	NT DHCS Top End	NT	0885	15	1						
Bidyadanga Clinic	426	0.941	Kimberley Aboriginal Medical Services Council	WA	6725		5						
Billuna (Mindibungu) Community Health	144	82.65	Palyatju Mapampa Aboriginal Corporation	WA	6770	15	2						
Blackall Hospital	1337	0.102	Queensland Health, Central West Health Services District	QLD	4472	11.02	RH	10					
Blackstone (Papulankutja) Clinic	139	1	Ngaanyatjarra Health Service	WA	0871	15	1						
Boigu Island Community Health Centre	283	0.912	Queensland Health, Torres Strait Health Service District	QLD	4875	15	1						
Bollon Outpatients Centre	335	0.087	Queensland Health, South West Health Services District	QLD	4488	11.97	1						
Bonya (Orripa-thurra) Clinic	30	0.9	NT DHCS Central Australia	NT	0871	12.47	1						
Borrooloola Community Health Centre	773	0.749	NT DHCS Top End	NT	0854	15	6						
Borrooloola Flexible Aged Care	773	0.749	Mabunji Aboriginal Resource Association	NT	0854	15	AC			0			
Boulia Primary Health Care Centre	205	0.366	Queensland Health, Central West Health Services District	QLD	4829	14.08	1						
Bulla Community Health Centre	200	0.9	Katherine West Health Board	NT	0852	?15	0						
Bulla Community Health Centre	200	0.9	Katherine West Health Board	NT	0852	?15	0						
Bulman (Gulin Gulin) Health Clinic	250	0.9	Sunrise Health Board	NT	0851	14.8	3						

CLINIC NAME	Pop	% of Indigenous	HEALTH SERVICE / COMPANY	STATE	POST CODE	ARIA PLUS 10.53-15	V Remote Clinics	V Remote Hospitals	Comm unity Health	Private GP	Aged care	Mines	Tourist	ACCH
Burketown Health Centre	173	0.306	Queensland Health Service, Mt Isa Health Service District	QLD	4830	14.12	1							
Burrungurrah (Mt James) Community Health Centre		0.95	WACHS-Midwest	WA	6701	14	1							
Camooweal Health Centre	199	0.613	Queensland Health Service, Mt Isa Health Service District	QLD	4828	12.61	1							
Cannington Mine (BHP Billiton)		0.05	BHP Billiton	QLD	4810	13.88	2M					3		
Ceduna & Districts Health Service Inc	2304	0.226	Country Health SA - Enye	SA	5690	10.74	RH	16						
Challenger Gold Mine		0.05	Dominion Mining Ltd	SA	5031	13.83	2M					1		
Clarice Magaw Health Centre - Marla	72	0.05	Frontier Services	SA	5724	14.52	2							
Coconut Island Community Health Centre	166	0.898	Queensland Health, Torres Strait Health Service District	QLD	4875	15	1							
Home Island, Cocos (Keeling) Islands Health Centre	572	0.023	Commonwealth of Australia	WA	6799	15	2							
West Island, Cocos (Keeling) Islands Health Centre							2							
Coen Primary Health Care Centre	254	0.772	Queensland Health, Cape York Health Service District	QLD	4871	14.32	2							
Community Health Centre Cape Barren Island		0.05	Dept Health & Human Services	TAS	7257	13.15	1							
Cooper Pedy Hospital & Community Health Services	1472	0.159	Bush Church Aid Society (auspice)	SA	5723	10.95	RH	8						
Coonana Health Centre	83	0.916	WACHS-Goldfields	WA	6433	10.99	1							
Copely Clinic	90	0.9	Pika Wiya Health Service Inc.	SA	5732	11.73	0							
Coral Bay Nursing Post	190	0.016	WACHS-Mid West	WA	6701	11.25	2							
Cosmo Newbury Health Centre	47	0.915	Ngaanyatjarra Health Service	WA	6440	14.11	1							
Cosmos Nickel Project		0.05	Sir Samuel Mines NL	WA	6005	11.01	2M					2		
Croydon Hospital			Queensland Health, Cairns and Hinterland Health Services District	QLD	4871	14.26	1							
Cue Health Centre	255	0.294	Hinterland Health Services District	WA	6640	12.85	1							
Cunnamulla Aboriginal Corporation for Health	273	0.363	WACHS-Mid-west Murchison	QLD	4490	10.82	CH		1					
Cunnamulla Hospital	1217	0.398	Queensland Health, South West Health Services District	QLD	4490	10.82	RH	9						
Dajarra Clinic	1217	0.398	Queensland Health, Mt Isa Health Services District	QLD	4825	11.59	1							
Darlot - Centenary Gold Mine	179	0.844	Barriack Gold Corporation	WA	6438	10.61	2M					3		

CLINIC NAME	Pop	% of Indigenous	HEALTH SERVICE / COMPANY	STATE	POST CODE	ARIA PLUS 10.53-15	V Remote Clinics	V Remote Hospitals	Community Health	Private GP	Aged care	Mines	Tourist	ACCH
Darney Island Primary Health Centre	320	0.894	Queensland Health, Torres Strait Health Service District	QLD	4875	15	1							
Dauan Island Primary Health Centre	153	0.948	Queensland Health, Torres Strait Health Service District	QLD	4875	15	0							
Daydream Island Medical Centre		0.05	Daydream Island Resort	QLD	4740	12	T					2		
Derby Aboriginal Health Service	3093	0.45	Kimberley Aboriginal Medical Services Council	WA	6728	11.13	CH		1					
Derby Community Health	3093	0.45	WACHS-Kimberley	WA	6728	11.13	CH		7					
Derby Regional Hospital	3093	0.45	WACHS-Kimberley	WA	6728	11.13	RH	46						
Diamantina Health Service Bedourie	142	0.282		QLD	4829	15	2							
Diamantina Health Service Birdsville	115	0.339		QLD	4482	14.63	2							
Doomadgee Hospital	1082	0.927	Queensland Health, Mt Isa Health Services District	QLD	4830	11.9	13							
Dunk Island Clinic		0.05	Dunk Island Resort	QLD	4852	12	T					1		
Ellendale Diamond Mine		0.05	Kimberley Diamond Company NL	WA	6725	13.78	2M					1		
Elliott Community Health Centre	355	0.817	NT DHCS Central Australia	NT	0862	15	3							
Endeavour Medical Centre	4112	0.057	NT DHCS Central Australia	NT	0881	12	PP			2				
Engawala (Alcootai) Clinic	165	0.9	NT DHCS Central Australia	NT	0872	11.59	1							
Epenarra (Wutunugurra) Health Clinic	195	1	NT DHCS Central Australia	NT	0861	14.52	1							
Eucia Silver Chain Health Centre	86	0.05	Silver Chain	WA	6443	14.94	1							
Exmouth Community Health	1844	0.016	WACHS-Mid West	WA	6707	11.97	CH		1					
Exmouth District Hospital	1844	0.016	WACHS-Mid West	WA	6707	11.97	RH	15						
Fitzroy Crossing Community Health	928	0.673	WACHS-Kimberley	WA	6765	12	CH		7					
Fitzroy Crossing District Hospital	928	0.673	WACHS-Kimberley	WA	6765	12	RH	15						
Flinders Island Multi Purpose Centre	865	0.179	Department of Health and Human Services	TAS	7155	13.9	3							
Forsayth Hospital			Queensland Health, Cairns and Hinterland Health Services District	QLD	4871	13.63	1							
Fregon Health Centre	101	0	Nganampa Health Council	SA	0871	14.99	3							
Gapunuyak (Lake Evella) Health Centre	885	0.947	NT DHCS Top End	NT	0881	15	3							
Georgetown Hospital			Queensland Health, Cairns and Hinterland Health Services District	QLD	4871	13.18	2							
Golden Grove Mine Medical Centre	254	0.016	Oxiana Ltd Yalgoo	WA	6530	11.07	2M					2		
Goodooga Health Service	265	0.808	Far West Area Health Service	NSW	2831	11.48	4							
Gower Wilson Memorial MPS	347	0	South East Health	NSW	2898	15	2							

CLINIC NAME	Pop	% of Indigenous	HEALTH SERVICE / COMPANY	STATE	POST CODE	ARIA PLUS 10.53-15	V Remote Clinics	V Remote Hospitals	Comm unity Health	Private GP	Aged care	Mines	Tourist	ACCH
Granny Smith Mine		0.05	Barrick Gold of Australia Limited	WA	6440	12	2M					1		
Guwardi Ngadu Aged Care Hostel	928	0.673		WA	6765	12	AC			1				
Halls Creek Community Health	1211	0.704	WACHS-Kimberley	WA	6770	12	CH		5					
Halls Creek District Hospital	1211	0.704	WACHS-Kimberley	WA	6770	12	RH	13						
Hayman Island Health Centre		0.05	Hayman Island	QLD	4801	12.82	T						2	
Heron Island Clinic		0.05	Heron Island Resort	QLD	4680	11.81	T					2		
Horn Island Primary Health Centre	585	0.615	Queensland Health, Torres Strait	QLD	4875	15	1							
Hughenden Health Centre	1154	0.119	Health Service District	QLD	4821	10.56	RH	8						
Ikuntji (Haasts Bluff) Health Centre	207	0.812	Health Service District	NT	0872	13.32	1							
Imanpa Health Service	149	0.879	Imanpa Health Service	NT	0872	14	1							
Indian Ocean Territories Health Service	1349	0.005	Commonwealth of Australia	WA	6798	12	RH	13						
(Christmas Island) Hospital														
Injinoo Primary Health Care Centre	416	0.957	Queensland Health, Torres Strait	QLD	4876	15	0							
(outpost of Bamaga hospital)			Health Service District											
Isisford Primary Health Care Centre	262	0	Queensland Health, Central West	QLD	4731	14.04	2							
Ivanhoe Health Service	265	0.392	Health Services District											
Iwantja Clinic (Indulkana)	339	0.929	Far West Area Health Service	NSW	2878	11.83	2							
Jack Hills Mine		0.05	Nganampa Health Council	SA	0871	14.65	3							
Jameson (Mantamaru) Clinic	120	0.95	Jack Hills Mine	WA	6006	13.66	2M					1		
Jilkminggan (Duck Creek) Health Centre	272	0.989	Nganyatjarra Health Service	WA	0871	15	1							
			Sunrise Health Board	NT	0851	12.66	0							
Julia Creek Hospital	368	0.068	Queensland Health, Mt Isa Health	QLD	4823	13.68	RH	6						
			Sunrise Health Board											
Jundah PHC	93	0.05	Queensland Health, Central West	QLD	4736	14.74	2							
Jundee Medical Centre		0.05	Health Services District	WA	6904	13	2M					2		
Jurrugk Health Service (Gibb River)		0.95	Newmont Jundee Operations	WA	6728	15	2							
Kaikarindji (Wave Hill) Health Centre	326	0.822	Kimberley Aboriginal Medical	NT	0852	15	3							
			Services Council											
Kaitukatjara (Docker River) Health Clinic	355	0.935	Katherine West Health Board	NT	0872	15	2							
Kalumburu Remote Area Health Service	413	0.869	NT DHCS Central Australia	WA	6740	15	2							
(Kimberley Population Health Unit)			WACHS-Kimberley											
Karumba Health Centre	518	0.085	Queensland Health, Mt Isa Health	QLD	4891	11.92	2							
			Services District											

CLINIC NAME	Pop	% of Indigenous	HEALTH SERVICE / COMPANY	STATE	POST CODE	ARIA PLUS 10.53-15	V Remote Clinics	V Remote Hospitals	Comm unity Health	Private GP	Aged care	Mines	Tourist	ACCH
Katherine West Mobile Health Team		0.9	Katherine West Health Board	NT	0851		ACC							3
Kenmore Park (Yunyarinyi) Clinic	50	1	Nganampa Health Council	SA	0871	14.84	0							
King Island Multi-Purpose Centre	1639	0.027		TAS	7256	15	RH	7						
Kiirrkurra Clinic	137	0.956	Nganyatjarra Health Service	WA	0872	15	1							
Kowanyama Primary Health Centre	1020	0.926	Queensland Health, Cape York Health Service District	QLD	4871	14.54	6							
Kubin Primary Health Centre	202	0.916	Queensland Health, Torres Strait Health Service District	QLD	4875	15	1							
Kukajar Place	1100	0.601		QLD	4890	11.87	AC				1			
Kunawarritji Health Centre		0.95	Puntukurnu Aboriginal Medical Services	WA	6753	15	1							
Kungkarangkalpa Aged Care		0.95	Nganyatjarra Health Service	WA	871	15	AC				1			
Lajamanu (Hooker Creek) Health Centre	669	0.916		NT	0852	15	5							
Laramba (Napperby) Clinic	247	0.968	Katherine West Health Board	NT	0872	11.59	2							
Laura Primary Health Care Centre	225	0.196	NT DHCS Central Australia	NT	0871	11.47	1							
Laverton District Hospital	316	0.443	Queensland Health, Cape York Health Service District	QLD	4871	11.47	1							
Lawlers Gold Mine Medical Centre		0.05	WACHS Goldfields	WA	6440	12.8	RH	5				1		
Laynhapuy Homelands Health Service (Nhulunbuy)	752	0.87	Barrick Gold of Australia Limited	WA	6437	11.08	2M							
Leigh Creek Health Service	549	0.067	Laynhapuy Homelands Health Service	NT	0880	12.4	ACC							3
Leinster Community Health Service	732	0.037	Country Health SA	SA	5731	11.61	4							
Leinster Medical Centre	732	0.037	WACHS-Mid West	WA	6437	10.61	CH		1					
Leinster Nickel Operations		0.05	BHP Billiton Nickel West Pty Ltd	WA	6437	10.61	PP			2				
Udman Island Club Med		0.05	Lindeman Island Club Med	QLD	4741	12	T					2		
Lockhart River Primary Health Centre	551	0.887	Queensland Health, Cape York Health Service District	QLD	4871	15	5							
Lombadina Health Centre	263	0.871	Health Service District	WA	6725	14.07	2							
Longreach Hospital	2976	0.05	Queensland Health, Central West Health Services District	QLD	4730	11.67	RH	37						
Looma Remote Area Health Service	393	0.985	WACHS-Kimberley	WA	6728	13.88	2							
Mabiag Island Primary Health Centre	251	0.96	Queensland Health, Torres Strait Health Service District	QLD	4875	15	1							
Malabam Health Board, Aged Care Service	2067	0.921	Malabam Health Board	NT	0822	11.4	AC				0			

CLINIC NAME	Pop	% of Indigenous	HEALTH SERVICE / COMPANY	STATE	POST CODE	ARIA PLUS 10.53-15	V Remote Clinics	V Remote Hospitals	Comm unity Health	Private GP	Aged care	Mines	Tourist	ACCH
Maningrida Health Centre	2067	0.921	NT DHCS Top End (Malabam Health Board)	NT	0822	11.4	8							
Manyallaluk Health Centre (Eva Valley)	80	0.9	Sunrise Health Board	NT	0852	?12	1							
Mapoon Primary Health Centre	239	0.916	Queensland Health, Cape York Health Service District	QLD	4871	13.86	2							
Marble Bar Nursing Post	194	0.345	WACHS-Pilbara	WA	6760	14.16	1							
Marigu Village Aged Care Hostel	669	0.383		WA	6740	12.23	AC				1			
Marrigarr (Guruyangara) Community Health Centre (Nhulunbuy)	4112	0.057	Marrigarr Community Government Council	NT	0881	12	CH		1					
Marree Health Service	70	0.05	Royal District Nursing Service of South Australia Inc	SA	5733	13.24	2							
Mataranka Community Health Centre	252	0.329	Sunrise Health Board	NT	0851	11.45	4							
Maternal and Child Health Clinic	4112	0.057	NT DHCS	NT	0881	12	CH		1					
Medical Centre, Century Mine		0.05	Zinfex Ltd	QLD	4814	14.65	2M							
Meekatharra Community Health	798	0.44	WACHS-Mid-west Murchison	WA	6642	10.76	CH		1					
Meekatharra District Hospital	798	0.44	WACHS-Mid-west Murchison	WA	6642	10.76	4							
Meekatharra Mental Health Service	798	0.44	WACHS-Mid-west Murchison	WA	6642	10.76	CH		1					
Menkawuma Ngura Aged Care Hostel	1211	0.704		WA	6770	15	AC				2			
Millikapiti (Snake Bay) City Health Centre	382	0.927	NT DHCS Top End	NT	0822	13.58	2							
Milingimbi Community Health Centre	895	0.942	NT DHCS Top End	NT	0822	15	4							
Mimili Clinic	303	0.908	Nganampa Health Council	SA	0871	14.8	2							
Minjilang (Croker Island) Health Centre	523	0.883	NT DHCS Top End	NT	0822	14.8	2							
Mintabie Community Health Centre	208	0.05	Frontier Services	SA	5724	14.61	0							
Minyerri (Hodgson Downs) City Health Centre	340	0.9	Sunrise Health Board	NT	0852	14.52	3							
Miwatj Health Service	4112	0.057	Miwatj Health Aboriginal Corporation Inc	NT	0881	12	CH		1					
Mornington Island Aged Persons Hostel	1038	0.909	Mornington Shire Council	QLD	4871	15	AC				1			
Mornington Island Primary Health Care Centre	1038	0.909	Queensland Health, Mt Isa Health Services District	QLD	4871	15	9							
Morven Outpatients Clinic	276	0.058	Queensland Health, South West Health Services District	QLD	4468	10.97	1							
Mount Magnet Health Centre	424	0.215	WACHS-Mid-west Murchison	WA	6638	12.27	4							
Mount Whaleback Mine		0.05	BHP Billiton Iron Ore	WA	6753	13.05	2M					3		

CLINIC NAME	Pop	% of Indigenous	HEALTH SERVICE / COMPANY	STATE	POST CODE	ARIA PLUS 10.53-15	V Remote Clinics	V Remote Hospitals	Comm unity Health	Private GP	Aged care	Mines	Tourist	ACCH
Mowanjium Community Health Service	261	0.989	WACHS-Kimberley	WA	6728	11.11	0							
Mt Keith Operation		0.05	BHP Billiton Nickel West Pty Ltd	WA	6986	10.61	2M					2		
Mulan Community Health Centre	114	0.868	Palyalatu Mapampa Aboriginal Corporation	WA	6770	15	2							
Murray Island (Mer) Primary Health Care Centre	484	0.965	Queensland Health, Torres Strait Health Service District	QLD	4875	15	1							
Murrin Murrin Nickel Cobalt Project		0.05	Murrin Murrin Operations Pty Ltd	WA	6106	10.8	2M					2		
Mutitjula Health Service	283	0.767	NT DHCS- Central Australia Mutitjula Health Service	NT	0872	12	2							
Muttaburra Primary Health Care Centre	106	0.028	Queensland Health, Central West Health Services District	QLD	4732	13.71	1							
Nalkanbuy (Gallwinku) Health Service	1698	0.926	Gallwinku (Elcho Island) Community Incorporated	NT	0822	12	3							
Napranum Community Health Centre	830	0.937	Queensland Health, Cape York Health Service District	QLD	4874	12.13	3							
Nepaburna Clinic	49	0.9	Pika Wiya Health Service Inc.	SA	5732	11.73	0							
Newman District Hospital	4245	0.067	WACHS-Pilbara	WA	6753	11.78	RH	22						
Newman Population Health	4245	0.067	WACHS-Pilbara	WA		11.78	CH		7					
Newmont Tanami Operations		0.05	Newmont Asia Pacific	NT	0871	15	2M					4		
Ngamarrinyanga (Palumpa) Health Centre	341	0.909	NT DHCS Top End	NT	0821	11.01	2							
Ngamarrinyanga (Palumpa) Health Centre	341	0.909	NT DHCS Top End	NT	0821	11.01	2							
Ngnowar Aerwah (Wyndham)	669	0.383	Ngnowar-Aerwah Aboriginal Corporation	WA	6740	12.23	0							
Ngooderi House Hostel	1082	0.927	Doomadgee Aboriginal Community Council	QLD	4830	11.9	AC				1			
Ngukurr Community Health Centre	915	0.939	Sunrise Health Board	NT	0851	14.85	3							
Nhulunbuy Hospital	4112	0.057	NT DHCS	NT	0881	12	RH	45						
Nifty Copper Operation		0.05	Aditya Biria Group	WA	6832	15	2M					1		
Nindilingarri Cultural Health Services	928	0.673	Nindilingarri Cultural Health Services	WA	6765	12	CH		1					
Noonkanbah Remote Area Health Service	200	0.9	WACHS-Kimberley	WA	6765	14.14	0							
Norfolk Island Hospital	2114	0	Queensland Health, Mt Isa Health Services District	Austral	2899	15	RH	12						
Normanton Community Health	1100	0.601		QLD	4890	11.87	CH		1					

CLINIC NAME	Pop	% of Indigenous	HEALTH SERVICE / COMPANY	STATE	POST CODE	ARIA PLUS 10.53-15	V Remote Clinics	V Remote Hospitals	Comm unity Health	Private GP	Aged care	Mines	Tourist	ACCH
Normanton Hospital	1100	0.601	Queensland Health, Mt Isa Health Services District	QLD	4890	11.87	RH	7						
Naria (Hermannsburg) Health Centre	559	0.905	NT DHCS Central Australia	NT	0872	10.99	4							
Nullagine Health Centre	217	0.502	WACHS-Pilbara	WA	6758	15	2							
Numballa Nunga Nursing Home	3093	0.45	WACHS-Kimberley	WA	6728	11.13	AC				4			
Numbulwar Community Health Centre	672	0.914	NT DHCS Top End	NT	0852	15	3							
Nyapari Clinic	94	0.915	Nganampa Health Council	SA	0871	15	1							
Nyirripi Clinic	320	0.9	NT DHCS Central Australia	NT	0871	14.2	2							
Oak Valley (Maralinga) Health Service	105	0.933	Country Health SA - Eyre	SA	5690	14.44	2							
One Arm Point Community Remote	881	0.908	NT DHCS Top End	NT	0822	10.68	6							
Area Health Service	211	0.867	WACHS-Kimberley	WA	6725	14.34	2							
Onslow Community Health Centre	574	0.334	WACHS-Pilbara	WA	6710	14.96	CH		1					
Onslow District Hospital	573	0.335	WACHS-Pilbara	WA	6710	14.96	RH	7						
Oodnadatta Hospital & Health Services	277	0.372	South Australian Health Commission, governed by Port Augusta Hospital Board	SA	5734	14.34	2							
Oombulgurri Remote Area Health Service	107	0.925	WACHS-Kimberley	WA	6740	12.23	2							
Pannawonica Medical Centre	686	0.042	Choice One	WA	6716	13.69	2							
Papunya Health Centre	299	0.906	NT DHCS Central Australia	NT	0872	13.58	3							
Paraburdoo District Hospital	1607	0.05	WACHS-Pilbara	WA	6754	11.94	RH	3						
Parnngurr Clinic (Cotton Creek)	150	0.95	Puntukumu Aboriginal Medical Service	WA	6753	15	1							
Patjarri Clinic	38	0.842	Nganyajarra Health Service	WA	0871	15	1							
Peppimenarti Health Centre	185	0.87	Peppimenarti Community Government Council	NT	0821	11.52	2							
Pintubi Homelands (Kintore) Health Service	353	0.932	Pintubi Homelands	NT	0872	15	2							
Pipalwaljara Clinic	123	0.78	Nganampa Health Council	SA	0871	15	3							
Pirlangimpi (Garden Point) Health Centre	368	0.859	NT DHCS Top End	NT	0822	12.6	2							
Plutonic Gold Mine Medical Centre		0.05	Barrick Gold of Australia Limited	WA	6642	14	2M					2		
Pormpuraaw Primary Health Care Centre	600	0.893	Queensland Health, Cape York Health Service District	QLD	4871	14.91	5							
Pukatja (Ernabella) Clinic	332	0.861	Nganampa Health Council	SA	0871	15	3							

CLINIC NAME	Pop	% of Indigenous	HEALTH SERVICE / COMPANY	STATE	POST CODE	ARIA PLUS 10.53-15	V Remote Clinics	V Remote Hospitals	Comm unity Health	Private GP	Aged care	Mines	Tourist	ACCH
Punmu Community Health	78	0.885	Puntukurnu Aboriginal Medical Service	WA	6753	15	1							
Puntukurnu (Jigalong) Aboriginal Medical Service	278	0.914	Puntukurnu (Jigalong) Aboriginal Medical Service	WA	6753	14.88	3							
Quilpie Hospital	560	0.141	Queensland Health, South West Health Services District	QLD	4480	14.22	RH	5						
Ramingining Health Centre	810	0.927	NT DHCS Top End	NT	0822	15	3							
Ravensthorpe Health Centre	438	0.03	WACHS-Goldfields	WA	6346	10.57	RH	6						
Richmond Health Centre	554	0.081	Queensland Health, Townsville Health Service District	QLD	4822	13.82	RH	7						
Ringer Soak (Kundat Djaru) Health Centre	119	0.933	Kimberley Aboriginal Medical Services Council (KAMSC) Inc	WA		15	1							
Robinson River Health Clinic	147	0.9	NT DHCS Top End	NT	0854	15	2							
Saibai Island Community Health Centre	337	0.938	Queensland Health, Torres Strait Health Service District	QLD	4875	15	1							
Sandstone Health Centre	119	0.202	WACHS-Mid-west Murchison	WA	6639	13.18	1							
Selsia Primary Health Care Centre	165	0.758	Queensland Health, Torres Strait Health Service District	QLD	4876	15	0							
Shark Bay Salt		0.05		WA	6537	13.48	zM					1		
Shark Bay Silver Chain Health Centre	863	0.105	Silver Chain Health Service	WA	6537	10.93	3							
St Paul's (Moal) Primary Health Centre	238	0.941	Queensland Health, Torres Strait Health Service District	QLD	4875	15	1							
Star Of The Sea Nursing Home	2546	0.723	Torres Strait Home for the Aged Association Inc	QLD	4875	12	AC				2			
Stephens Island Primary Health Centre	76	1	Queensland Health, Torres Strait Health Service District	QLD	4875	15	0							
Sunrise Dam Gold Mine Medical Centre		0.05	AngloGold Ltd (Australia)	WA	6001	11.38	zM					3		
Tambo Primary Health Care Centre	345	0.07	Queensland Health, Central West Health Services District	QLD	4478	12.79	1							
Telfer Medical Centre		0.05	Newcrest Mining Ltd	WA	6762	15	zM					4		
Tennant Creek Community Health Centre	2919	0.488	NT DHCS	NT	0861	12	CH		4					
Tennant Creek Hospital	2919	0.488	NT DHCS	NT	0861	12	RH	25						
Thamarrurr Regional Council, Aged Care Service	1627	0.916	Thamarrurr Regional Council	NT	0822	10.58	AC				1			
Thargomindah Outpatients Centre	237	0.131	Queensland Health, South West Health Services District	QLD	4492	14.3	2							

CLINIC NAME	Pop	% of Indigenous	HEALTH SERVICE / COMPANY	STATE	POST CODE	ARIA PLUS 10.53-15	V Remote Clinics	V Remote Hospitals	Comm unity Health	Private GP	Aged care	Mines	Tourist	ACCH
Thursday Island Hospital	2546	0.723	Queensland Health, Torres Strait Health Service District	QLD	4875	12	RH	47						
Thursday Island Primary Health Care Centre	2546	0.723	Queensland Health, Torres Strait Health Service District	QLD	4875	12	CH		12					
Ti Tree Health Centre	153	0.654	NT DHCS Central Australia	NT	0872	12.76	3							
Tibooburra Health Service	161	0.124	Far West Area Health Service	NSW	2880	13.36	2							
Timber Creek Community Health Centre	229	0.59	Katherine West Health Board	NT	0851	14.39	4							
Titjikala Clinic	219	0.936	NT DHCS Central Australia	NT	0871	10.86	2							
Tijlpa Pampaku Ngura Aged Care Centre	355	0.935	Kaltukatjara Community Council (Docker River)	NT	0872	15	AC			0				
Tjirrkadi Clinic		0.95	Ngaanyatjarra Health Service	WA	0871	15	1							
Tjukuria Clinic	67	0.896	Ngaanyatjarra Health Service	WA	0871	15	1							
Tjuntjuntjara Health Clinic	76	0.816	Paupiyala Tjarutja Aboriginal Corporation	WA	6430	14.86	2							
Tom Price Hospital	2721	0.058	WACHS-Pilbara	WA	6751	12	RH	15						
Tullawon (Yalata) Health Service	100	0.82	Country Health SA - Erye	SA	5690	14.23	4							
Umagico Primary Health Care Centre	229	0.974	Queensland Health, Torres Strait Health Service District	QLD	4876	15	0							
Umbakumba Health Centre	350	0.937	NT DHCS Top End	NT	8022	13.28	2							
Umoona Tjutagku Health Service Inc	1472	0.159	Umoona Tjutagku Health Service Inc	SA	5723	10.95	CH		2					
Urapunga Health centre	60	0.99	Sunrise Health Service	NT	0852	15	0							
Urapuntja (Utopia) Health Service	799	0.962	Urapuntja (Utopia) AMS	NT	0872	12.96	3							
Varley Nursing Post	130	0.05	WACHS-Goldfields	WA	6355	11.06	0							
Wadeye (Port Keats) Health Centre	1627	0.916	NT DHCS Top End	NT	0822	10.58	9							
Wallace Rockhole	87	0.954	NT DHCS Central Australia	NT	0872	10.99	0							
Wanaaring Nursing Service	135	0.119	Far West Area Health Service	NSW	2840	14.1	1							
Wanarn Health Service		0.95	Ngaanyatjarra Health Service	WA	0871	15	1							
Wangkajunka Clinic		0.95	WACHS-Kimberley	WA	6765	12	0							
Warakurna Clinic	90	0.778	Ngaanyatjarra Health Service	WA	0871	15	2							
Warburton Clinic	571	0.912	Ngaanyatjarra Health Service	WA	0871	15	4							
Warmun Remote Area Health Service	210	0.924	WACHS-Kimberley	WA	6743	14.29	3							
Warraber Island Primary Health Centre	247	0.955	Queensland Health, Torres Strait Health Service District	QLD	4875	15	0							
Warruwi (Goulburn Is) Health Centre	382	0.95	Warum Community Inc	NT	0822	14.72	1							
Watarika (Kings Canyon) Clinic	250	0.6	NT DHCS Central Australia	NT	0872	14.12	2							
Watarru Clinic	50	0.9	Nganampa Health Council	SA	0871	15	0							
Wellmoringle Health Outpost	74	0.94	Far West Area Health Service	NSW	2880	12.62	1							

CLINIC NAME	Pop	% of Indigenous	HEALTH SERVICE / COMPANY	STATE	POST CODE	ARIA PLUS 10.53-15	V Remote Clinics	V Remote Hospitals	Comm unity Health	Private GP	Aged care	Mines	Tourist	ACCH
Weipa Hospital	2830	0.171	Queensland Health, Cape York Health Service District	QLD	4874	12	RN	19						
Western Aranda Health Aboriginal Corporation	559	0.905	Western Aranda Health Aboriginal Corporation	NT	0872	10.99	ACC							2
White Cliffs Nursing Service	119	0.05	Far West Area Health Service	NSW	2836	12.36	1							
Wilcannia Community Health Centre	596	0.674	Far West Area Health Service	NSW	2836	11.3	CH		5					
Wilcannia MPS	596	0.674	Far West Area Health Service	NSW	2836	11.3	RH	8						
Willowra	272	0.926	NT DHCS Central Australia	NT		15	2							
Willora (Stirling) Health Clinic	119	0.9	NT DHCS Central Australia	NT	0871	13.89	0							
Willuna Aboriginal Medical Service	681	0.374	Nganagawili Aboriginal Community Health Centre	WA	6646	13.94	5							
Windorah Primary Health Care Outpatients Clinic	158	0.114	Queensland Health, Central West Health Services District	QLD	4481	14.7	2							
Wingellina Clinic		0.95	Nganayjarra Health Service	WA	0871	15	1							
Winton Hospital MPHS	980	0.129	Queensland Health, Central West Health Services District	QLD	4735	11.68	RH	6						
Wiriyajarra (Willowra) Clinic	272	0.926	NT DHCS Central Australia	NT	0872	14.49	2							
Wirraka Maya Health Service		0.95	Wirraka Maya Health Service	WA	6722	remote sit	CH		1					
Woodycupidya Community Health Centre	30	0.9	NT DHCS Top End	NT	0822	11.01 +	0							
Wudinna Hospital	513	0.019	Country Health SA - Erye	SA	5652	10.65	RH	8						
Wugularr (Beswick) Health Centre	391	0.969	Sunrise Health Service	NT	0852	11.63	2							
WYN Health Service (Yuendumu)	604	0.873	AMS WYN Health Service	NT	0872	14.2	ACC							
Wyndham Community Health Centre	669	0.383	WACHS-Kimberley	WA	6740	12.23	CH		2					
Wyndham District Hospital	669	0.383	WACHS-Kimberley	WA	6740	12.23	RH	10						
Yalata Aged Care Service	100	0.82	Queensland Health, Torres Strait	SA	5690	14.23	AC				4			
Yam Island Community Health Centre	311	0.926	Health Service District	QLD	4875	15	0							
Yandi Mine - BHP		0.05	BHP Billiton Iron Ore	WA	6753	14.84	zM					1		
Yandicoogina Mine		0.05	GEMCO BHP Billiton	NT	0885	13.28	zM					2		
Yaraka Primary Health Centre	30	0.05	Queensland Health, Central West Health Services District	QLD	4720	14.58	1							
Yarralin Health Centre	231	0.957	Katherine West Health Board	NT	0852	14.39	2							
Yirrkala Community Health Centre	687	0.84	NT DHCS Top End	NT	0881	12.4	2							
Yorke Island Primary Health Centre	300	0.887	Queensland Health, Torres Strait	QLD	4875	15	1							
Yuelamu (Mount Allen) Clinic	215	0.94	Health Service District	NT	0872	14.02	2							
Yuendumu Health Service	604	0.873	NT DHCS Central Australia	NT	0872	14.2	5							

CLINIC NAME	Pop	% of Indigenous	HEALTH SERVICE / COMPANY	STATE	POST CODE	ARIA PLUS 10.53-15	V Remote Clinics	V Remote Hospitals	Comm unity Health	Private GP	Aged care	Mines	Tourist	ACCH
Yuendumu Old Peoples Home	604	0.873	Mampu Maninja-Kurlabgu Jarlu	NT	0872	14.2	AC				0			
Yulara Medical Centre	985	0.022	Patu-Ku Aboriginal Corp.	NT	0872	12	T						2	
Yuri Yungi Aboriginal Medical Service,	1211	0.704	Royal Flying Doctor Service Yuri Yungi Aboriginal Medical Service	WA	6770	15	PP		2					

APPENDIX F

ARTICLE BY OPIE ET AL. (2010)

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Original Article

Levels of occupational stress in the remote area nursing workforce

Tessa Opie,¹ Maureen Dollard,¹ Sue Lenthall,² John Wakerman,² Sandra Dunn,³ Sabina Knight² and Martha MacLeod⁴

¹Centre for Applied Psychological Research, University of South Australia, City East Campus, Adelaide South Australia, ²Centre for Remote Health, A Joint Centre of Flinders University and Charles Darwin University, Alice Springs, ³Graduate School for Health Practice, Charles Darwin University, Casuarina, Northern Territory, Australia, and ⁴University of Northern British Columbia, BC, Canada

Abstract

Objective: To identify key workplace demands and resources for nurses working in very remote Australia and measure levels of occupational stress in this population.

Methods: The study used a cross-sectional design, utilising a structured questionnaire.

Setting: Health centres in very remote Australia.

Results: Nurses working in very remote Australia experience significantly higher levels of psychological distress and emotional exhaustion, compared with other professional populations. Paradoxically, results also highlight higher than average levels of work engagement. Nurses working in very remote regions in Australia further report moderate levels of job satisfaction. Most significant job demands identified were emotional demands, staffing issues, workload, responsibilities and expectations, and social issues. Key job resources included supervision, opportunities for professional development, and skill development and application.

Conclusion: In a context of high stress, high levels of work engagement and moderate levels of job satisfaction do not obviate high workforce turnover for this population. There is a need to reduce job demands and increase job resources in order to foster long-term work engagement and reduced emotional exhaustion. This might subsequently decrease remote area nursing workforce turnover.

KEY WORDS: Job Demands-Resources Model, occupational stress, remote area nursing.

Correspondence: Ms Tessa Opie, Centre for Applied Psychological Research, University of South Australia, City East Campus, Adelaide, South Australia 5000, Australia. Email: tessa.opie@postgrads.unisa.edu.au

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Introduction

Remote communities across Australia experience the poorest health outcomes in the country.¹ Consistent with the 'Inverse Care Law',² there is a decreasing number of health professionals with increasing remoteness across the country.³ Nurses are the most widely geographically distributed professional group in Australia and those in remote areas are often required to attend to wide-ranging client needs that often lie beyond the scope of metropolitan nursing practice.⁴

Beyond the demands of an extended health practice, remote area nurses (RANs) endure inadequate staffing levels,^{5,6} mandatory on-call duties and frequent overtime,^{5,6} professional isolation and limited opportunities for professional development,^{5–7} violence in the workplace,^{8–10} limited supervision and management support,¹¹ and concerns for personal safety.^{5,8,11}

The remote context is very demanding¹² and these conditions can contribute to elevated levels of occupational stress¹³ and poor RAN retention.⁶ Staff turnover in very remote regions of the Northern Territory (NT) has been estimated at 57% per annum, compared with an average territory nursing turnover rate of 39% per annum.¹⁴ High staff turnover leads to inadequate staffing levels and increased workloads for the remaining nurses, contributing to further occupational stress in this population.

Given the high-demand, under-resourced environment, we adopted the Job Demands-Resources (JD-R) Model^{15,16} to examine stress in this workforce. The model proposes that worker well-being is affected by any number of variables that can be categorised as either job demands or job resources. Job demands become stress when the employee is required to expend considerable effort in order to meet them, with possible

TABLE 1: GHQ scores (means) – comparison of nurses working in very remote Australia with other samples

Sample	<i>n</i>	M	SD
Nurses working in very remote Australia (present study)	337	13.0	5.8
Psychiatric nurses (Janman <i>et al.</i>) ²⁴	349	10.3**	5.1
SA human service workers (Dollard <i>et al.</i>) ²⁹	798	11.5**	5.8
Australian police officers†	911	11.8	5.1

*Difference significant at $P < 0.05$, **difference significant at $P < 0.01$. †Results provided by M.D. GHQ, General Health Questionnaire.

TABLE 2: Emotional exhaustion scores (means) – comparison of nurses working in very remote Australia with other samples

Sample	<i>n</i>	M	SD
Nurses working in very remote Australia (present study)	344	23.9	14.0
Health sample (Maslach <i>et al.</i>) ²⁴	1104	22.2*	9.5
Psychiatric nurses (Kilfedder <i>et al.</i>) ³⁰	510	18.8**	10.6
Community-based nurses (Fagin <i>et al.</i>) ³²	245	21.5*	11.5
Ward nurses (Butterworth <i>et al.</i>) ³¹	586	20.4**	12.0

*Difference significant at $P < 0.05$, **difference significant at $P < 0.01$.

Work engagement

Work engagement was also assessed, with RANs displaying average levels of work engagement (as defined by the UWES Preliminary Manual²⁵) but high levels of work engagement relative to other samples. Heterogenous comparative samples from the UWES Preliminary Manual²⁵ were used. These samples incorporate the results of 25 studies that were conducted between 1999 and 2003 in the Netherlands and Flanders. Occupations of respondents included police officers, physicians, nurses and hospice staff, among others. As can be seen in Table 3, nurses working in very remote Australia reported higher levels of work engagement than both of these heterogenous samples.

Job satisfaction

On average, nurses working in very remote Australia reported moderate levels of job satisfaction. While this was less than a general sample of South Australian

TABLE 3: Work engagement scores (means) – comparison of nurses working in very remote Australia with other samples

Sample	<i>n</i>	M	SD
Nurses working in very remote Australia (present study)	331	4.19	1.16
Heterogenous sample 1 (Schaufeli & Bakker) ³³	9679	3.74**	1.17
Heterogenous sample 2 (Schaufeli & Bakker) ³³	12631	4.05*	1.19

*Difference significant at $P < 0.05$, **Difference significant at $P < 0.01$.

TABLE 4: Job satisfaction scores (means) – comparison of nurses working in very remote Australia with other samples

Sample	<i>n</i>	M	SD
Nurses working in very remote Australia (present study)	346	4.01	1.22
SA nurses (Dollard) ³³	102	4.18	1.10
Human service workers (Dollard <i>et al.</i>) ²⁹	806	3.84*	1.37
Correctional officers (Dollard & Winfield) ³¹	416	3.20**	1.60

*Difference significant at $P < 0.05$, **Difference significant at $P < 0.01$.

nurses,³³ the respondents did display higher levels of job satisfaction compared with samples of South Australian human service workers²⁹ and correctional officers.³⁴ Results are displayed in Table 4.

Job demands

Results of correlations examining the relationship between job demands and psychological distress and emotional exhaustion reveal that emotional demands, staffing issues, workload, responsibilities and expectations, and social issues held the most significant relationships with psychological distress and emotional exhaustion. These were all positively correlated with the above outcome measures (Table 5).

Workplace violence, poor management, safety concerns and the remote context were also found to have positive correlations with emotional exhaustion.

Weak, yet significant positive relationships existed between the remaining workplace demands and either

TABLE 5: Correlations between job demands and psychological distress and emotional exhaustion in RANs

Job demands	Psychological distress	Emotional exhaustion
Workplace violence	0.26**	0.34**
Emotional demands	0.33**	0.48**
Poor management	0.30**	0.36**
Staffing issues	0.32**	0.47**
On-call	-0.01	0.04
Workload	0.31**	0.44**
Responsibilities and expectations	0.31**	0.48**
Infrastructure and equipment	0.11*	0.19**
Safety concerns	0.22*	0.35**
Social issues	0.32**	0.35**
Isolation	0.28**	0.30**
Inter-cultural factors	0.18**	0.30**
Remote context	0.25**	0.31**
Culture shock	0.20**	0.29**

* $P < 0.05$ (two-tailed), ** $P < 0.01$ (two-tailed).

RAN, remote area nurse.

psychological distress or emotional exhaustion, or both outcome measures. The only job demand showing no relationship to psychological distress or emotional exhaustion was on-call.

Correlations between job demands and outcome measures are displayed in Table 5.

Job resources

Correlations were also performed to assess relationships between job resources and positive work outcomes (work engagement and job satisfaction), revealing significant positive correlations between all job resources and both outcome measures (Table 6). Supervision, opportunities for professional development and skill development and application held the strongest relationships with job satisfaction, while skill development and application and job control were most strongly associated with work engagement.

Furthermore, additional regression analyses were performed assessing age, gender and length of service on all of the study variables. Results indicated that longer length of service was associated with lower levels of job demands (i.e. workload, expectations and responsibilities, infrastructure and equipment, isolation, inter-cultural factors, remote context and culture shock) and higher levels of job resources (i.e. social support and opportunities for professional development). Additionally, being female was associated with lower levels of job demands (i.e. workplace violence, inter-cultural factors,

TABLE 6: Correlations between job resources and work engagement and job satisfaction in RANs

Job resources	Work engagement	Job satisfaction
Supervision	0.19**	0.42**
Social support	0.21**	0.36**
Opportunities for professional development	0.22**	0.46**
Job control	0.32**	0.40**
Skill development and application	0.30**	0.44**

* $P < 0.05$ (two-tailed), ** $P < 0.01$ (two-tailed).

RAN, remote area nurse.

remote context and culture shock). No demographic factors, however, were related to outcome measures. This result might suggest that variations in the outcome measures are more likely influenced by workplace factors (i.e. job demands and resources) than personal factors (i.e. age, gender and length of service).

Discussion

Results are consistent with previous research,^{5,6,11} indicating that the most significant job demands for nurses working in very remote Australia include emotional demands, staffing issues, workload, responsibilities and expectations, social issues, workplace violence, poor management and safety concerns. However, in contrast to Kennedy *et al.*⁶ who investigated the most pleasing workforce factors for this population, the study revealed supervision, opportunities for development and skill development and application to be the most significant workforce factors linked to job satisfaction.

The current research presents significant parallels to the findings of Green and Lonne.³⁵ These researchers also found high levels of occupational stress in rural human service workers and discuss the unusual paradox of high work stress and subsequent burnout, with the co-occurring experience of high job satisfaction. These studies confirm the unique nature of occupational experiences in the remote health context.

However, high work engagement and moderate job satisfaction do not ameliorate the need to address the reportedly high levels of psychological distress and emotional exhaustion in the RAN population. Rather, it must be acknowledged that nurses working in very remote Australia are experiencing significantly high levels of stress and burnout, and the high levels of work engagement and moderate job satisfaction do not obviate high workforce turnover.¹⁴ Compared with other professional groups within the human service sector, RANs report

significantly higher levels of psychological distress and emotional exhaustion. The messages from this work might be not only to increase job resources, but to reduce emotional exhaustion and foster long-term work engagement through workplace actions and organisational supports, which might subsequently decrease remote area nursing workforce turnover. Organisational actions should address the workplace demands most strongly associated with employee stress and burnout. Demands include emotional demands, staffing issues, workload, responsibilities and expectations, and social issues. Interventions might focus on improved debriefing systems or employee assistance programmes for more effective management of the emotional demands inherent in the work role. There might also be consideration for increasing staffing numbers which might minimise, if not rectify, some issues surrounding staffing levels and unrealistic workloads.

Furthermore, increasing job resources would also serve to reduce levels of psychological distress and emotional exhaustion (as proposed by the cross-link pathway in the JD-R Model, see Fig. 1). According to the findings of the present study, three areas for workplace actions in this domain would include heightened management and co-worker support, fostering professional development opportunities and increasing job control through augmented professional influence and decision-making.

Limitations

As the research was cross-sectional in design and limited to nurses working in very remote Australia who were employed at the time of survey distribution, there was no access to data from nurses working in very remote Australia who might have resigned because of occupational stress or who might have been on stress leave. It is possible that the present research presents a more conservative view of stress levels in the RAN workforce.

Furthermore, as the present research was based on data from nurses working in very remote Australia as a homogenous group, there is capacity to further stratify this population and conduct analyses that distinguish among RANs working in different settings. This would allow an opportunity to draw comparisons between the various remote area nursing populations to more sensitively identify the job demands and resources relevant to each health care context in the remote area nursing workforce.

Conclusion

Occupational stress in the remote area nursing workforce causes significant disruption to health care delivery in areas of Australia with very complex health care

requirements. As such, the remote health care system requires robust and sustainable workplace interventions that target the reportedly high levels of occupational stress. The present research has implications for the development and implementation of these stress-related workplace interventions which will redress the balance of resources and demands in very remote Australia.

Author contributions

Tessa Opie was responsible for the conceptual development of the paper, the data analyses and the writing of the paper. Maureen Dollard assisted with the application of the theoretical framework and the data analyses. She also provided feedback on drafts of the paper. Sue Lenthall contributed to the conceptual development of the study. She assisted with decisions surrounding which results were to be disseminated and discussed. Sue also commented on drafts of the paper. John Wakerman contributed to the conceptual development of the study and paper, and commented on drafts. Sandra Dunn contributed to the conceptual development of the study and paper, and commented on drafts. Sabina Knight contributed to the conceptual development of the study and paper, and commented on drafts. Martha MacLeod commented on drafts of the paper.

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APPENDIX G

INFORMATION SHEETS

1. Pre survey
2. Survey trial
3. Partners
4. Implementation groups
5. High level reference group (HLRG)
6. Nurses in very remote Australia
7. Hospital nurses in NT
8. Workgroup participants
9. CRANA*plus* and CRH websites
10. BFTE flyer to very remote health centres

Back from the Edge: Reducing and Preventing Occupational Stress in the Remote Area Nursing Workforce

Information sheet – focus group & interviews to develop the survey instrument

Introduction

The aims of this research are to reduce and prevent occupational stress in the remote area nursing (RAN) workforce by improving our understanding of workplace stressors and developing, systematising and evaluating appropriate interventions.

The research will be in four parts. The first part is to develop an appropriate survey instrument, which will be done with the assistance of a focus group at the 2007 CRANA Conference and by interviewing a number of RANs.

The second part is national survey of RANs, and of nurses at acute care hospitals in the NT and SA. The survey will comprise approximately 100 items related to perceptions and impact of stress.

The third part is the development of interventions. A participatory action research approach will be applied to feedback results and develop interventions at selected worksites in the Northern Territory.

Interventions will be developed through three structures.

1. Workgroups consisting of RANs, community-based RAN managers and immediate line managers in Central Australia and the Top End. They will comprise small groups of self-selected colleagues working with a facilitator over several months to develop and implement their select strategies to reduce work-related stress.
2. Two regional implementation committees consisting of RANs, middle managers and union representatives. Regional implementation groups will review the work groups' strategies and implement plans and assist with regional level changes as appropriate. These groups are expected to meet 2 to 3 times per year over the four year project.
3. A high level reference group consisting of senior NTDHCS managers and CRANA representatives that will review the work groups' and regional implementation groups' strategies in order to develop policy where appropriate, assist with implementing plans and with Departmental level changes as appropriate. It is expected to meet 2 to 3 times per year over the four year project.

The final part of the project is to repeat the national survey to evaluate the impact of the interventions

Participation is voluntary

Participation in any research project is voluntary. If you do not wish to take part you are not obliged to. If you decide to take part and later change your mind, you are free to withdraw from the project at any stage without explanation.

What will I be asked to do?

Should you agree to participate you will be asked to:

- Participate in a focus group at the 2007 CRANA Conference for about 45 minutes to discuss your perceptions of the stressors and factors related to stress for RANs, and ideas for interventions to reduce and prevent stress. This is to assist in developing the survey instrument
- and/or*
- Be interviewed to discuss your perceptions of the stressors and factors related to stress for RANs. This is also to assist in developing the survey instrument.

Benefits & risks

Possible benefits of the research include improved workplace environments and decreased individual stress. In addition the research will give you the opportunity to reflect on ideas for improved workplace practice and processes to reduce stress.

There is a possibility that the research may bring up unresolved past trauma for some individual participants. For example the interview or survey may remind people of past incidents eliciting post traumatic stress. Participants are encouraged to consult with CRANA's 'Bush Crisis Line' or their EAP. The Bush Crisis Line is a confidential 24 hour



phone debriefing service for all rural and remote nurses and their families. For this project it has been extended to include any hospital nurse who completes the survey. **Bush Crisis Line free call is 1800805391**

Privacy, confidentiality and disclosure of information

Survey information will be collected and maintained confidentially. Focus group discussions will be documented but no information will be released. Interviews will be documented and audio-taped for reference. No information from individual interviews will be released. No persons participating in either activity will be identified in the documentation. Paper copies will be stored in a locked filing cabinet and computer files will be password protected.

Consent

For the focus group, attendance and participation will be considered consent. For the interviews, written consent will be sought.

Feedback on the research findings

There will be regular posting of project information and research findings on the CRANA website and regular newsletters sent out electronically to all stakeholders. Findings will be disseminated through publication in a number of peer-reviewed journals and at the CRANA conference.

Research team

The research is in partnership with the Council of Remote Area Nurses of Australia (CRANA), the Northern Territory Department of Health and Community Services (NTDHCS) and the Office of Aboriginal and Torres Strait Islander Health (OATSIH). The Research Team consists of:

- Professor John Wakeman, Director of the Centre for Remote Health
- Associate Professor Maureen Dollard, occupational health psychologist and Foundation Director of the Work Stress Research Group at the University of South Australia
- Professor Sandra Dunn, Professor of Nursing at Charles Darwin University
- Sabina Knight, senior lecturer at the Centre for Remote Health and a long time CRANA member
- Martha Macleod, Associate Professor in the Department of Nursing at the University of Northern British Columbia
- Greg Rickard, the Principal Nursing Advisor for the Northern Territory Department of Health and Community Services
- Sue Lenthall, senior lecturer at the Centre for Remote Health and a CRANA member.

Further Information or any concerns

If you require further information regarding the project please contact

Sue Lenthall
Project Manager
Centre for Remote Health
PO Box 4066, Alice Springs
Tel: +61 8 89514707
Fax: +61 8 89514777
Mobile: 0419826761
E-mail: Sue.Lenthall@flinders.edu.au

Ethical Guidelines

This research project will be carried out according to the *National Statement on Ethical Conduct Involving Humans* by the National Research Council of Australia. This statement has been developed to protect the interests of people who agree to participate in human research studies. If you have any concerns regarding the ethical conduct of this research please contact:

1. Central Australian Human Research Ethics Committee (NEAF HREC No EC00155)
Contact
Mr Geoff Sloan
Central Australian Human Research Ethics Committees Admin Coordination
Ph: 08 89 515 844
Fax: 08 89 515 265
Email: cahrec@nt.gov.au



This is for you to keep

Back from the Edge: Reducing and Preventing Occupational Stress in the Remote Area Nursing Workforce

Information sheet – Nurses in Remote Australia For Survey Trial

Introduction

The aims of this research are to reduce and prevent occupational stress in the remote area nursing (RAN) workforce by improving our understanding of workplace stressors and developing, systematising and evaluating appropriate interventions.

The research will be in four parts. The first part is to develop an appropriate survey instrument. This survey will be trialed to 206 nurses in remote areas of Australia.

You have been asked to complete the survey as part of this trial

The second part is national survey of RANs, and of nurses at acute care hospitals in the NT and SA. The survey will comprise approximately 100 items related to perceptions and impact of stress.

The third part is the development of interventions. A participatory action research approach will be applied to feedback results and develop interventions at selected worksites in the Northern Territory.

Interventions will be developed through three structures.

1. Workgroups consisting of RANs, community-based RAN managers and immediate line managers in Central Australia and the Top End. They will comprise small groups of self-selected colleagues working with a facilitator over several months to develop and implement their select strategies to reduce work-related stress.
2. Two regional implementation committees consisting of RANs, middle managers and union representatives. Regional implementation groups will review the work groups' strategies and implement plans and assist with regional level changes as appropriate. These groups are expected to meet 2 to 3 times per year over the four year project.
3. A high level reference group consisting of senior NTDHCS managers and CRANA representatives that will review the work groups' and regional implementation groups' strategies in order to develop policy where appropriate, assist with implementing plans and with Departmental level changes as appropriate. It is expected to meet 2 to 3 times per year over the four year project.

The final part of the project is to repeat the national survey to evaluate the impact of the interventions.

Participation is voluntary

Participation in any research project is voluntary. If you do not wish to take part you are not obliged to. If you decide to take part and later change your mind, you are free to withdraw from the project at any stage without explanation. Your completion of the survey will be considered consent to participate in the research.

What will I be asked to do?

Should you agree to participate you will be asked to complete a survey (either paper-based or online) comprising items related to perceptions and impact of stress. This will take 30-40 minutes to complete.



Benefits & risks

Possible benefits of the research include improved workplace environments and decreased individual stress. In addition the research will give you the opportunity to reflect on ideas for improved workplace practice and processes to reduce stress.

There is a possibility that the research may bring up unresolved past trauma for some individual participants. For example the survey may remind people of past incidents eliciting post traumatic stress. Participants are encouraged to consult with CRANA's 'Bush Crisis Line' or their EAP. The Bush Crisis Line is a confidential 24 hour phone debriefing service for all rural and remote nurses and their families. For this project it has been extended to include any hospital nurse who completes the questionnaire.

Bush Crisis Line free call is 1800805391

Privacy, confidentiality and disclosure of information

You will be asked to provide information regarding the clinic where you are working, to allow for the follow up of respondents. We will not ask your name, but we will ask you to provide your mother's maiden name and your date and place of birth to allow for the matching of information from the two surveys so we can assess change over time. No information will be used for any other purpose. After the surveys are complete all information will be de-identified.

Paper copies and audio tapes will be stored in a locked filing cabinet and all computer files will be password protected.

Feedback on the research findings

There will be regular posting of project information and research findings on the CRANA website and regular newsletters sent out electronically to all stakeholders. Findings will be disseminated through publication in a number of peer-reviewed journals and at the CRANA conference.

Research team

The research is in partnership with the Council of Remote Area Nurses of Australia (CRANA), the Northern Territory Department of Health and Community Services (NTDHCS) and the Office of Aboriginal and Torres Strait Islander Health (OATSIH). The Research Team consists of:

- Professor John Wakeman, Director of the Centre for Remote Health
- Professor Maureen Dollard, occupational health psychologist and Foundation Director of the Work Stress Research Group at the University of South Australia
- Professor Sandra Dunn, Professor of Nursing at Charles Darwin University
- Sabina Knight, senior lecturer at the Centre for Remote Health and a long time CRANA member
- Martha Macleod, Associate Professor in the Department of Nursing at the University of Northern British Columbia
- Tess Opie, PhD candidate, UNISA
- Greg Rickard, the Principal Nursing Advisor for the Northern Territory Department of Health and Community Services
- Sue Lenthall, senior lecturer at the Centre for Remote Health and a CRANA member
- Rikkisha Collins, research assistant

Further Information or any concerns

If you require further information regarding the project please contact

Sue Lenthall
Project Manager
Centre for Remote Health
PO Box 4066
Alice Springs



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Tel: +61 8 89514707
Fax: +61 8 89514777
Mobile: 0419826761
E-mail: Sue.Lenthall@flinders.edu.au

Ethical Guidelines

This research project will be carried out according to the *National Statement on Ethical Conduct Involving Humans* by the National Research Council of Australia. This statement has been developed to protect the interests of people who agree to participate in human research studies. If you have any concerns or complaints regarding the ethical conduct of this research please contact any of the committees below.

1. Central Australian Human Research Ethics Committee (NEAF HREC No EC00155)
Contact
Mr Geoff Sloan
Central Australian Human Research Ethics Committees Admin Coordination
Ph: 08 89 515 844
Fax: 08 89 515 265
Email: cahrec@nt.gov.au
2. The Human Research Ethics Committee of NT Department of Health and Community Services and Menzies School of Health Research (NEAF HREC No. EC00153)
Contact
Ms Maria Scarlett
Ethics Administration Officer
Ph: 08.8922 7922
Fax: 08.8927 5187
Email: ethics@menzies.edu.au
3. Flinders Clinical Research Ethics Committee (NEAF HREC No. EC00188)
Contact
Executive Officer - Carol Hakof
Administrative Officer - Marie Toubia
Ph: 08 8204 4507
Fax: 08 8204 5834
Email: research.ethics@fmc.sa.gov.au



3

Back from the Edge: Reducing and Preventing Occupational Stress in the Remote Area Nursing Workforce

Information sheet for partners

Introduction

The aims of this research are to reduce and prevent occupational stress in the remote area nursing (RAN) workforce by improving our understanding of workplace stressors and developing, systematising and evaluating appropriate interventions.

The research will be in four parts. The first part is to develop an appropriate survey instrument, which will be done with the assistance of a focus group at the 2007 CRANA Conference and by interviewing a number of RANs.

The second part is national survey of RANs, and of nurses at acute care hospitals in the NT and SA. The survey will comprise approximately 100 items related to perceptions and impact of stress.

The third part is the development of interventions. A participatory action research approach will be applied to feedback results and develop interventions at selected worksites in the Northern Territory.

Interventions will be developed through

1. Implementation committee consisting of RANs, and managers. The committee will design and implement interventions in the workplace. Research team members will provide feedback to the committee on the survey results and assist with facilitation of workplace redesign initiatives. The committee will be expected to meet 2 to 3 times per year over the four year project.
2. A high level reference group consisting of senior NTDHCS managers, representatives from CRANA Katherine West, AMSANT, ANF and OATSIH that will review the work groups' and regional implementation groups' strategies in order to develop policy where appropriate, assist with implementing plans and with Departmental level changes as appropriate. It is expected to meet 2 to 3 times per year over the four year project.

The final part of the project is to repeat the national survey to evaluate the impact of the interventions.

Participation is voluntary

Participation in any research project will be voluntary. If anyone does not wish to participate they are not obliged to. Attendance at and participation in meetings will be considered consent to **participate in the research.**

What will be asked of partners?

Your organization will be asked to:-

- Facilitate access to the RAN workforce and support RANs choosing to participate in this study
- Form a committee to design and implement interventions in the workplace. Research team members will provide feedback to the committee on the survey results and assist with facilitation of workplace redesign initiatives.
- Convene meetings of this committee 3 to 4 times per year over the four year project
- Commit the time of RANs and senior managers to the project.

1



Benefits & risks

The study will hopefully develop evidence that health services may use to improve staff retention and result in savings for employers, improved service effectiveness and contribute to improved health outcomes in remote Australia.

There is a possibility that the research may bring up unresolved past trauma for some individual participants. For example the surveys may remind people of past incidents eliciting post traumatic stress. Participants will be encouraged to consult with CRANA's 'Bush Crisis Line' or their EAP. The Bush Crisis Line is a confidential 24 hour phone debriefing service for all rural and remote nurses and their families. For this project it has been extended to include any hospital nurse who completes the questionnaire. **Bush Crisis Line free call is 1800805391.**

Privacy, confidentiality and disclosure of information

Survey information will be collected and maintained confidentially. High level reference group discussions will be documented and release of information will only be possible with agreement of all parties. Paper copies will be stored in a locked filing cabinet and computer files will be password protected.

Feedback on the research findings

There will be regular posting of project information and research findings on the CRANA website and regular newsletters sent out electronically to all stakeholders. Findings will be disseminated through publication in a number of peer-reviewed journals and at the CRANA conference.

Research team

The research is in partnership with the Council of Remote Area Nurses of Australia (CRANA), the Northern Territory Department of Health and Community Services (NTDHCS) and the Office of Aboriginal and Torres Strait Islander Health (OATSIH). The research team consists of:

- Professor John Wakerman, Director of the Centre for Remote Health
- Professor Maureen Dollard, occupational health psychologist and Foundation Director of the Work Stress Research Group at the University of South Australia
- Professor Sandra Dunn, Professor of Nursing at Charles Darwin University
- Sabina Knight, senior lecturer at the Centre for Remote Health and a long time CRANA member
- Martha Macleod, Associate Professor in the Department of Nursing at the University of Northern British Columbia
- Greg Rickard, the Principal Nursing Advisor for the Northern Territory Department of Health and Community Services
- Tess Opie, PhD candidate, UNISA
- Sue Lenthall, senior lecturer at the Centre for Remote Health and a CRANA member.

Further information or any concerns

If you require further information regarding the project please contact

Sue Lenthall
Project Manager
Centre for Remote Health
PO Box 4066
Alice Springs
Tel: +61 8 89514707
Fax: +61 8 89514777
Mobile: 0419826761
E-mail: Sue.Lenthall@flinders.edu.au

2



Ethical Guidelines

This research project will be carried out according to the NHMRC *National Statement on Ethical Conduct Involving Humans*. This statement has been developed to protect the interests of people who agree to participate in human research studies. If you have any concerns regarding the ethical conduct of this research please contact:

1. Central Australian Human Research Ethics Committee (NEAF HREC No EC00155)
Contact
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Central Australian Human Research Ethics Committees Admin Coordination
Ph: 08 89 515 844
Fax: 08 89 515 265
Email: cahrec@nt.gov.au
2. The Human Research Ethics Committee of NT Department of Health and Community Services and Menzies School of Health Research (NEAF HREC No. EC00153)
Contact
Ms Maria Scarlett
Ethics Administration Officer
Ph: 08.8922 7922
Fax: 08.8927 5187
Email: ethics@menzies.edu.au
3. Flinders Clinical Research Ethics Committee (NEAF HREC No. EC00188)
Contact
Executive Officer, David Van der Hoek
Administrative Officer - Marie Toubia
Ph: 08 8204 4507
Fax: 08 8204 5834
Email: research.ethics@fmc.sa.gov.au
4. UniSA Human Research Ethics Committee
Contact
Executive Officer UniSA HREC
Ms Vicki Allen
Ethics and Safety Officer
Research and Innovation Services
University of South Australia
Ph: 08 8302 3118
Email: vicki.allen@unisa.edu.au
5. Repatriation General Hospital Research and Ethics Committee (EC00191)
Contact:
Executive Officer Ms Janet Bennett
Ph: (08) 8275 1876
Fax: (08) 8275 1312
Email: janet.bennett@rgh.sa.gov.au

This is for you to keep

Back from the Edge: Reducing and Preventing Occupational Stress in the Remote Area Nursing Workforce

Information sheet for regional implementation groups

Introduction

The aims of this research are to reduce and prevent occupational stress in the remote area nursing (RAN) workforce by improving our understanding of workplace stressors and developing, systematising and evaluating appropriate interventions.

The first part, the development of an appropriate survey instrument, and the second part, the distribution of this survey to all nurses working in very remote Australia and to nurses at acute care hospitals in the NT and SA have been completed.

Development of strategies and actions

The third part of the project is the development of strategies and actions to decrease stress levels among nurses at clinics in very remote Australia. A participatory action research approach will be applied to feedback results and develop these actions and strategies at selected worksites in the Northern Territory.

Strategies and actions will be developed through three structures.

1. Workgroups consisting of RANs and health centre managers in Central Australia and the Top End. They will comprise small groups of self-selected colleagues working with a facilitator over 12 months to develop and implement their select strategies to reduce work-related stress. These groups are expected to meet 3 times this year.
2. Two regional implementation committees consisting of RANs, middle managers and union representatives. Regional implementation groups will review the work groups' strategies and implement plans and assist with regional level changes as appropriate. These groups are expected to meet 3 times this year.
3. A high level reference group consisting of senior NTDHCS managers and CRANA representatives that will review the work groups' and regional implementation groups' strategies in order to develop policy where appropriate, assist with implementing plans and with Departmental level changes as appropriate. It expected to meet 3 times this year.

The final part of the project is to repeat the national survey to evaluate the impact of the interventions.

Participation is voluntary

Participation in any research project is voluntary. If you do not wish to take part you are not obliged to. If you decide to take part and later change your mind, you are free to withdraw from the project at any stage without explanation. Attendance at and participation in meetings will be considered consent to participate in the research.

What will I be asked to do?

Should you agree to participate you may be asked to participate in a regional implementation group that will review the work groups' strategies, implement plans and assist with regional level changes as appropriate. You will be expected to attend meetings 3 times this year and a number next year.

Benefits & risks

1



Possible benefits of the research include improved workplace environments and decreased individual stress. In addition the research will give you the opportunity to reflect on ideas for improved workplace practice and processes to reduce stress.

There is a possibility that the research may bring up unresolved past trauma for some individual participants. For example the surveys may remind people of past incidents eliciting post traumatic stress. Participants will be encouraged to consult with CRANA's 'Bush Crisis Line' or their EAP. The Bush Crisis Line is a confidential 24 hour phone debriefing service for all rural and remote nurses and their families. For this project it has been extended to include any hospital nurse who completes the questionnaire. **Bush Crisis Line free call is 1800805391**

Privacy, confidentiality and disclosure of information

Survey information will be collected and maintained confidentially. Regional implementation group discussions will be documented and release of information will only be possible with agreement of all parties. Paper copies will be stored in a locked filing cabinet and computer files will be password protected.

Feedback on the research findings

There will be regular posting of project information and research findings on the CRANA website and regular newsletters sent out electronically to all stakeholders. Findings will be disseminated through publication in a number of peer-reviewed journals and at the CRANA conference.

Research team

The research is in partnership with the Council of Remote Area Nurses of Australia (CRANA), the Northern Territory Department of Health and Community Services (NTDHCS) and the Office of Aboriginal and Torres Strait Islander Health (OATSIH). The Research Team consists of:

- Professor John Wakeman, Director of the Centre for Remote Health
- Associate Professor Maureen Dollard, occupational health psychologist and Foundation Director of the Work Stress Research Group at the University of South Australia
- Professor Sandra Dunn, Professor of Nursing at Charles Darwin University
- Sabina Knight, senior lecturer at the Centre for Remote Health and a long time CRANA member
- Martha Macleod, Associate Professor in the Department of Nursing at the University of Northern British Columbia
- Greg Rickard, the Principal Nursing Advisor for the Northern Territory Department of Health and Community Services
- Tess Opie, PhD candidate, UNISA
- Sue Lenthall, senior lecturer at the Centre for Remote Health and a CRANA member.

Further Information or any concerns

If you require further information regarding the project please contact

Sue Lenthall
Project Manager
Centre for Remote Health
PO Box 4066
Alice Springs
Tel: +61 8 89514707
Fax: +61 8 89514777
Mobile: 0419826761
E-mail: Sue.Lenthall@flinders.edu.au

Ethical Guidelines

This research project will be carried out according to the NHMRC *National Statement on Ethical Conduct Involving Humans*. This statement has been developed to protect the interests of people who agree to

2



participate in human research studies. If you have any concerns regarding the ethical conduct of this research please contact:

1. Central Australian Human Research Ethics Committee (NEAF HREC No EC00155)
Contact
Mr Geoff Sloan
Central Australian Human Research Ethics Committees Admin Coordination
Ph: 08 89 515 844
Fax: 08 89 515 265
Email: cahrec@nt.gov.au
2. The Human Research Ethics Committee of NT Department of Health and Community Services and Menzies School of Health Research (NEAF HREC No. EC00153)
Contact
Ms Maria Scarlett
Ethics Administration Officer
Ph: 08.8922 7922
Fax: 08.8927 5187
Email: ethics@menzies.edu.au

3



This is for you to keep

Back from the Edge: Reducing and Preventing Occupational Stress in the Remote Area Nursing Workforce

Information sheet for High Level Reference Group

Introduction

The aims of this research are to reduce and prevent occupational stress in the remote area nursing (RAN) workforce by improving our understanding of workplace stressors and developing, systematising and evaluating appropriate interventions.

The research will be in four parts. The first part is to develop an appropriate survey instrument, which will be done with the assistance of a focus group at the 2007 CRANA Conference and by interviewing a number of RANs.

The second part is national survey of RANs, and of nurses at acute care hospitals in the NT and SA. The survey will comprise approximately 100 items related to perceptions and impact of stress.

The third part is the development of interventions. A participatory action research approach will be applied to feedback results and develop interventions at selected worksites in the Northern Territory.

Interventions will be developed through three structures.

1. Workgroups consisting of RANs, community-based RAN managers and immediate line managers in Central Australia and the Top End. They will comprise small groups of self-selected colleagues working with a facilitator over several months to develop and implement their select strategies to reduce work-related stress.
2. Two regional implementation committees consisting of RANs, middle managers and union representatives. Regional implementation groups will review the work groups' strategies and implement plans and assist with regional level changes as appropriate. These groups are expected to meet 2 to 3 times per year over the four year project.
3. A high level reference group consisting of senior NTDHCS managers and CRANA representatives that will review the work groups' and regional implementation groups' strategies in order to develop policy where appropriate, assist with implementing plans and with Departmental level changes as appropriate. It is expected to meet 2 to 3 times per year over the four year project.

The final part of the project is to repeat the national survey to evaluate the impact of the interventions.

Participation is voluntary

Participation in any research project is voluntary. If you do not wish to take part you are not obliged to. If you decide to take part and later change your mind, you are free to withdraw from the project at any stage without explanation. Attendance at and participation in meetings will be considered consent to participate in the research.

What will I be asked to do?

Should you agree to participate you will be asked to participate in a high level reference group that will review the work groups' and regional implementation groups' strategies in order to develop policy where appropriate, assist with implementing plans and with Departmental level changes as appropriate. You will meet 2 or 3 times per year over the four year project.

1



Benefits & risks

Possible benefits of the research include improved workplace environments and decreased individual stress. In addition the research will give you the opportunity to reflect on ideas for improved workplace practice and processes to reduce stress.

There is a possibility that the research may bring up unresolved past trauma for some individual participants. For example the surveys may remind people of past incidents eliciting post traumatic stress. Participants will be encouraged to consult with CRANA's 'Bush Crisis Line' or their EAP. The Bush Crisis Line is a confidential 24 hour phone debriefing service for all rural and remote nurses and their families. For this project it has been extended to include any hospital nurse who completes the questionnaire. **Bush Crisis Line free call is 1800805391.**

Privacy, confidentiality and disclosure of information

Survey information will be collected and maintained confidentially. High level reference group discussions will be documented and release of information will only be possible with agreement of all parties. Paper copies will be stored in a locked filing cabinet and computer files will be password protected.

Feedback on the research findings

There will be regular posting of project information and research findings on the CRANA website and regular newsletters sent out electronically to all stakeholders. Findings will be disseminated through publication in a number of peer-reviewed journals and at the CRANA conference.

Research team

The research is in partnership with the Council of Remote Area Nurses of Australia (CRANA), the Northern Territory Department of Health and Community Services (NTDHCS) and the Office of Aboriginal and Torres Strait Islander Health (OATSIH). The research team consists of:

- Professor John Wakeman, Director of the Centre for Remote Health
- Professor Maureen Dollard, occupational health psychologist and Foundation Director of the Work Stress Research Group at the University of South Australia
- Professor Sandra Dunn, Professor of Nursing at Charles Darwin University
- Sabina Knight, senior lecturer at the Centre for Remote Health and a long time CRANA member
- Martha Macleod, Associate Professor in the Department of Nursing at the University of Northern British Columbia
- Greg Rickard, the Principal Nursing Advisor for the Northern Territory Department of Health and Community Services
- Tessa Opie, PhD candidate, UNISA
- Sue Lenthall, senior lecturer at the Centre for Remote Health and a CRANA member, and research student.

Further information or any concerns

If you require further information regarding the project please contact

Sue Lenthall
Project Manager
Centre for Remote Health
PO Box 4066
Alice Springs
Tel: +61 8 89514707
Fax: +61 8 89514777
Mobile: 0419826761
E-mail: Sue.Lenthall@flinders.edu.au

Ethical Guidelines

2



This research project will be carried out according to the NHMRC *National Statement on Ethical Conduct Involving Humans*. This statement has been developed to protect the interests of people who agree to participate in human research studies. If you have any concerns regarding the ethical conduct of this research please contact:

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Central Australian Human Research Ethics Committees Admin Coordination
Ph: 08 89 515 844
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2. The Human Research Ethics Committee of NT Department of Health and Community Services and Menzies School of Health Research (NEAF HREC No. EC00153)
Contact
Ms Maria Scarlett
Ethics Administration Officer
Ph: 08.8922 7922
Fax: 08.8927 5187
Email: ethics@menzies.edu.au

3



This is for you to keep

Back From The Edge

*Reducing & Preventing Occupational Stress in the Nursing
Workforce in very remote Australia*

Information sheet – Nurses in very remote Australia

Introduction

The aims of this research are to reduce and prevent occupational stress in the nursing workforce in remote areas of Australia by improving our understanding of workplace stressors and developing, systematising and evaluating appropriate interventions.

The research will be in four parts. The first part is to develop an appropriate survey instrument. The second part is national survey of nurses in very remote areas of Australia, and of nurses at acute care hospitals in the NT and SA. The survey will comprise items related to perceptions and impact of stress.

The third part is the development of interventions. A participatory action research approach will be applied to feedback results and develop interventions at selected worksites in the Northern Territory.

Interventions will be developed through three structures.

1. Workgroups consisting of nurses, community-based managers and immediate line managers in Central Australia and the Top End. They will comprise small groups of self-selected colleagues working with a facilitator over several months to develop and implement their select strategies to reduce work-related stress.
2. Two regional implementation committees consisting of nurses, middle managers and union representatives. Regional implementation groups will review the work groups' strategies and implement plans and assist with regional level changes as appropriate. These groups are expected to meet 2 to 3 times per year over the four year project.
3. A high level reference group consisting of senior NTDHCS managers and Council of Remote Area Nurses of Australia (CRANA) representatives that will review the work groups' and regional implementation groups' strategies in order to develop policy where appropriate, assist with implementing plans and with Departmental level changes as appropriate.

The final part of the project is to repeat the national survey to evaluate the impact of the interventions.

Participation is voluntary

Participation in any research project is voluntary. If you do not wish to take part you are not obliged to. If you decide to take part and later change your mind, you are free to withdraw from the project at any stage without explanation. Your completion of the survey will be considered consent to participate in the research.

What will I be asked to do?

Should you agree to participate you will be asked to complete a survey (either paper-based or online) comprising related to perceptions and impact of stress. This will take approximately 30 minutes to complete.



Benefits & risks

Possible benefits of the research include improved workplace environments and decreased individual stress. In addition the research will give you the opportunity to reflect on ideas for improved workplace practice and processes to reduce stress.

There is a possibility that the research may bring up unresolved past trauma for some individual participants. For example the survey may remind people of past incidents eliciting post traumatic stress. Participants are encouraged to consult with CRANA's 'Bush Crisis Line' or their EAP. The Bush Crisis Line is a confidential 24 hour phone debriefing service for all rural and remote nurses and their families. For this project it has been extended to include any hospital nurse who completes the questionnaire.

Bush Crisis Line free call is 1800805391

Privacy, confidentiality and disclosure of information

You will be asked to provide information regarding the clinic where you are working, to allow for the follow up of respondents. We will not ask your name, but we will ask you to

Identifying information such as the first three letters of your parent's first names to allow for the matching of information from the two surveys so we can assess change over time. No information will be used for any other purpose. After the surveys are complete all information will be de-identified.

Paper copies will be stored in a locked filing cabinet and all computer files will be password protected.

Feedback on the research findings

There will be regular posting of project information and research findings on the CRANA website and regular newsletters sent out electronically to all stakeholders. Findings will be disseminated through publication in a number of peer-reviewed journals and at the CRANA conference.

Research team

The research is in partnership with the Council of Remote Area Nurses of Australia (CRANA), the Northern Territory Department of Health and Community Services (NTDHCS) and the Office of Aboriginal and Torres Strait Islander Health (OATSIH). The Research Team consists of:

- Professor John Wakerman, Director of the Centre for Remote Health
- Professor Maureen Dollard, occupational health psychologist and Foundation Director of the Work Stress Research Group at the University of South Australia
- Professor Sandra Dunn, Professor of Nursing at Charles Darwin University
- Sabina Knight, senior lecturer at the Centre for Remote Health and a long time CRANA member
- Martha Macleod, Associate Professor in the Department of Nursing at the University of Northern British Columbia
- Tess Opie, PhD candidate, UNISA
- Greg Rickard, the Principal Nursing Advisor for the Northern Territory Department of Health and Community Services
- Sue Lenthall, senior lecturer at the Centre for Remote Health and a CRANA member
- Rikkisha Collins, research assistant

Further Information or any concerns

If you require further information regarding the project please contact

Sue Lenthall
Project Manager
Centre for Remote Health
PO Box 4066
Alice Springs
Tel: +61 8 89514707



2

Fax: +61 8 89514777
Mobile: 0419826761
E-mail: Sue.Lenthall@flinders.edu.au

Ethical Guidelines

This research project will be carried out according to the *National Statement on Ethical Conduct Involving Humans* by the National Research Council of Australia. This statement has been developed to protect the interests of people who agree to participate in human research studies. If you have any concerns or complaints regarding the ethical conduct of this research please contact any of the committees below.

1. Central Australian Human Research Ethics Committee (NEAF HREC No EC00155)
Secretariat Support
Caitlin Plekker
Central Australian Human Research Ethics Committees Admin Coordination
Ph: 08 89 515 844
Fax: 08 89 515 265
Email: cahrec@nt.gov.au
2. The Human Research Ethics Committee of NT Department of Health and Community Services and Menzies School of Health Research (NEAF HREC No. EC00153)
Contact
Ms Maria Scarlett
Ethics Administration Officer
Ph: 08.8922 7922
Fax: 08.8927 5187
Email: ethics@menzies.edu.au
3. Flinders Clinical Research Ethics Committee (NEAF HREC No. EC00188)
Contact
Executive Officer, David Van der Hoek
Administrative Officer - Marie Toubia
Ph: 08 8204 4507
Fax: 08 8204 5834
Email: research.ethics@fmc.sa.gov.au



3

.Back From The Edge

Reducing & Preventing Occupational Stress Among Nurses

This is for you to keep

Information sheet – Alice Springs Hospital

Dear Colleague,

You are invited to participate in research designed to better understand the levels of stress experienced by nurses in a variety of settings and to trial interventions in very remote settings. To develop this understanding the research team is inviting nurses from various clinical settings to complete an online questionnaire of their experience of stress. A follow up questionnaire in 2 years is planned for comparison.

Participation is voluntary

Participation in any research project is voluntary. If you do not wish to take part you are not obliged to. If you decide to take part and later change your mind, you are free to withdraw from the project at any stage without explanation. Return of the surveys will be considered consent to participate in the research.

What will I be asked to do?

Should you agree to participate you will be asked to complete a questionnaire comprising related to perceptions and impact of stress. This will take approximately 30 minutes to complete and is enclosed.

The results from the questionnaire of nurses at acute care hospitals in the NT and SA will be compared to results from Remote Area Nurses. This may help identify stress factors relevant to all nurses, and those specific to hospital-based nurses.

Benefits & risks

Possible benefits of the research include improved workplace environments and decreased individual stress. In addition the research will give you the opportunity to reflect on ideas for improved workplace practice and processes to reduce stress.

There is a possibility that the research may bring up unresolved past trauma for some individual participants. If you would like to discuss any problems you may be experiencing, Employee Assistance programs are available. Staff employed by the NT Department of Health and Community Services can contact their Employee Assistance Service by phoning (08) 8941 1752 or toll free (within NT) 1800 193 123.

For the period of this project you may also contact the CRANA's 'Bush Crisis Line'. The Bush Crisis Line is a confidential 24 hour phone debriefing service for all rural and remote nurses and their families. For this project it has been extended to include any hospital nurse who completes the questionnaire. **Line free call is 1800805391**

Privacy, confidentiality and disclosure of information

We will not ask your name, but we will ask you to provide identifying information (the first three letters of your parent's first names) to allow for the matching of information from the two questionnaires so we can assess change over time. No information will be used for any other purpose. After the surveys are complete all information will be de-identified.



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Paper copies will be stored in a locked filing cabinet and all computer files will be password protected and all data will be retained for a minimum of five years.

Feedback on the research findings

There will be regular posting of project information and research findings on the Council of Remote Area Nurses of Australia (CRANA) website <http://www.crana.org.au/> Findings will be disseminated through publication in peer-reviewed journals and at professional conferences.

Research team

The team includes researchers from Flinders University, University of South Australia, Charles Darwin University and University of Northern British Columbia, Canada. Research partners include CRANA, the Northern Territory Department of Health and Community Services, Office of Aboriginal and Torres Strait Islander Health and Katherine West Health Board.

Further information or any concerns

If you require further information regarding the project please contact

Sue Lenthall	Tel: 08 89514707
Project Manager	Fax: 08 89514777
Centre for Remote Health	Mobile: 0419826761
PO Box 4066	E-mail: sue.lenthall@flinders.edu.au
Alice Springs	

Ethical Guidelines

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Contact: Admin Coordination Mr Geoff Sloan
Ph: 08 89 515 844
Fax: 08 89 515 265
Email: cahrec@nt.gov.au
2. The Human Research Ethics Committee of NT Department of Health and Community Services and Menzies School of Health Research
Contact: Ethics Administration Officer Ms Maria Scarlett
Ph: 08 8922 7922
Fax: 08 8927 5187
Email: ethics@menzies.edu.au

2



This is for you to keep

Back from the Edge: Reducing and Preventing Occupational Stress in the Remote Area Nursing Workforce

Information sheet for workgroups

Introduction

The aims of this research are to reduce and prevent occupational stress in the remote area nursing (RAN) workforce by improving our understanding of workplace stressors and developing, systematising and evaluating appropriate interventions.

The research will be in four parts. The first part is to develop an appropriate survey instrument, which will be done with the assistance of a focus group at the 2007 CRANA Conference and by interviewing a number of RANs.

The second part is national survey of RANs, and of nurses at acute care hospitals in the NT and SA. The survey will comprise approximately 100 items related to perceptions and impact of stress.

The third part is the development of interventions. A participatory action research approach will be applied to feedback results and develop interventions at selected worksites in the Northern Territory.

Interventions will be developed through three structures.

1. Workgroups consisting of RANs, community-based RAN managers and immediate line managers in Central Australia and the Top End. They will comprise small groups of self-selected colleagues working with a facilitator over several months to develop and implement their select strategies to reduce work-related stress.
2. Two regional implementation committees consisting of RANs, middle managers and union representatives. Regional implementation groups will review the work groups' strategies and implement plans and assist with regional level changes as appropriate. These groups are expected to meet 2 to 3 times per year over the four year project.
3. A high level reference group consisting of senior NTDHCS managers and CRANA representatives that will review the work groups' and regional implementation groups' strategies in order to develop policy where appropriate, assist with implementing plans and with Departmental level changes as appropriate. It is expected to meet 2 to 3 times per year over the four year project.

The final part of the project is to repeat the national survey to evaluate the impact of the interventions.

Participation is voluntary

Participation in any research project is voluntary. If you do not wish to take part you are not obliged to. If you decide to take part and later change your mind, you are free to withdraw from the project at any stage without explanation. Attendance at and participation in meetings will be considered consent to participate in the research.

What will I be asked to do?

Should you agree to participate you may be asked to participate in a work group that comprises a small group of self-selected colleagues working with a facilitator over several months to develop and implement selected strategies to reduce work-related stress. Each group will set their own meeting schedules.



Benefits & risks

Possible benefits of the research include improved workplace environments and decreased individual stress. In addition the research will give you the opportunity to reflect on ideas for improved workplace practice and processes to reduce stress.

There is a possibility that the research may bring up unresolved past trauma for some individual participants. For example the surveys may remind people of past incidents eliciting post traumatic stress. Participants will be encouraged to consult with CRANA's 'Bush Crisis Line' or their EAP. The Bush Crisis Line is a confidential 24 hour phone debriefing service for all rural and remote nurses and their families. For this project it has been extended to include any hospital nurse who completes the questionnaire. **Bush Crisis Line free call is 1800805391.**

Privacy, confidentiality and disclosure of information

Survey information will be collected and maintained confidentially. Workgroup discussions will be documented and release of information will only take place with agreement of all parties. Paper copies will be stored in a locked filing cabinet and computer files will be password protected.

Feedback on the research findings

There will be regular posting of project information and research findings on the CRANA website and regular newsletters sent out electronically to all stakeholders. Findings will be disseminated through publication in a number of peer-reviewed journals and at the CRANA conference.

Research team

The research is in partnership with the Council of Remote Area Nurses of Australia (CRANA), the Northern Territory Department of Health and Community Services (NTDHCS) and the Office of Aboriginal and Torres Strait Islander Health (OATSIH). The Research Team consists of: _

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- Professor Sandra Dunn, Professor of Nursing at Charles Darwin University
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- Martha Macleod, Associate Professor in the Department of Nursing at the University of Northern British Columbia
- Greg Rickard, the Principal Nursing Advisor for the Northern Territory Department of Health and Community Services
- Sue Lenthall, senior lecturer at the Centre for Remote Health and a CRANA member.

Further information or any concerns

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Project Manager
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Alice Springs
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Ethical Guidelines

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1. Central Australian Human Research Ethics Committee (NEAF HREC No EC00155)
Contact
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Ph: 08 89 515 844
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2. The Human Research Ethics Committee of NT Department of Health and Community Services and Menzies School of Health Research (NEAF HREC No. EC00153)
Contact
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Ethics Administration Officer
Ph: 08.8922 7922
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Email: ethics@menzies.edu.au
3. Flinders Clinical Research Ethics Committee (NEAF HREC No. EC00188)
Contact
Executive Officer - Carol Hakof
Administrative Officer - Marie Toubia
Ph: 08 8204 4507
Fax: 08 8204 5834
Email: research.ethics@fmc.sa.gov.au
4. UniSA Human Research Ethics Committee
Contact
Executive Officer UniSA HREC
Ms Vicki Allen
Ethics and Safety Officer
Research and Innovation Services
University of South Australia
Mawson Lakes Campus
Mawson Lakes Boulevard
Mawson Lakes SA 5095
Ph: 08 8302 3118
Email: vicki.allen@unisa.edu.au



Back From The Edge

Reducing & Preventing Occupational Stress in the Remote Area Nursing Workforce

Introduction

Many remote area nurses (RANs) work in harsh environments, often with scarce resources. Away from the population concentrations on the continental edge, RANs are the mainstay of health service provision. They provide an invaluable service to some of the most disadvantaged populations in Australia. However their work context and role put them at risk of emotional and physical burnout through excessive workload, personal and professional frustration, lack of social or professional rewards and accomplishment, insufficient access to resources, limited professional support and social and cultural isolation.

Robust, sustainable systems that better prepare and support the remote nursing workforce in this tough context are required.

Aims

The project aims to reduce & prevent occupational stress in the RAN workforce by improving our understanding of workplace stressors and developing, systematising & evaluating appropriate interventions. It will commence in 2007 and be completed in 2011.

Research design

The research will be in four parts. The first part is to develop an appropriate survey instrument, which will be done with the assistance of a focus group at the 2007 CRANA Conference and by interviewing a number of RANs.

The second part is national survey of RANs, and of nurses at acute care hospitals in the NT and SA. The survey will comprise approximately 100 items related to perceptions and impact of stress.

The third part is the development of interventions. A participatory action research approach will be applied to feedback results and develop interventions at selected worksites in the Northern Territory.

Interventions will be developed through three structures.

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3. A high level reference group consisting of senior NTDHCS managers and CRANA representatives that will review the work groups' and regional implementation groups' strategies in order to develop



policy where appropriate, assist with implementing plans and with Departmental level changes as appropriate. It is expected to meet 2 to 3 times per year over the four year project.

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Benefits & risks

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Privacy, confidentiality and disclosure of information

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Feedback on the research findings

There will be regular posting of project information and research findings on the CRANA website and regular newsletters sent out electronically to all stakeholders. Findings will be disseminated through publication in a number of peer-reviewed journals and at the CRANA conference.

Research Team

The research team reflects a multi-university collaboration. Centre for Remote Health and Flinders University staff, Professor John Wakerman, Sue Lenthall, Sabina Knight and Rikkisha Collins are joined by Greg Rickard, Principle Nurse of the Northern Territory, Professor Maureen Dollard, an occupational health psychologist from UNISA, Tessa Opie, PhD Student UNISA, Professor Sandra Dunn from Charles Darwin University and Associate Professor Martha MacLeod from the University of Northern British Columbia

The team is supported by strong industry partners, the Northern Territory Department of Health and Community Services (NTDHCS), Council of Remote Area Nurses of Australia (CRANA) and Office of Aboriginal and Torres Strait Islander Health (OATSIH) and Katherine West Health Board.

Further information or any concerns

If you require further information regarding the project please contact

Sue Lenthall
Project Manager
Centre for Remote Health
PO Box 4066
Alice Springs
Tel: +61 8 89514707
Fax: +61 8 89514777



Mobile: 0419826761
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Fax: 08 8204 5834
Email: research.ethics@fmc.sa.gov.au
4. UniSA Human Research Ethics Committee
Contact
Executive Officer UniSA HREC
Ms Vicki Allen
Ethics and Safety Officer
Research and Innovation Services
University of South Australia
Mawson Lakes Campus
Mawson Lakes Boulevard
Mawson Lakes SA 5095
Ph: 08 8302 3118
Email: vicki.allen@unisa.edu.au



Please place on your notice board

Back From The Edge

Reducing & Preventing Occupational Stress in the Remote Area Nursing Workforce

Introduction

Many remote area nurses (RANs) work in harsh environments, often with scarce resources. Away from the population concentrations on the continental edge, RANs are the mainstay of health service provision. They provide an invaluable service to some of the most disadvantaged populations in Australia. However their work context and role put them at risk of emotional and physical burnout through excessive workload, personal and professional frustration, lack of social or professional rewards and accomplishment, insufficient access to resources, limited professional support and social and cultural isolation.

Robust, sustainable systems that better prepare and support the remote nursing workforce in this tough context are required.

Aims

The project aims to reduce & prevent occupational stress in the RAN workforce by improving our understanding of workplace stressors and developing, systematising & evaluating appropriate interventions. It will commence in 2007 and be completed in 2011.

Research design

The first part of the project is to develop an appropriate survey instrument. The second part is a national survey of RANs, nurses working in remote hospitals and of nurses at acute care hospitals in the NT and SA. The survey will comprise approximately 100 items related to perceptions and impact of stress. You may receive this survey in February and March of next year. The third part is the development of interventions. A participatory action research approach will be applied

Help us reduce stress among RANs by completing and returning the survey after it arrives.

to feedback results and develop interventions at selected worksites in the Northern Territory. There will be a second national survey in 2009.

Research Team

The research team reflects a multi-university collaboration. Centre for Remote Health and Flinders University staff, Professor John Wakeman, Sue Lenthall, Sabina Knight and Rikkisha Collins; are joined by Greg Rickard, Principle Nurse of the Northern Territory, Associate Professor Maureen Dollard, an occupational health psychologist from UniSA, Tessa Opie, PhD Student, Professor Sandra Dunn from Charles Darwin University Associate Professor Martha MacLeod from the University of Northern British Columbia

The team is supported by strong industry partners, the Northern Territory Department of Health and Community Services (NTDHCS), Council of Remote Area Nurses of Australia (CRANA) and Office of Aboriginal and Torres Strait Islander Health (OATSIH).

For further information please contact:

Sue Lenthall, Centre for Remote Health, Alice Springs
Telephone: (08) 8951 4707 or e-mail:
Sue.Lenthall@flinders.edu.au



APPENDIX H

ARTICLE BY LENTHALL ET AL. (2011)

Lenthall, S, Wakerman, J, Opie, T, Dollard, M, Dunn, S, Knight, S & MacLeod, M
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TABLE 1: Number of health facilities by category and registered nursing positions in very remote Australia

State	Aust Terr		NSW		NT		QLD		SA		TAS		WA		Total HF	Total nursing positions
	HF	RN	HF	RN	HF	RN	HF	RN	HF	RN	HF	RN	HF	RN		
Very remote hospitals with inpatient facilities	2	25	1	8	2	70	15	190	3	32	1	7	13	186	37	518
Very remote primary health care clinics without inpatient facilities	2	4	7	13	66	157	48	96	18	34	2	4	47	85	190	393
Community health in facilities where there is a small hospital	–	–	1	5	6	9	4	16	1	2	–	–	14	38	26	70
Health facilities at mines	–	–	–	–	2	6	3	7	1	1	0	–	19	37	25	51
Aged care facilities	–	–	–	–	1	1	4	5	1	4	–	–	5	9	11	19
Health facilities at tourist centres	–	–	–	–	1	2	5	9	–	–	–	–	–	–	6	11
Public health nurses employed by Aboriginal community controlled health organisations in communities with very remote primary health care clinics	–	–	–	–	4	10	–	–	–	–	–	–	–	–	4	10
Private general practices	–	–	–	–	1	2	–	–	–	–	–	–	1	2	2	4
Total	4	29	9	26	83	257	79	323	24	73	3	11	99	357	301	1076

Source – CRANAplus database of health facilities and registered nurses in very remote Australia. Aust Terr = Christmas Island, Keeling Islands. HF, health facilities; RN, registered nurse positions.

or less, except for one Indigenous community in the NT which has nine nurses, and two Indigenous communities in Queensland, with nine and 13 nurses, respectively (Table 2).

Many of the identified nursing positions (43%) are in remote Indigenous communities. The majority in very remote PHC clinics without in-patient facilities (78%) are in remote Indigenous communities. There are 532 nurses working at 146 Indigenous communities (Indigenous people >50%) in very remote Australia.

Single nurse positions

There were 59 single nurse PHC clinics identified. The majority of nurses in single nurse PHC clinics are employed by State or Territory governments. The main employers are Queensland Health with 22 (37%) single nurse PHC clinics and Aboriginal Community Controlled Health Organisations (ACCHOs) with 20 (34%).

Demographics

The majority of respondents of the national survey of occupational stress of registered nurses in very remote Australia were female (89%); their mean age was 44 years, median age 46, and 40.2% were aged 50 years or over.

The mean hours worked per week by nurses in very remote Australia was 47.6. Mean hours lost because of

physical or mental health concerns in a four-week period was 2.8.

In comparing the data on education achievements collected from the occupational stress study in 2008 and the violence study conducted in 1995, it is clear that more nurses are completing university studies now compared with 13 years ago. There has been a change in basic nursing qualifications from a general nursing certificate to a degree in nursing, and an increase in nurses obtaining postgraduate qualifications (Table 3). There has also been a significant decrease in the percentage of nurses with midwifery (from 65% in 1995 to 29% in 2008) and in child health qualifications (from 18% in 1995 to 11% in 2008).

Limitations

This paper presents the best available information about the distribution of registered nurses in very remote Australia and the type of facility in which they work. Detailed workforce data are scant. High rates of workforce turnover result in variation of nursing numbers from year to year.

In comparing qualifications between the 2008 and the 1995 surveys, the latter included RANs who were specifically members of the CRANA Inc., whilst the 2008 sample included all nurses working in very remote Australia, irrespective of membership of professional

TABLE 2: Registered nursing positions in very remote primary health care clinics

State	Aust Terr		NSW		NT		QLD		SA		TAS		WA		Total nursing positions	
	PHCC	RN	PHCC	RN	PHCC	RN	PHCC	RN	PHCC	RN	PHCC	RN	PHCC	RN	Total PHCC	Total RN
0 nurse	-	-	-	-	7	-	7	-	5	-	-	-	4	-	23	-
1 nurse clinic	-	-	3	3	11	11	22	22	1	1	1	1	21	21	59	59
2 nurse clinic	2	4	3	6	25	50	11	22	5	10	-	-	12	24	58	116
3 nurse clinic	-	-	-	-	12	36	1	3	5	15	1	3	3	9	22	66
4 nurse clinic	-	-	1	4	4	16	-	-	2	8	-	-	4	16	11	44
5 nurse clinic	-	-	-	-	3	15	3	15	-	-	-	-	3	15	9	45
6 nurse clinic	-	-	-	-	2	12	2	12	-	-	-	-	-	-	4	24
8 nurse clinic	-	-	-	-	1	8	-	-	-	-	-	-	-	-	1	8
9 nurse clinic	-	-	-	-	1	9	1	9	-	-	-	-	-	-	2	18
13 nurse clinic	-	-	-	-	-	-	1	13	-	-	-	-	-	-	1	13
Total	2	4	7	13	66	157	48	96	18	34	2	4	47	85	190	393

Source – CRANaplus database of health facilities and registered nurses in very remote Australia. Aust Terr = Christmas Island, Keeling Islands, PHCC, primary health care clinics; RN, registered nurse positions.

organisations. We acknowledge limitations arising from the different sampling methods in the two studies.

Discussion

A changing workforce

Nationally the nursing workforce is continuing to age, but nurses in very remote Australia are slightly older, with an average age of 44 compared to the national average of 43, and the workforce is ageing faster, with 40.2% over 50 compared to 33% nationally.² Given national labour market trends it can be anticipated that there will be an increasing shortage of registered nurses in very remote Australia over the next 10 years. On average, RANs work more than two days more per week than all registered nurses nationally.² RANs also miss significantly fewer hours for physical or mental health concerns.² This is probably due to the difficulty in taking sick leave where there is no replacement.

Midwives and child health nurses

There is a maldistribution of midwives throughout Australia, with most working in cities and regional areas.⁹ However, the large apparent reduction in nurses with midwifery qualifications – 65% in 1995 to 29% in 2008 in very remote Australia is alarming. The NT Department of Health and Families has responded by supporting its RANs to undertake midwifery education.¹⁰ There has also been an increase in visiting midwifery services in many jurisdictions.

There has also been an apparent reduction in nurses with child health qualifications, from 18% in 1995 to 11% in 2008. This may be due to the change in post-graduate education and an increase in the variety of courses available to nurses. There is a need to increase the number of nursing with midwifery and child health qualifications in very remote Australia.

Education

While the educational opportunities for nurses in very remote Australia have improved over the last 10 years,¹¹ there is still only a small percentage (5%) of nurses in very remote Australia prepared specifically for their role. The need for additional education for the advanced practice role of RANs has been well recognised.^{11,12} There is a need for greater effort in meeting the educational needs of RANs, which include emergency and extended clinical skills, public health, cultural safety, PHC, community development and management.¹¹

Single nurse clinics

CRANaplus¹³ and the Australian Nursing Federation¹⁴ do not support the employment of RANs in single nurse

TABLE 3: Comparison of qualifications of nurses in very remote Australia 1995 and 2008

Qualifications	Fisher <i>et al.</i> ⁷ Number (%)	Opie <i>et al.</i> ⁵ Number (%)
Returns	237 (100)	345 (100)
General nurse certificate	213 (90)	131 (38)
Diploma in nursing	–	24 (7)
Degree in nursing	55 (23)	190 (55)
Registered midwife	154 (65)	100 (29)
Child health certificate + postgraduate qualifications in child health	43 (18)	38 (11)
Psychiatric nursing certificate	12 (5)	10 (3)
Graduate certificate	–	69 (20)
Graduate diploma	–	62 (18)
Master	–	38 (11)
Postgraduate qualifications in rural or remote health	–	17 (5)

posts due to increased stressors such as professional isolation, fatigue, safety, quality and exploitation. The relatively low number of NT Department of Health and Families single nurse clinics¹¹ reflects the current policy of phasing out these clinics.¹⁵ Queensland, Western Australia and ACCHOs have yet to establish a similar policy.

Conclusion

The nursing workforce in very remote Australia is the mainstay of health services to some of the most disadvantaged communities in Australia. The workforce is ageing, working long hours with little time lost for physical or mental health concerns. There appears to have been a significant decrease in midwives and child health nurses in very remote Australia, and while some measures are being undertaken to address this, it remains a significant need. Despite relevant education being available for 10 years, few nurses have remote qualifications for their role. Many of these nurses work in Indigenous communities, and if these trends continue it is likely to have a negative effect on 'closing the gap' in Indigenous health outcomes.¹⁵

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APPENDIX I

ARTICLE BY LENTHALL ET AL. (2009)

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Results

There is considerable literature relating to occupational stress and burnout among the general nursing workforce in Australia^{38,39} and internationally.^{40–42} However, the literature relating to remote area nursing in Australia is limited and largely descriptive. Several papers discussed the consequences of stresses on the delivery of health services,^{8,11,20} fewer focused on solutions to these problems^{15,33,43,44} and fewer still were based on empirical evidence beyond case studies.³

Stresses identified in the literature can be grouped into four themes.

The remote context – isolation and lack of personal/professional boundaries

Working in isolation is the most pervasive feature of remote area life.⁶ Isolation extends beyond geography to encompass social and professional life. In particular, the social support provided by family and friends is less accessible. This can increase the sense of personal and professional vulnerability.²⁷

As remote communities are small, nurses are often accommodated within or near their place of work and so live constantly with both the community and the health service.¹⁹ For many RANs, maintaining a private life is impossible because home and work are inextricably linked.¹⁹

Workload and extended scope of practice

Nurses in remote areas work in an advanced and extended role. They are required to manage medical emergencies and trauma, provide primary care for acute and chronic conditions across the life span and deliver preventative, public health and community development programs. This advanced role can lead to 'feelings of unrelieved stress, fatigue and low morale'.¹⁰ The sheer volume of work is a major issue for RANs, with long working days and a high level of morbidity in many communities. The 'frontline' nature of remote area health work and the lack of medical and allied health presence dictate that nurses perform considerable on call work. Nurses who work alone in remote communities are required to be on call continuously. Excessive on call and overtime are instrumental in the physical and emotional exhaustion of RANs.^{15,13} One paper documented a period of 100 days on call with no break.⁹ Both health service managers and the community often underestimate the workload and hold unrealistic expectations of RANs.¹⁵

Most RANs work in remote Indigenous communities with the range of challenges related to working in a cross-cultural environment. These include differences in

language, social norms and gender roles, disparity in religious and spiritual practices, and contested values and beliefs related to health and illness.⁴⁵ The demands of interactions between Indigenous and non-Indigenous peoples in remote areas might be 'entangled, complex and dehumanising'.³¹

Poor management

Poor management practices, with a lack of support and responsiveness are frequently cited as a reason for low retention rates of RANs.^{9,33,44} Misleading information might be given to nurses at recruitment, resulting in inappropriate appointments, considerable job dissatisfaction and early resignation.¹⁰ Management practices within the 'health facility' were identified as the most significant determinant in leaving one state health department.²¹ Poor human resource management practices accompany a relatively under-funded environment, inadequate systems relating to orientation and induction of new staff, poor communication, poor quality improvement and pastoral care, and inadequate preparation of operational managers; this is associated with inadequate recognition of health services management as a health discipline and related continuing professional development and accreditation requirements.⁴⁴ Lack of support also included poor management responsiveness to issues raised by RANs.³³ A key contributor to burnout is a lack of appropriate leave replacement for RANs.^{2,33}

Workplace and community violence

Workplace violence has also been identified as contributing to RAN turnover.⁴⁶ RANs in small communities are found to experience substantial workplace violence, with 86% of RANs, compared with 43% of metropolitan nurses, having experienced aggression and abuse within the previous 12 months.³⁴ As a result of increased exposure to violent or traumatic incidents in the workplace, remote area nurses are at a greater risk of developing conditions, such as post-traumatic stress disorder.⁴⁷ The high levels of violence in many remote communities might subject RANs to vicarious trauma, as they are often secondary witnesses to trauma.⁴⁸ Violence is an ongoing issue, with evidence of persistently inadequate safety systems and poor management support after critical incidents.⁹

Discussion

The stress experienced by RANs in Australia is related to high demands, such as isolation and challenges to personal/professional boundaries, the high morbidity of the population and the extended role of RANs, accom-

panied by a deficit of appropriate resources with which to respond to these high demands. In this high-demand, low-resource context, the JD-R model of occupational stress is particularly pertinent to the examination of occupational stress among RANs.¹²

Some of the demands on RANs, such as the isolated geographical context of remote health, are immutable. Issues of social dysfunction need to be addressed across a broader canvas. Remote and Indigenous health funding is also a broader issue. However, resources, such as improved safety, standardised systems, adequate preparation for RANs and improved management systems, are more readily achievable.

Within the literature, a number of job resources that could meet the significant job demands faced by RANs were identified. These include:

- Adequate and appropriate education, training and orientation, as well as supports for continuous quality improvement
- Sufficient funding of remote health services, including staffing to address workforce gaps, sustainable systems of care and the provision of adequate infrastructure, especially safe remote area housing
- Improved management practices and systems.

Opportunities for education have improved markedly in the last 10 years. The Council of Remote Area Nurses Australia has established support services and high-quality education programs for remote health professionals, including the Bush Crisis Line, a 24-hour telephone counselling service, the Remote Emergency Care Program, the Maternity Emergency Care Program and a suite of degree courses (Remote Health Practice Program, developed in partnership with Flinders University). A network of University Departments of Rural Health supports remote health professionals throughout Australia.⁴⁹

Systems of care and education have also advanced with the development of quality improvement systems and stronger standard treatment protocols, such as the Central Australian Rural Practitioners' Association Standard Treatment Manual.⁵⁰

Expenditures on Indigenous health remain inadequate to meet needs and the high costs of remote service delivery.⁵¹ Despite the fact that nurses are the most geographically evenly distributed health professional group, there remains a maldistribution of health professionals, with remote areas especially understaffed.⁵² Thus, with inadequate resources, the burden falls to RANs to meet the high health need. The recent commitment to reducing and eliminating Indigenous health disadvantage ('closing the gap') might result in amelioration of this situation over time.⁵³

A strong and consistent theme throughout the literature relates to poor management practices.^{33,44} Suggested

improvements include effective communication and leadership, replacing staff for leave, prompt attention to infrastructure issues, and staff development and appraisal.^{33,44} Basic 'distance management' practices are advocated.^{33,44} Such practices include careful staff recruitment, effective systems for monitoring and feedback, regular lines of communication, scheduled management visits, periodic 'times out' at head office and prompt management response to problems.⁴⁴

Conclusion

While limited empirical evidence related to stresses experienced by RANs is available, those stresses that have been identified include the remote context itself, high workloads and an extended scope of practice, poor management and workplace and community violence. These high demands are not matched by adequate resources, resulting in stress and burnout. The resources required include adequate workforce numbers and preparation, enhanced infrastructure and improved management practice. Empirical evidence that details the nature and degree of current stresses and the systems changes thus required using models, such as the JD-R model, would provide information needed by health service agencies and policy-makers to engage in improving conditions for RANs, so that they can care for the communities in which they live and work.

Author contributions

S.L. led the conceptualisation of the paper, reviewed the literature and led the writing of the paper. J.W. contributed to the conceptualisation of the paper, the literature review and to the writing of the paper. T.O. assisted with the literature review and commented on drafts of the paper. M.D. provided insights into the theoretical conceptualisation of the paper and commented on drafts of the paper. S.D. provided insights into the theoretical conceptualisation of the paper and commented on drafts of the paper. S.K. provided insights into remote area nursing practice and the literature and commented in drafts of the paper. M.M. commented on drafts of the paper. C.W. reviewed the early literature.

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APPENDIX J

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Back from the edge: reducing and preventing occupational stress in the remote area nursing workforce

Sue Lenthall¹, John Wakerman¹, Tessa Opie², Maureen Dollard², Sandra Dunn³, Sabina Knight¹, Greg Rickard¹, Martha MacLeod⁴

¹Centre for Remote Health, NT, ²Centre for Applied Psychological Research, University of South Australia, ³Graduate School for Health Practice, Charles Darwin University, ⁴University of Northern British Columbia, Canada

Sue Lenthall is an educationalist with extensive remote area nursing experience. She has worked extensively as a remote area nurse in remote communities in Queensland and central Australia for over 20 years. She was one of the first teachers with the Aboriginal and Torres Strait Islander Education Program in Queensland and has retained a strong interest in teaching about cross-cultural practice and cultural safety. Sue was the Executive Officer for the Council of Remote Areas Nurses of Australia before working as the education coordinator with the Royal Australian College of General Practitioners in Townsville. Sue has contributed to the development of numerous curriculum documents relating to Indigenous and Remote Health. She was the foundation course coordinator of the Remote Health Practice program at the Centre for Remote Health and is responsible for overseeing the development of the program designed to prepare health professionals to practice in remote areas of Australia. She is currently managing an ARC research project 'Back from the Edge' reducing occupational stress among nurses in very remote Australia and working towards her PhD.

Introduction

Remote area practice is characterised by geographical, social and professional isolation - a small, dispersed and highly mobile population, climatic extremes, high population morbidity and mortality, an extended practice role, a multidisciplinary approach and cross-cultural issues affecting everyday life. (Wakerman, 2004) Nurses who work in remote areas in Australia are called remote area nurses or 'RANs', and are defined as

... specialist practitioners that provide and co-ordinate a diverse range of health care services for remote, disadvantaged or isolated populations within Australia and her Territories and undertake appropriate educational preparation for their practice. (CRANA, 2003)

'Back from the Edge' research project

The 'Back from the Edge' research program had two major objectives.

- describe stressors and measure levels of occupational stress among registered nurses in very remote Australia
- develop, implement and evaluate actions that reduce & prevent occupational stress.

To describe and measure levels of occupational stress a survey was distributed to all (1009) registered nurses in very remote Australia. The survey measured psychological distress by the General Health Questionnaire-12 (GHQ-12) (Goldberg & Williams, 1991), emotional exhaustion by Maslach Burnout Inventory (MBI), (Maslach, Jackson, & Leiter, 1996), the work engagement by the Utrecht Work Engagement Scale-9, (Schaufeli & Bakker, 2003) and a question on job satisfaction.

The questionnaire also included a RAN specific RAN-Specific Job Demands Scale and examined job resources. Job Demands included items addressing workplace violence, emotional demands, issues surrounding management and co-workers, on-call, workload, responsibilities and expectations, support, infrastructure and equipment, safety concerns, social issues, isolation, and inter-cultural factors. Workplace resources included items addressing supervision, social support, opportunities for professional development, job control, and skill development and application.

The results confirmed that RANs suffer particularly high levels of occupational stress with significantly higher scores than other samples. Compared with norms from the Maslach Burnout Inventory Manual (Maslach, et al., 1996) for a sample of health professionals (including physicians and nurses), nurses working in very remote Australia had significantly higher scores on emotional exhaustion. However RANs also displayed high levels of work engagement relative to other samples, they also reported moderate levels of job satisfaction.

Causes of stress

The top five correlations between psychological distress, emotional exhaustion, symptoms of post traumatic stress and job demands were the following.

Job Demands			
Wave 1		Wave 2	
1	Responsibilities and Expectations	1	Social issues
2	Social issues	2	Workload
3	Violence - witnessed	2	Emotional Demands
4	Emotional demands	2	Isolation
5	Staffing Issues	5	Responsibilities and Expectations

Job resources

There was a positive relationship between supervision, opportunities for development and skill development and application, and job satisfaction. Social support and job control were also positively correlated with job satisfaction. Results further indicate statistically significant positive relationships between all job resources and work engagement.

Methods

To develop organisational level stress interventions we utilised a participatory action research approach. Workgroups of RANs and health service managers working in remote Indigenous communities in central Australia and in the Top End of the Northern Territory discussed the results from the national survey, then developed action plans aimed at organisational rather than individual changes. The action plans were further workshopped with implementation committees of middle managers in central Australia and in the NT Top End. Some actions were implemented at this level; others were referred to the high level reference group which contained senior managers for consideration and implementation. Three cycles of this action research were conducted over a 12 month period.

Results

One of the main priorities of the workgroups was the education of RANs. Nurses perceived that the education of RANs was still far from sufficient. The number of vacancies and the increase in agency and short term staff in recent years is causing increased stress among permanent staff. In particular participants reported significant orientation burnout, where in a small team they were required to orientate new staff continuously. Participants also reported feeling anxious about the skills and knowledge of many short term and agency staff as they often came to the communities without any orientation.

Actions that were developed included the strengthening of the NT education pathways program for RANs and establishing a steering group to support that initiative. A career structure for RANs was also introduced that enables less experienced registered nurses to be employed at a lower level and supported to develop their skills. The NT Department of Health and Families has a very good orientation program for RANs which all permanent staff are required to undertake. They are also allowing some agency staff to participate. However, the orientation of short term and agency staff is still an issue.

Further actions included the establishment of education requirements for managers and linking these to career pathways. Other actions concerning the education of RANs included increased on-site education of RANs and improved education on vicarious trauma and post traumatic stress disorder (PTSD).

Another identified priority was the need to increase permanent relief staff to enable RANs to take leave and attend professional development program. Recommendations were made to the health authority to increase the current casual pool and establish permanent reliever positions.

To reduce workload of RANs it was decided to reduce single nurse clinics by employing additional staff. These were reduced in Central Australia from 6 to 2. Measures were introduced to reduce workload from visiting teams and to increase employment and training of ancillary staff including admin, cleaners, drivers etc

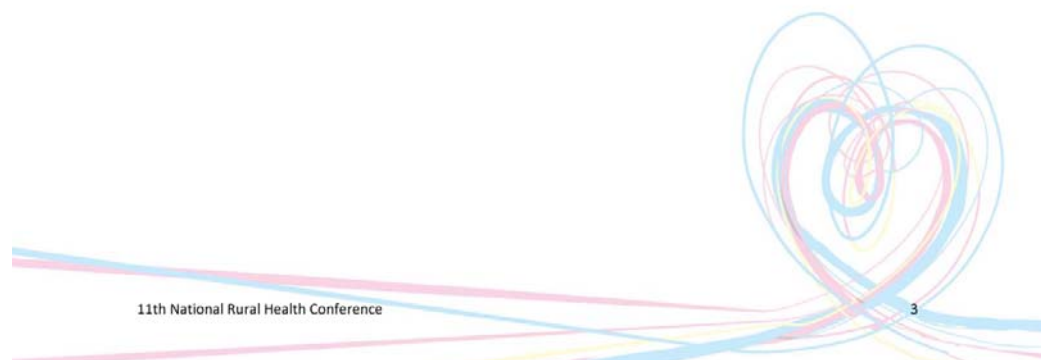
Safety while on-call was a significant issue. It was agreed that all clinics would get a telephone, intercom system and the use of drivers for night time call outs would be investigated. Managing aggression and risk management would be reintroduced as part of RAN orientation and risk assessment procedures would be reviewed.

Actions were also developed to improve infrastructure and equipment. An equipment manager position was introduced. Participants also discussed numerous strategies to increase accommodation, a major limiting factor to increasing staff, improve cleanliness of clinics and accommodation and improve the maintenance and repairs to clinic and staff accommodation and ensure that every community had at least two vehicles. However effecting systemic change in these areas proved difficult.

RANs are the backbone of remote area health service delivery to the neediest populations in Australia. High levels of occupational stress among RANs contribute to turnover of staff and quality of health service delivery. By employing a bottom-up action research approach, RANS were empowered to contribute to system changes to decrease occupational stress.

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APPENDIX K

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APPENDIX L

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2. Occupational stress in the remote area nursing profession

Tessa Opie, Sue Lenthall and Maureen F. Dollard

International reviews have demonstrated high levels of occupational stress in various health and community service professions, including nursing (Bakker, Schaufeli & van Dierendonck, 2000; Dollard, LaMontagne, Caulfield, Blewett, & Shaw, 2007; Michie & Williams, 2003). Indeed, stress in nursing has been an area of considerable interest and research for almost half a century (Menzies, 1960). Decades of research documents a multitude of workplace stressors and their impact on various outcomes measures, such as productivity, quality of patient care and worker health and well-being.

There is some evidence that nurses, relative to other health professionals and human service workers, experience greater levels of occupational stress (Bakker, Schaufeli & van Dierendonck, 2000). Nurses also report greater levels of occupational stress, in comparison to other professional groups across the board (Chan, Lai, Ko & Boey, 2000). It must be noted, however, that the majority of nursing stress research has been conducted in hospital-based settings. Comparatively few studies have been performed in community-based settings, and fewer still in a very remote health care context.

Only recently is remote health receiving recognition as its own independent and clinically distinct area of practice. According to a comprehensive definition provided by Wakerman (2004, p.?), remote health

“... is an emerging discipline with distinct sociological, historical and practice characteristics. Its practice in Australia is characterised by geographical, professional and, often, social isolation of practitioners; a strong multidisciplinary approach; overlapping and changing roles of team members; a relatively high degree of GP substitution; and practitioners requiring public health, emergency and extended clinical skills. These skills and remote health systems, need to be suited to working in a cross-cultural context; serving small, dispersed and often highly mobile populations; serving populations with relatively high health needs; a physical environment of climatic extremes; and a communications environment of rapid technological change”.

Australians living remotely experience poorer health outcomes than those living in rural and regional areas (Australia Institute of Health & Welfare, 2008). They also demonstrate poorer health standards than their major city, or metropolitan, counterparts (Australian Institute of Health & Welfare, 2008). As a general population, remote Australians manifest higher death rates and lower life expectancy and have less access to health resources (Australian Institute of Health & Welfare, 2008). In remote and, in particular, very remote Australia there are few general practitioners to provide the necessary health services. Accordingly, most health service delivery is administered by small, collaborative health teams, with registered nurses and Indigenous health workers representing the majority of health professionals (Lenthall et al., 2011).

The term used to describe a nurse who works in remote areas of Australia is Remote Area Nurse (RAN). In delineating the role of RANs, The Council for Remote Area Nurses of Australia (CRANap/us) Inc. provides the following definition (2003, p107):

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Remote area nurses in Australia provide and coordinate a diverse range of health care services for remote, disadvantaged or isolated populations. Their practice is guided by primary health care principles and includes emergency services, clinical care, health promotion and public health services. Remote area nurses work in a variety of settings including outback and isolated towns, islands, tourism settings, railway, mining, pastoral and indigenous communities.

As specialist practitioners, RANs provide “continuous, comprehensive and coordinated health care” and undertake “appropriate educational preparation for their practice” (CRANA, 2003, p.107). Unlike nurses working in hospital-based settings who perform more consistently in acute areas of practice (Hegney, Pearson & McCarthy, 1997), nurses working remotely are required to use a broad range of clinical skills in response to varied client needs (Opie, Dollard, Lenthall, Wakeman, Dunn, Knight & MacLeod, 2010). Extended clinical skills are required in the provision of services such as primary health care, trauma, health promotion and disease prevention, accident and emergency, acute care and chronic disease management, as well as the provision of care for mental health issues, substance misuse, domestic violence and child abuse (Kelly, 1998).

Beyond the demands of extended health practice, remote area nurses are required to endure inadequate staffing levels, mandatory on-call duties and frequent overtime, professional isolation, violence in the workplace, limited supervision, concerns for personal safety, inadequate infrastructure or equipment and issues arising from inter-cultural factors (Opie et al., 2010; Lenthall, Wakeman, Opie, Dollard, Dunn, Knight, MacLeod & Watson, 2009; Yuginovich & Hinspeter, 2007; Kennedy, Patterson & White, 2003). Furthermore, remote area nurses are required to function under these conditions, whilst striving to meet the health demands of some of the most disadvantaged populations in Australia. Such conditions have the capacity to contribute to elevated levels of occupational stress (Willis, 1991), and are believed to be responsible for the issues surrounding remote area nurse retention (Kennedy et al., 2003). Estimates of staff turnover in remote areas range from 57% (Garrett, Coe, Golebiowska, Walsh, Zander, Guthridge, et al., 2008) to 300% per annum (Kelly, 1998). High staff turnover leads to inadequate staffing levels and increased workloads for the remaining nurses, contributing further to the occupational stress experience.

As previously mentioned, scant research has considered occupational stress in the remote area nursing population (for additional research see Albion et al 2005; Eley & Baker, 2007; Fisher et al, 1996; Hanna, 2001; Hegney et al, 2002a, 2002b; Kennedy et al., 2003; Lea & Cruickshank, 2005; Lenthall et al 2009; Opie et al., 2010a, 2010b;; Yuginovich & Hinspeter, 2007).

In a literature review examining occupational stress among RANs, Lenthall et al identified four major sources of stress, including the remote context, workload and extended scope of practice, poor management and violence in the workplace and the community.

In earlier research, Kennedy et al. (2003) performed a needs assessment to identify factors affecting turnover of rural and remote health professionals. Self-report data revealed sources of job dissatisfaction and reasons for attrition, but of particular relevance were the most displeasing workforce factors for rural and remote nurses specifically. According to Kennedy et al. (2003, p.8), the most displeasing workforce factors included lack of staff, lack of management support, lack of financial resources, lack of continuing professional development, professional isolation, feeling undervalued, on-call hours, lack of time off/relief, and the availability and quality of accommodation. Eley & Baker (2007) have also investigated factors influencing the retention of rural and

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remote health service providers, with findings indicating that issues of mental health care provision, accessibility of health services, community perception and interagency collaboration were most influential in decisions of resignation.

Furthermore, Dade-Smith (2004) explored factors impacting on the rural and remote nursing workforce. Results demonstrated that issues such as opportunities for professional development, availability of locum relief, possibilities for spouse employment, professional isolation, on-call demands, and family and schooling matters were most unsatisfactory. Similar to the recent findings of Lenthall et al. (2009), this research also demonstrated that concerns for personal safety were once again identified as presenting significant impact on this population.

Opie et al. (2010) only recently performed the first empirical analysis of occupational stress levels in the remote area nursing workforce, with findings demonstrating that nurses working in very remote Australia experience significantly higher levels of psychological distress and emotional exhaustion, compared with other professional populations, including human service workers, police officers, psychiatric nurses and ward nurses. The job demands most strongly associated with increased levels of occupational stress as assessed by emotional exhaustion and symptoms of post-traumatic stress disorder (PTSD) were: responsibilities and expectations, emotional demands, workload, the remote context and isolation, cross-cultural issues and culture shock, staffing issues, poor management practices, difficulties with equipment and infrastructure, and workplace violence. Discussion of these job demands can be viewed in Box 2.1 Workplace violence in the remote nursing profession has been the occupational stressor selected as the focus for this chapter. We shall now explore its nature and prevalence, and intervention strategies.

WORKPLACE VIOLENCE: NATURE AND PREVALENCE

Within the health care sector nurses have been found to be more at risk of exposure to violence than others (Findorff et al., 2004). The international Council of Nurses (ICN) (2007) report that nurses suffer from societal and legal tolerance of violence; nurses have been refused compensation on the basis that to practice nursing was to accept the risk of personal violence. Nurses themselves often feel that violence is 'part of the job' and that they are 'legitimate targets' (ICN, 2007)

Workplace violence has been identified as a contributing factor in remote area nursing turnover (Morrell, 2005). Fisher et al. (1995) investigated workplace violence in the remote area nursing workforce and documented that remote area nurses experienced "frequent and serious episodes of violence, with verbal aggression, property damage and physical violence the most common". Furthermore, the researchers reported that remote area nurses in small communities experienced more workplace violence than their metropolitan counterparts. Specifically, 86% of respondents had experienced aggression, and 43% of respondents had experienced abuse. In light of these findings, Kelly (1999) argues that, as a result of increased exposure to violent or traumatic incidents in the workplace, remote area nurses are at a greater risk of developing conditions such as post-traumatic stress disorder (PTSD). It has also been argued that there is an increased susceptibility to anxiety, impaired professional function and difficulties sleeping (Rippon, 2000; Robbins et al., 1997; Fisher et al., 1995).

In an effort to build on existing empirical and anecdotal evidence and to determine

BOX 2.1 JOB DEMANDS MOST STRONGLY ASSOCIATED WITH INCREASED LEVELS OF OCCUPATIONAL STRESS FOR REMOTE AREA NURSES

Responsibilities and Expectations

There is a feeling among RANs that the community and health service have unrealistic expectations and that they, themselves, cannot meet the demands arising from both the community and the health service. This is often exacerbated by the advanced practice role that RANs are required to perform without adequate professional preparation.

Emotional Demands

Any job that entails working with people has emotional demands. The poor health of Indigenous peoples, the frequency of emergencies, and the regularity of a pre-existing relationship or association between the RAN and client can add weight to the emotional demands of RANs. The issue of emotional demands and their relationship with burnout is considered extensively within the work stress literature.

Workload

The sheer volume of work is a major issue for RANs, with long working days and higher morbidity rates in many communities. The 'frontline' nature of remote area health work and the lack of medical and allied health presence dictate that nurses are subject to greater workloads, including frequent on-call responsibilities.

The Remote Context and Isolation

Working in isolation is the most pervasive feature of remote area life (Willis, 1991). Isolation extends beyond geography to encompass social and professional life. In particular, the social support provided by family and friends is less accessible.

Cross Cultural Issues and Culture Shock

Most RANs work in remote Indigenous communities and face a range of challenges relating to cross-cultural environments. These include differences in language, social norms and gender roles, disparity in religious and spiritual practices, and contested values and beliefs relating to health and illness (Wakerman & Lenthall, 2002).

Staffing Issues

Recruitment of adequate staff is often difficult in remote areas. Many remote clinics have vacancies or have positions that are temporarily filled with short term agency staff. This situation decreases the capacity of clinics to provide staff with time off for in-servicing or annual leave. The increase in short term temporary staff (who have often been poorly orientated) adds to an existing burden of stress for the longer term nursing staff.

Poor Management Practices

Poor management practices in remote health, including lack of management support, constitute a further issue that has been highlighted. These poor practices are compounded by the distance most managers are from the RAN workplace and the limited number of health clinic visits.

Difficulties with Equipment and Infrastructure

Vast distances also impact on the difficulties experienced with equipment and infrastructure. There is generally inadequate housing for RANs which is further compounded by the cost of building in remote areas and the often poor building that happens. To get a piece of equipment repaired is often difficult and time consuming. Issues with equipment and infrastructure cause a great deal of frustration for RANs.

Workplace Violence

Concern for personal safety and the witnessing and experience of workplace violence has also been reported as a significant workplace stressor for the remote area nursing population (Dade-Smith, 2004; Lenthall et al., 2009; Opie et al., 2010).

whether the incidence of violence against remote area nurses has changed over time, Opie et al. (2010) assessed the frequency of various forms of workplace violence and compared their data to that obtained for the Context of Silence Report (Fisher et al., 1995). The researchers further examined the various forms of workplace violence and their relationships to posttraumatic stress disorder (PTSD) symptoms.

Three hundred and forty-nine (349) nurses working in very remote Australia participated in their study. In the 12 months preceding survey completion, the form of violence most commonly experienced by remote area nurses was verbal aggression (79.5%), followed by property damage (31.6%), physical violence (28.6%), sexual harassment (22.5%), stalking (4.9%) and sexual abuse/assault (2.6%). These results represented incidents of workplace violence that were specifically experienced by remote area nurses only. These figures did not include the witnessing of violent incidents that were directed towards remote area nurses' co-workers, family, friends or other members of the community. Results further indicated statistically significant positive correlations between all types of workplace violence and PTSD symptoms.

Results from their study also demonstrated that in the 12 months preceding survey completion, the type of violence most frequently witnessed by remote area nurses towards others was also verbal aggression (85.7%). The next most frequently witnessed types of violence towards others were physical violence (57.9%), property damage (53.9%), sexual harassment (32.1%), stalking (14.3%) and sexual abuse/assault (10.9%). Statistically significant positive correlations were found between each type of witnessed violence and PTSD symptoms, excluding sexual abuse/assault which was found to have no relationship to PTSD symptoms.

Table 1.

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Table 2.1 Media Coverage of the incident on Mabuiag Island, in the Torres Strait

Date	Title	Publisher
4 Mar 2008	1. "Torres Strait nurses threaten walk-out after alleged rape"	1. The World Today 2. News.com.au
5 Mar 2008	2. "Threat to raped Torres Strait nurse was ignored"	
	1. "Nurse's pay cut over 'work injury' rape"	1. The Australian
	2. "Government apologises over nurse rape"	2. Brisbane Times
	3. "Government 'sorry' for raped nurse's pay issue"	3. The Age
10 Mar 2008	"Desperate hours of island rape victim"	The Australian
12 Mar 2008	1. "Torres Strait not safe for nurses"	1. ABC News
	2. "Security boost after island rape"	2. The Australian
14 Mar 2008	"Torres Strait nurse to sue Govt over alleged rape"	ABC News
17 Mar 2008	"Renewed pressure on Robertson over alleged nurse rape"	The Courier-Mail
18 Mar 2008	1. "Nurses' strike threat"	1. Torresnews.com.au
	2. "Health minister knew of nurse's rape"	2. News.com.au
10 Apr 2008	"Ads add insult to injury after Torres Strait nurse rape"	News.com.au
26 May 2008	"Torres Strait nurse safety review nearing end"	ABC News
6 Aug 2008	"Govt promises impartial nurse rape investigation"	ABC News
23 Oct 2008	"Torres Strait nurses evacuated after threat"	The Courier-Mail
26 Feb 2009	"Nurse rape report dominates Qld campaign"	The Age
27 Feb 2009	"Health Officer and staff in trouble on nurse's rape"	The Australian
18 Aug 2010	"Nurse slams rapist's jail sentence"	The Australian

In the comparison of findings from their study to the findings of Fisher et al. (1995), Opie et al. (2010) reported that there had been statistically significant increases in the frequencies of physical violence, stalking, property damage and aggression. There were also increases in the incidence of sexual harassment and sexual abuse/assault; however, these were not significant.

In light of this research, it may come as no surprise that the safety and well-being of remote area nurses is not a foreign concept in the media. In 2008, for example, an alleged rape of a remote area nurse on Mabuiag Island, in the Torres Strait, received significant media coverage, public discussion and political attention (*Australian Broadcasting Corporation, 2008; news.com.au, 2008; Queensland Government, 2008; Queensland Nurses' Union, 2008; The Australian, 2008; The Courier Mail, 2008; The Queensland Health Ethical Standards Unit, 2008; The World Today, 2008; torresnews.com.au, 2008*). According to various media reports, on the night 5 February 2008, a 22 year old man broke in to the home of the 27 year old nurse. He allegedly raped her and burgled the property. The nurse had been working in the single nurse clinic on Mabuiag Island as an employee of Queensland Health for only three weeks.

Unfortunately and inexcusably, it appears this alleged rape could have been avoided. A 2006 Risk Assessment Report, submitted to Queensland Health, identified a number of existing security risks to the nurses. Risks relating to employee accommodation were described as "extreme", with urgent warnings and recommendations for safety upgrades. The report highlighted problems with telephone contacts, inappropriate lighting, locks, doors and windows, amongst other security features on accommodation used by the nurses. It described the state of building maintenance as "inadequate" and recommended that the significant risks to staff be addressed immediately. Regrettably, these

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reviews were reportedly not acted on, despite the government's awareness of the security and safety concerns facing the nurses in this region.

According to *The Australian* (10/3/08), such shocking working conditions "are typical of the types of trauma faced by nurses who work alone in communities where there is no doctor and no police officer, and no help from the community..." Somehow, despite various taskforce recommendations and zero tolerance policies that have been established in response to workplace violence in the nursing profession, incidents such as this one continue to occur.

PREVENTION AND MANAGEMENT OF VIOLENCE

The risk of violence towards RANs cannot be completely eliminated as their job involves interactions with people in often stressful or highly charged situations. Therefore, strategies to improve the personal safety of RANs must be aimed at minimising the incidence, duration and severity of violent incidents (Viitasara & Menckel, 2002). Brooks, Staniford, Dollard and Wiseman (2010) propose a model as shown in Figure 1 for the prevention of work related violence and aggression. They highlight multiple levels of intervention that might underpin prevention. We use their framework to propose intervention levels and strategies for the reduction of violence and aggression in remote area nursing workforce.

1. Support Strategies

Public awareness

In remote communities, ownership of, and active participation in the health service by community members can be positive strategies for reducing violence towards RANs. Unrealistic community expectations of the nurse have been identified as a source of occupational stress (Opie et al, 2010), and negotiating the nurse's role and community expectations can reduce this stress and reduce the potential for conflict. A sense of ownership of the health service, by the community, may also act as a protective factor. Community members should be involved in the recruitment, orientation and training of staff, as well as the development and implementation of strategies to reduce violence.

Negotiations with senior police and local police are also necessary to ensure adequate prevention and response to incidents of violence towards RANs. With the geographical isolation and the absence of resident police officers in some remote communities, there have been occasions where police have not responded to violent incidents against nurses. This has often been exacerbated by bans on overtime or limited resources. These issues need to be addressed.

Organisational culture and climate

Whilst the issue of workplace violence in the remote area nursing workforce has been acknowledged and responded to at a policy level, the organisational culture of many organisations still do not seem to take these policies seriously.

The Australian Nursing Federation (ANF) (2008) stipulates that "nurses and midwives have the right to expect that employers will implement policies and procedures supporting a zero tolerance approach to occupational violence and aggression". The

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Table 2.2 CPPT Model of Intervention Layers for the Prevention and Management of Aggression

Level	Aim	Strategy Areas	
SUPPORT STRATEGIES	<i>CULTURE</i> Encouraging a societal and organizational climate that underpins the entire program	Public awareness	Gaining community support through development of a communication and public awareness campaign with a variety of partners such as the police, media, and victim support centres.
		Org. Culture & Climate	Creating and maintaining an organizational climate that supports the goals of the anti-violence program by using principles of organizational justice in all policy and procedures, and measuring and building psychosocial safety climate, ensuring effective communication and collaboration with employees, and management commitment.
PRIMARY	<i>PREVENTION</i> Reducing opportunity for violent incidents to occur	Environment & equipment design	Making changes to physical aspects of the environment including layout and design of buildings, and the equipment and furniture within. Referred to as 'Crime prevention through environmental design' (CPTED), this strategy aims to minimise the likelihood and costs of violence.
		Job and task design	Altering job designs and staffing patterns to reduce situations where staff at higher risk of violence.
		Staff training and education	Strengthening the capacity of individual staff members to prevent/respond to violence in an educational program covering training in post-incident action, response, prevention, and theory.
SECONDARY	<i>PROTECTION</i> Implementing effective response strategies	Emergency situation response	Planning and educating staff on response strategies for when violence occurs or is imminent to help manage incidents safely and protect people involved.
TERTIARY	<i>TREATMENT</i> Abating the impact following violence and learning from incidents	Incident reporting	Implementing an effective and well used incident reporting system to provide a means of assessing risk and effectiveness of management strategies, and learning from events.
		Support for victims	Post-incident follow-ups, debriefing and evaluation to support victims and help them to cope after they have been involved in an incident.

Source: Reproduced with Permission from Brooks et al (2010), p. 347

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policy further specifies ways in which the safety and security of the physical environment can be improved, including “minimising public access points” and “implementing systems for staff to screen patients”. Of particular relevance to remote area nurses is the recommendation from the Australian Nursing Federation that employers “develop and implement policies and procedures for nurses and midwives working in isolation or external to the facility” in relation to violence and aggression in the workplace. Despite such policies and recommendations, however, the incidents of workplace violence do appear to be increasing.

There is an increasing need to actively implement these policies in administration and practice. The robust implementation of such policies will require the participation and collaboration of all stakeholders, including remote area nurses themselves, state and federal governments, unions, occupational health and safety representatives, and other professional bodies, such as CRANAP^{plus}. All stakeholders must present a firm and united front that sends a clear and indisputable message of zero tolerance of workplace violence.

In response to the alleged rape of the remote area nurse in the Torres Strait, an investigation was undertaken by the Queensland Health Ethical Standards Unit and a report was released that detailed the findings and relevant recommendations (Queensland Health, 2008, p. 3). Specifically, one recommendation advised that “a further full audit of Outer Island Health Centres and accommodation units be undertaken by organisation independent of Queensland Health to assess the progress of rectifying workplace health and safety deficiencies”.

Further to this, there is also capacity to establish zero tolerance assessment teams (Clements, DeRanieri, Clark, Manno, & Kuhn, 2005) to evaluate the needs of the workplace and oversee worksite-specific policies and procedures. Such teams may also support the role of an occupational health nurse who implements compulsory education programs that target the identification and management of violence in the workplace and the re-introduction of risk management as part of the remote health clinic orientation procedure. Additionally, there may be systems for mandatory reporting of violent and aggressive incidents.

Poor management practices, with a lack of support for RANs and a lack of responsiveness have been noted by several authors (Lenthall et al., 2009). The response by management to the incident in the Torres Strait sharply illustrates this. Education of managers and improved management practices such as: ‘careful staff recruitment, effective systems for monitoring and feedback, regular lines of communication, scheduled management visits, periodic ‘times out’ at head office and prompt management response to problems has been suggested” (Lenthall et al., 2009, p. 211).

Psychosocial safety climate concerns *freedom* from psychological and social risk or harm. Psychosocial safety climate (PSC) is defined as policies, practices, and procedures for the protection of worker psychological health and safety (Dollard, & Bakker, 2010). Dollard and Bakker argue that low PSC may be *the* preeminent psychosocial risk factor at work, preceding a range of psychosocial risk factors including aggression and violence. There is some empirical evidence to support this. Law, Dollard, Tuckey, and Dormann (2011) in a sample 30 organizations with 215 participants, found that in organizations where employees reported low PSC, there were higher levels of workplace bullying and harassment, more emotional and physical demands, and less supervisor support and procedural justice. Further low PSC was related to both health impairment and reduced engagement via these work conditions

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respectively. PSC is emerging as a lead indicator of workplace psychosocial hazards (high demands, low resources), psychological health and employee engagement, is and therefore an efficient target for intervention. As argued by Brooks et al., (2010), in order to reduce psychological and social harm, PSC should be targeted. Increasing PSC would be a useful strategy to prevent aggression and stress, to overcome the culture of acceptance and normalization, and to ensure that policies and practices are in place to assist workers recover if assaulted or distressed (Brooks et al., 2010).

Building PSC is described in detail elsewhere (Dollard & Karasek, 2010) and general principles can be applied to reduce aggression and violence through the enactment of relevant policies, practices and principles: as outlined by Brooks et al., (2010, pp. 348-9):

(1) senior management show support for aggression prevention through involvement and commitment; (2) participation and consultation in occupational health and safety issues related to aggression occurs with employees, unions, and occupational health and safety representatives; (3) the prevention of aggression involves all layers of the organization; (4) contributions to resolving aggression concerns in the organization are listened to; (5) workers are encouraged to report and are prepared to report; (6) there is good communication about risks, health, and safety; (6) action is taken to discipline unacceptable aggressive behavior – but does not punish honest mistakes; (7) the public is fully informed about the high PSC standards in relation to aggressive behavior in the healthcare setting, including their own rights and responsibilities; and (8) comprehensive reporting and monitoring systems are developed to identify and control antecedents.

2. Prevention

Environment & equipment design

Strategies to improve the safety of the physical work environment itself include improved security in the home, workplace and when attending to on-call or out-of-hours duties. Improved security might include security screens, adequate locks, alarm installation, Dallas Delta systems (phone systems) and security screens in nurses' residences. There has been considerable debate among RANs and managers concerning the use of high fences creating compounds. On the one hand it may improve security, while conversely, some people feel it creates a "them and us" mentality, negatively impacting on the relationship between the nurses and the community and indirectly increasing the risk to the nurses.

Job and task design

Given that working in isolation is consistently identified as a risk factor for violence against nurses (ICN, 2007) the practice of single nurse posts is particularly risky. According to Lenthall et al. (2011), there are currently fifty-nine (n = 59) single nurse primary health care (PHC) clinics in operational existence across the country. The majority of nurses in single nurse PHC clinics are employed by state and territory governments.

CRANA (2003) and the Australian Nursing Federation (ANF) (2004) do not support the employment of remote area nurses in single nurse posts due to increased stressors such as professional isolation, fatigue, safety, quality and exploitation. The relatively low number of Northern Territory Department of Health and Families single nurse clinics (n = 11) reflects the current policy of phasing out these clinics (Office of the Chief Minister, Northern Territory, 2004). Queensland, Western Australia and Aboriginal Community Controlled

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Health Organisations (ACCHOs) are yet to establish a similar policy. The evidence is indisputable – single nurse clinics need to be abolished.

In clinics with more than one nurse there are numerous times when the nurse is treating a client on his/her own. RANs are also one of few remaining professions who attend to call-outs at night and on their own. Job and task redesign could reduce the risk of violence against RANs by introducing measures that prevent RANs attending to clients on their own. Measures might include the co-attendance of Indigenous Health Workers or night drivers (if called out after dark) and should consider an overall increase in numbers of Indigenous workers employed by the health clinics. This would result in reduced 'alone' time for the RANs and may also function to de-emphasise the "them and us" mentality.

Staff training and education

Many RANs have reported that knowledge of the local community and culture can promote a positive relationship with community members and act as a protective factor against violence. RAN orientation and education should include modules that may assist RANs in developing these positive relationships, such as cross cultural education, cultural safety and Primary Health Care (PHC). Education on aggression management that aims to empower the nurse to control and diffuse an aggressive situation is also essential. This should include de-escalation skills (including communication and self protection strategies) and education relating to the identification of behavioural precursors to violence. Unfortunately, research undertaken in 2010 demonstrated that around 30% of registered nurses in very remote Australia received no formal orientation, and of the 70% who did receive some formal orientation, about 50% considered it to be inadequate (Rickard, Lenthall, Wakerman, Opie, Dunn, MacLeod, Dollard, & Knight, 2010).

3. Protection

Emergency situation response

The incident in the Torres Strait illustrated deficiencies in all areas including emergency response. The report by Queensland Health Ethical Standards Unit (Queensland Health, 2008, p. 4), advocated that

the Torres Strait and Northern Peninsula Health Service District (TSNPHSD) should, as a matter of urgency, develop and implement standard operation procedures (SOPS) detailing roles and responsibilities of staff members when responding to critical incidents involving the safety, security and welfare of staff within the district.

Strategies and policies should be developed to manage incidents and minimise the potential physiological and physical effects.

The Bush Support Services (BSS) is a *CRANApus* service specifically designed to support health practitioners in remote areas. Staff within this service provide a 24-hour telephone counselling service and participate in on-going projects to improve the well-being of nurses and other remote healthcare providers. The BSS has also developed a decision-making flow sheet for managers dealing with a critical incident.

4. Treatment

There is a requirement to report incidents of violence in many areas but there is a level of cynicism among RANs surrounding the response from management. Clear reporting guidelines need to be established, including guidelines that specifically relate to timely responses by management.

Support for victims is often difficult in remote areas as the usual reaction after a serious incident is to leave the position. Bush Support Services encourage RANs who have terminated their employment due to a critical incident to continue accessing their service.

RESEARCH AGENDA

The National Health and Medical Research Council (NHMRC) (2002) has developed a resource manual for remote and rural practitioners to assist them in preparing for and responding to violence in ways that will reduce its impact. However, according to the NHMRC (2002) the extent of the problem is yet to be fully documented, with a general lack of evidence on the incidence and prevalence of violence, and the associated risk factors in remote Australia.

As is likely the case in other countries there is currently a lack of national surveillance data that could be aggregated to provide more comprehensive information on these factors (Benveniste, Hibbert, & Runciman, 2005). Calls have therefore been made for a national monitoring system, to share and compare incidents, monitor trends and facilitate learning and response at all levels.

To understand and prevent violence against RANs further research is needed to identify and prioritise hazards. Questions that need answers include *what aspects of remote area nursing practice carry a risk of violence?* And *which hazards present the highest risk of violence in the remote health care context?* Research may include examining the environment, the nurse, the client and the organisation. Importantly the measures that could be implemented to decrease the risk of occupational violence towards RANs need to be investigated further.

Further research is required that deconstructs beliefs held by various stakeholders (sometimes even nurses themselves) regarding the professional call to care for those in need and the acceptance of personal risk to physical and psychological injury (Brooks et al., 2010). Research is required to establish whether workers with less experience are at additional risk of violence (Brooks et al, 2010) and to identify appropriate support mechanisms.

CONCLUSION

Workplace violence poses significant threat to the physical and psychological well-being of remote area nurses and to the sustainability of the remote health care workforce. Whilst a number of strategies across all levels have been identified in the response to and management of this issue, future research is essential to determine which of these strategies are most effective. Violence against RANs is occurring at unacceptable levels and is 'a

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APPENDIX M

ARTICLE BY RICKARD ET AL. (2012)

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Organisational intervention to reduce occupational stress and turnover in hospital nurses in the Northern Territory, Australia

Greg Rickard^{a,*}, Sue Lenthall, MPHTM^b, Maureen Dollard, PhD^c, Tessa Opie, B. Psych (Hons.)^c, Sabina Knight, RN^d, Sandra Dunn, PhD^e, John Wakerman, MBBS^f, Martha MacLeod, PhD^g, Jo Seiler, RN^h, Denise Brewster-Webb, RNⁱ

^a Healthcare Australia, Sydney, NSW, Australia

^b Centre for Remote Health, Australia

^c University of South Australia, Australia

^d Centre for Rural and Remote Health, Mt Isa, Australia

^e Charles Darwin University, Australia

^f Centre for Remote Health, Alice Springs, Australia

^g University of Northern British Columbia, Canada

^h Royal Darwin Hospital, Australia

ⁱ Alice Springs Hospital, Australia

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Psychosocial safety
climate

Summary

Objective: To evaluate the impact of an organisational intervention aimed to reduce occupational stress and turnover rates of 55% in hospital nurses.

Design: The evaluation used a pre- and post-intervention design, triangulating data from surveys and archival information.

Setting: Two public hospitals (H1 and H2) in the Northern Territory (NT) Australia participated in the intervention.

Subjects: 484 nurses from the two NT hospitals (H1, Wave 1, $N = 103$, Wave 2, $N = 173$; H2, Wave 1, $N = 75$, Wave 2, $N = 133$) responded to questionnaires administered in 2008 and in 2010.

* Corresponding author. Tel.: +61 2 9024 3262; fax: +61 2 9212 2611.
E-mail address: greg.rickard@healthcareaustralia.com.au (G. Rickard).

these changes may seriously challenge aspects of a person's health (Cox, 1993; McEwan, 2008).

Occupational stress can be costly to the employer. It has been associated with employees being absent from work, being present at work unwell and therefore not performing to capacity (i.e. presenteeism) and high turnover of staff (Bergerman et al., 2009). In a hospital setting stress may also contribute to a higher clinical error rate. The turnover of nurses in the NT of Australia in 2008 was estimated at 57% (Garnett et al., 2008). Employee turnover is costly to organisations because of the loss of experienced workers and corporate knowledge as well as the costs associated with lost efficiency, separation, replacement and training. Morale among the remaining employees may wane (Vanderkolk & Young, 1991, cited in Bergerman et al., 2009), particularly if positions remain unfilled and extra workload is created, thereby increasing stress among remaining staff (Bergerman et al., 2009). Australian workers' compensation data shows that the highest rate of mental stress claims per 100 000 employees in 2007–08 was from the health and community services sector (Australian Government, Productivity Commission, 2006).

Conceptual framework

The theoretical frame we used to understand work stress and its derivatives is the Job Demand-Resource (JD-R) Model (Fig. 1). The JD-R Model is a well established conceptual framework that examines job demands defined as the psychological, physical, social, or organisational aspects of the job, to which an employee is required to expend effort

in order to manage them. Possible outcomes of excessive job demands include emotional exhaustion, burnout and severe fatigue (Bakker, Demerouti, de Boer, & Schaufeli, 2003; Demerouti, Bakker, Nachreiner, & Schaufeli, 2001; Schaufeli & Bakker, 2004; Xanthopoulou, Bakker, Demerouti, & Schaufeli, 2007).

Job resources are defined as the "physical, psychological, social, or organisational aspects of the job" that may reduce job demands and their resultant adverse physiological and psychological consequences, or may promote personal development (Demerouti et al., 2001, p. 501) and lead to more positive work outcomes, such as work engagement and job satisfaction (Schaufeli & Bakker, 2004; Schaufeli, Bakker, Van der Heijden, & Prins, 2009). The JD-R Model reveals how job demands lead to adverse psychological health outcomes (e.g. psychological distress and emotional exhaustion) in a health erosion pathway, and how job resources lead to positive work outcomes (e.g. work engagement and job satisfaction) via a motivational pathway.

Recent research has suggested an extension to the JD-R framework to explain the origins of job demands, and job resources. Importantly several factors precede the way jobs are designed. In particular we expect that external factors such as political climate and public sector resources and system capacity factors combine to affect work conditions (Dollard & Karasek, 2010). System capacity factors concern aspects of an organisation that contribute to its resilience and comprise: a flexible and adaptable culture to external and internal change; employee consultation and preparation for the job; psychosocial safety climate, that

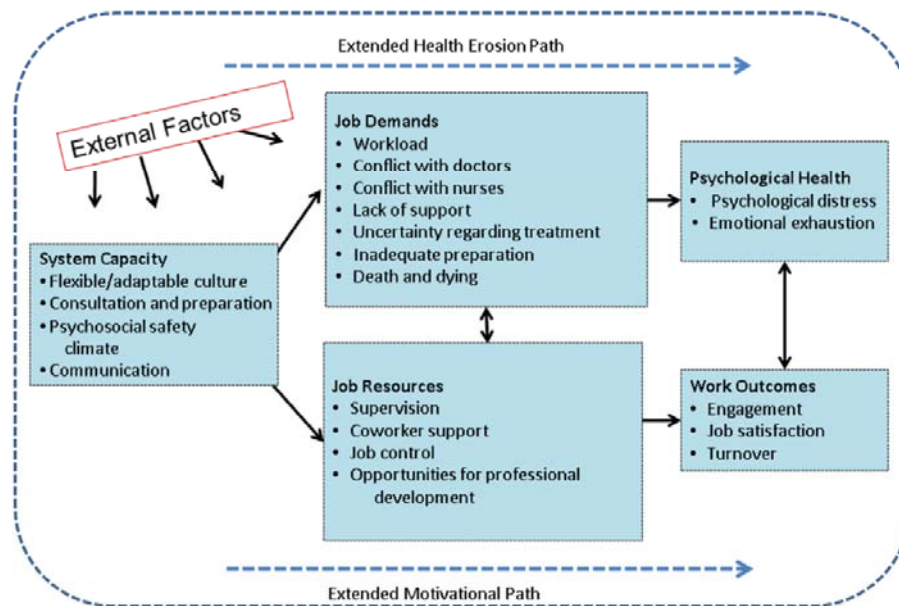


Figure 1 The extended JD-R Model.

Table 5 Job resources.

	H1 W1	H1 W2	H2 W1	H2 W2	Matched H1 W1	Matched H1 W2	Matched H2 W1	Matched H2 W2
<i>Supervisor support</i>								
N	103	167	70	136	13	13	18	18
Mean	10.17	11.43 ^{***}	10.46	11.06	9.15	10.54	10.83	10.89
SD	3.84	3.2	3.64	3.31	4.65	2.57	4.48	3.94
<i>Coworker support</i>								
N	102	170	70	136	13	13	19	19
Mean	10.73	11.63 ^{***}	10.37	10.81	10.23	11.69	10.58	10.63
SD	2.84	2.16	2.42	2.44	3.17	2.82	2.36	2.67
<i>Opportunities for professional development</i>								
N	103	169	71	135	13	13	18	18
Mean	9.35	9.94	10.18	10.7	8.15	9.54	10.66	10.44
SD	3.15	3.06	3.15	3.11	4.34	2.50	3.65	4.41
<i>Job control</i>								
N	99	157	68	128	12	13	16	16
Mean	25.96	30.15 ^{***}	27.60	28.15	26.33	31.33 [*]	29.00	30.69
SD	9.42	8.37	9.42	8.22	11.07	10.70	9.29	6.57

* $p < .05$.** $p < .01$.*** $p < .001$.- $p < .1$.**Table 6** Systems capacity.

	H1 W1	H1 W2	H2 W1	H2 W2	Matched H1 W1	Matched H1 W2	Matched H2 W1	Matched H2 W2
<i>Flexible and adaptable culture</i>								
N	100	170	71	135	13	13	18	18
Mean	4.32	5.07 [*]	4.55	5.19 [*]	4.38	4.77	4.36	5.22 [*]
SD	1.73	1.45	1.83	1.58	1.76	1.48	2.06	1.90
<i>Consultation and preparation</i>								
N	99	167	72	135	13	13	18	16
Mean	8.75	9.21	8.69	9.35	8.15	9.46	8.56	9.69 [*]
SD	2.95	3.15	2.92	3.01	3.34	2.96	3.05	3.45
<i>Communication</i>								
N	100	171	71	137	13	13	18	18
Mean	3.87	4.70 ^{***}	4.01	4.55 [*]	3.23	4.46 [*]	4.28	4.32
SD	1.73	1.69	1.78	1.75	1.88	1.20	1.56	1.68
<i>Psychosocial safety climate (PSC)</i>								
N	101	169	72	134	12	12	19	19
Mean	11.17	13.22 ^{***}	11.82	12.60	10.50	13.00 [*]	12.11	12.63
SD	3.4	2.94	3.26	2.94	4.17	3.02	3.03	2.99
<i>Total system capacity</i>								
N	93	164	68	128	12	12	16	16
Mean	24.12	28.20 ^{***}	25.07	27.79 [*]	22.00	27.25 [*]	25.37	28.63 [*]
SD	8.03	7.36	7.24	7.59	9.46	6.21	8.30	7.42

* $p < .05$.** $p < .01$.- $p < .1$.**NT hospital turnover**

In 2007, as part of a collaborative project between the NT DoH and Charles Darwin University, Garnett et al. (2008)

established specific measures including workforce turnover and stability that reflected the changes in turnover over the period of the implementation of the strategy. Table 8 identifies the turnover of nurses and midwives at the two hospitals

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APPENDIX N

ARTICLE BY DOLLARD ET AL. (2012)

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conditions, emotional exhaustion and psychological distress 24 months later in a different sample of remote area nurses occupying the same work unit.

Psychosocial safety climate is a property of the organization, and is largely driven by senior management (Dollard & Bakker, 2010). It reflects senior management commitment, participation and consultation in relation to stress prevention, and is a communicated position from management about the value of human psychological health and safety at work (Dollard, 2012). As management and supervisors play a significant role in its development, we expect that PSC will vary between organizations, work units and teams. Psychosocial safety climate is evident as a shared phenomenon, and empirically in several studies has shown robust group characteristics including both strong between-group (e.g. unit) variation and strong within-group agreement (Dollard & Bakker, 2010; Hall, Dollard, & Coward, 2010; Dollard, 2012; Law et al., 2011). In high PSC contexts managers will act to protect and enhance employee psychological health via policies, practices and procedures that influence work conditions.

Psychosocial safety climate is related to the safety climate construct that has been extensively studied for 30 years, and it is proposed as a latent pathogen for the likelihood of workplace accidents and injury due to physical hazards (Zohar, 2010). Safety climate within an organization is defined in terms of shared perceptions regarding policies, practices and procedures related to safety and protection from physical hazards in the workplace (Neal & Griffin, 2006). Particularly in high-risk industries the safety climate construct has been extremely useful for promoting best practice in occupational health and safety (OHS) (Cox & Cheyne, 2000). By contrast to physical health, psychological health and safety at work has received far less attention. Therefore, from a public health and social policy perspective, elaborating safety climate in terms of psychological health (i.e. PSC), is important to draw attention to it, to enhance policies, practices and procedures for the protection of the psychological health of employees (Dollard, 2012). In our view, psychosocial safety climate theory therefore addresses a major gap in theory that has emerged in the safety climate and work stress literature and is important for both theory and practice in that it connects the OHS and occupational health psychology literatures via the PSC construct (Dollard & Bakker, 2010).

Psychosocial safety climate is different from *safety climate* because it focuses on psychosocial rather than physical hazards, and on psychological rather than physical health (Dollard, 2012). Psychosocial safety climate is a component of organizational climate but, following recommendations by Schneider (2000), it is defined specifically – as, for instance, “climate for service” (Dollard & Bakker, 2010). It is a facet-specific aspect of organizational climate, a climate *for* psychological health and safety (i.e. freedom from psychological harm). In essence it is a high fidelity safety climate measure.

Psychosocial safety climate theory builds on earlier work that considers a link between OHS and work stress (for example, Glendon, Clarke, & McKenna, 2006). It is broadly consistent with organizational health frameworks (e.g. Wilson, DeJoy, Vandenberg, Richardson, & McGrath, 2004) that emphasize the important influence of overall organizational climate on job design and in turn psychological health and morale. Previous research has theorized that safety climate is related to psychological strain and in turn safety outcomes, e.g. injuries, near misses (see for example, Goldenhar, Williams, & Swanson, 2003). But the safety climate construct itself has

not been specifically related to psychological health and wellbeing, and job design characteristics (such as workload) have not been proposed as the mechanism linking safety climate to psychological health.

In its specific focus on psychological health, PSC is also distinct from constructs such as team psychological safety (Edmonson, 1999), and perceived organizational support (Eisenberger, Huntington, Hutchison, & Sowa, 1986). Empirically it is divergent from these constructs and was found to be a better predictor of workload, emotional demands and psychological demands in a Malaysian sample, and psychological distress and emotional exhaustion in both a Malaysian and Australian sample (Idris, Dollard, Coward, & Dormann, 2012).

An important challenge in work stress research is to identify the correct origins of work stress, so that intervention efforts are guided to the most efficient and effective target. Current research is shaped by dominant work stress theories that focus on job task conditions as the origins of work stress. The theories propose, for example, that work stress arises when high job demands are combined with low levels of control (i.e. Job Demand-Control theory, Karasek, 1979), and support (Job Demand-Control-Support (DCS) theory, Johnson & Hall, 1988), or more generally when job demands are not balanced by adequate resources (Job Demands-Resources theory, Demerouti, Bakker, Nachreiner, & Schaufeli, 2001). However, organizations are complex multi-layered systems (Mathieu & Taylor, 2007) therefore the origins of work stress could reasonably lie in the dynamic interplay between different levels of influences (e.g. the organization, work unit and/or individual). Calls have been made to integrate meso-thinking into organizational research (Hackman, 2003), and specifically for multilevel work stress models (Kang, Staniford, Dollard, & Kompier, 2008; Sauter et al., 2002). Psychosocial safety climate theory, as presented in the current paper, offers a multilevel perspective on work stress because according to the theory the genesis of stress, PSC, is further upstream than is commonly considered.

A particular process via which the relationship between PSC and worker psychological health exists can be explained via reference to the Job Demand-Control-Support Model. According to the DCS model, three dimensions of work, job demands, job control and job support, are related to psychological strain. Job demands are commonly operationalized in terms of quantitative demands such as workload or work pressure (Karasek, 1979) and qualitative demands, such as emotional demands (Karasek et al., 1998). Job control refers to two components; skill discretion, which reflects the opportunity to utilize specific job skills at work, and decision authority which reflects the opportunity for decision making about how the job is done. Social support at work “refers to overall levels of helpful social interactions available on the job from both co-workers and supervisors” (Karasek & Theorell, 1990, p. 69). In the current study we operationalize demands, control and support similarly.

When workers are faced with chronic demands without the opportunity for control over timing, pace, or decisions regarding demands, or without helpful supportive inputs from others (i.e. helping to get the job done), psychological strain can result. Further, job control and social support help meet basic human needs: such needs for autonomy and affiliation (Deci & Ryan, 2000), and in low supply are potentially important stressors. Empirical evidence from major reviews of the DCS model from 1979 to 2007 (van der Doef & Maes, 1999; Häusser, Mojzisch, Niesel, & Schulz-Hardt, 2010) and of longitudinal studies (de Lange, Taris, Kompier,

Houtman, & Bongers, 2003), generally supports a main effects model whereby demands, control and social support additively predict psychological strain. In this paper we define psychological strain as an individual's negative emotional response to a stressor (Greenhaus & Parasuraman, 1987). We operationalize it in terms of emotional exhaustion, the most common indicator of burnout (Demerouti et al., 2001) and psychological distress that incorporates common reactions to stressors such as anxiety, depression, social dysfunction and loss of confidence (Gao et al., 2004). In line with DSC theory we propose the following hypothesis:

Hypothesis 1. High job demands (*H1a*), low job control (*H1b*) and low social support (*H1c*) will predict high psychological strain.

Specifically, job design factors will explain variance in perceived strain that is due to between-group effects (i.e. due to work unit effects). We propose this because in this study we are interested in understanding the antecedent processes to worker psychological strain that arise from the characteristics of the work unit. We contextualize the DCS model by putting work unit PSC in the foreground as a "cause of the causes" of task condition outcomes (Dollard, 2012). As managers are responsible for the way jobs are designed (Yukl & Fu, 1999), we expect that in high PSC contexts where managers are vigilant and concerned about worker wellbeing, jobs will be designed within the unit so that workers will be able to manage the demands they face (Dollard, 2012). Managers will monitor and adjust work demands to enable workers to get the job done. A lack of regard for worker psychological health may lead managers to ignore working conditions that pose a risk to worker wellbeing. Over and above individual perceptions of job conditions these managerial responses will lead to differences in perceived job design *between work units*. In this study we operationalize demands in terms of emotional demands and workload and propose:

Hypothesis 2a. Work unit psychosocial safety climate will negatively account for between-group variance in perceived job demands.

Psychosocial safety climate theory also proposes that in high PSC contexts, managers also ensure that workers have sufficient resources to do the job (Dollard & Bakker, 2010; Dollard, 2012). Senior managers play a substantial role in establishing the tone of organizational climate and allocating resources (Flin, Mearns, O'Connor, & Bryden, 2000). In particular, when managers are supportive of worker wellbeing, they would be expected to give workers the freedom to develop new skills, and give control over work methods and timing of tasks (Brown & Leigh, 1996). This leads to the next hypothesis:

Hypothesis 2b. Work unit psychosocial safety climate will positively account for between-group variance in perceived job control.

Similarly, in high PSC contexts managers would be aware of the essential role of social support, both emotional and instrumental, in getting the job done in a meaningful way. We expect managers would elicit supportive and cohesive relationships from both coworkers and supervisors. There is evidence linking PSC to supervisor support (Law et al., 2011).

Hypothesis 2c. Work unit psychosocial safety climate will positively account for between-group variance in perceived social support.

Taking the above paths together, we propose a process via which PSC is linked to psychological strain. This gives us our next hypothesis:

Hypothesis 3a. Job demands will mediate the between-groups relationship between psychosocial safety climate and perceived psychological strain.

In support of Hypothesis 3a, in a multilevel longitudinal study of education workers, Dollard and Bakker (2010) found a mediated relationship between PSC and change in psychological strain via emotional demands and work pressure. Further, Law et al., (2011) in a cross-sectional multilevel multi-occupational sample found PSC predicted between-organizational variance in bullying and harassment that in turn was related to between-organizational variance in strain.

In line with the theoretical premise of DCS theory that low job control is associated with psychological strain, we similarly expect the following:

Hypothesis 3b. Job control will mediate the between-groups relationship between psychosocial safety climate and perceived psychological strain.

Previously researchers have found that PSC predicted change in skill discretion; skill discretion in turn predicted psychological distress but not emotional exhaustion (Dollard & Bakker, 2010). We also expect that social support would be a mechanism via which PSC would relate to psychological strain. Therefore:

Hypothesis 3c. We expect that social support engendered by positive PSC would also mediate the between-groups relationship of PSC on psychological strain.

Although previously proposed, this mediation hypothesis was not then supported (Law et al., 2011).

Our study focuses on nurses because of their reported high levels of occupational stress (Dollard, LaMontagne, Caulfield, Blewett, & Shaw, 2007). Manifestations of nursing stress include psychological distress (Edwards, Burnard, Coyle, Fothergill, & Hannigan, 2000), and emotional exhaustion (Aiken, Clarke, Sloane, Sochalski, & Silber, 2002). Reviews suggest that workload and emotional demands (Michie & Williams, 2003), and a lack of control and social support (McVicar, 2003) are common nurse stressors.

Nurses working in remote regions also experience high levels of occupational stress (Opie et al., 2010). Remote communities themselves often suffer poor health outcomes and have the least access to health resources (Australian Institute of Health and Welfare, 2008). Remote nurses play an important professional role (e.g. primary health care, health promotion and disease prevention, accident and emergency) to these disadvantaged populations, because in those locations they are the predominant professional health service group. Yet the high level of stress that they experience is likely to impact on the quality of patient care and amplify workforce turnover (Lenthall et al., 2009).

In occupational health psychology it is advocated that research studies use a longitudinal design in order to overcome problems due to common method, reversed causation and third variables (e.g. negative affectivity) (Zapf, Dormann, & Frese,

1996). However, longitudinal research is a particular problem in relation to remote area nurses because of the high turnover. Multilevel modelling offers a potential mechanism to explore climate phenomena even in the context of high turnover. As PSC is proposed as a property of the organization, theoretically, PSC measured at the work unit level should predict work conditions and also the psychological health of different workers in that same unit at a later point in time. This process is possible theoretically as the phenomenon of PSC is independent of the individual workers in a unit, and is a result of organizational policies, practices, procedures and management values. In this context longitudinal research can be carried out at the level of the work unit rather than at the level of the individual.

Multilevel modelling (e.g. using HLM Raudenbush, Bryk, Cheong, & Congdon, 2005) enables researchers to combine upper- and lower-level data sets from independent sources so long as the data sets have a common identifier (e.g. organization, work unit). Previous longitudinal PSC research in police officers split data at the upper (police station) level (Dollard, Tuckey, & Dormann, 2012). PSC was found to moderate a lower interaction between perceived emotional demands and resources in predicting distress; this result was verified using PSC assessed by "other officers" within the same station. Combining data sets from different sources enables a strong test of the fundamental idea of climate as a property of the organization (independent of the individual). Moreover, any relationships that are uncovered are not due to common method. In our study we used data sets from a completely independent group of respondents at each point in time; the first group assessed the climate, and the second group reported on work conditions and psychological health status. This method also overcame the problem of employee turnover.

Finally, we chose to study data separated by 24 months to enable adequate time for the manifestation of the main variable PSC. A low level of PSC may be considered to be a social stressor, and in this respect a 24-month lag is recommended to show effects on psychological strain (Dormann & Zapf, 2002). The effect of PSC on work conditions and psychological distress has already been detected within 10 months (Dollard & Bakker, 2010). As organizational climate is defined as a relatively enduring characteristic of an organization (Moran & Volkwein, 1992, p. 20), a subsidiary aim was to determine if PSC would have sustained effects over a much longer period.

Method

Design and participants

A structured questionnaire was mailed at each time point to 1007 nurses working in very remote isolated settlements in regions across Australia in 2008 (Time 1) and 2010 (Time 2). Various recognized methods were adopted to maximize survey return, including contact with health clinics before and after survey distribution, personalized cover letters and non-monetary rewards (Nakash, Hutton, Jørstad-Stein, Gates, & Lamb, 2006).

Ethics approval was granted by four relevant health and university ethics committees. The voluntary nature of the study and confidentiality was explained to

participants via letter, and surveys were returned directly to the researchers. Surveys from Time 1 and Time 2 were matched via a personal code provided by respondents.

Responses at Time 1 were $N = 349$ remote area nurses (35% response rate) from 165 different work units. At Time 2 we received responses from $N = 435$ remote area nurses (43% response rate) from 170 different work units. We selected into the study work units that had at least two responses at Time 1 and at least one response at Time 2. To ensure no overlap of individuals between the two time samples, we deleted those who responded at both Time 1 and Time 2 ($N = 44$ participants). Within the final 48 work units there were $N = 202$ participants at Time 1, and $N = 163$ participants at Time 2. In the data set, average organizational group size at Time 1 was 4.2, and at Time 2 it was 3.4. This compares well with the average size of the work units in the population, which was 4.0. At Time 2, organizations with only one participant ($N = 20$) were allowed as we were trying to predict between-group variance as discussed below.

Representativeness of the sample

The representativeness of the sample obtained at Time 1 ($N = 349$) is described elsewhere and was established in terms of age and gender, proportions of representation by Australian states, and proportion working in very remote clinics (Opic et al., 2010). The final selected samples at Time 1 and at Time 2 were representative of the original sample by gender (non-significant chi-square tests), and age (non-significant unrelated samples t -test). The only difference between the final samples was that workers were slightly older in the Time 2 sample $t(363) = 2.46$ $p < .05$. To summarize, women comprised around 86% of the participating samples, and the average age was around 44 years.

At Time 1, average years in current position ranged from 0 to 26 years, with an average of 2.66 years ($SD = 4.34$). Many had been in their position for 1 year or less (40%), and 74% for two years or less. The sample at Time 2 was very similar.

The 48 work units were mainly from public sector state government services ($N = 42$, state government; $N = 5$ Aboriginal Community Controlled Service; and $N = 1$ private provider), from across six states of Australia, and there were 25 different employers. Most work units were remote hospitals, defined as health centres with inpatient facilities ($N = 22$), or very remote primary health care clinics that did not have inpatient facilities ($N = 22$).

Measures

Psychosocial safety climate. It is proposed that PSC has four domains: management support and commitment, organizational communication, organizational participation and involvement and management priority (Hall et al., 2010). This was measured using a four-item scale reported by Dollard and Bakker (2010) (we excluded management priority). Items relate to issues of stress prevention and occupational health and safety, i.e. "Senior management shows support for stress prevention through involvement and commitment"; "In practice, the prevention of stress involves all levels of the organization"; "In my organization my contributions to resolving occupational health and safety concerns regarding psychological well-being are listened to"; and "Participation and consultation in occupational health and safety issues occurs with employees, unions and occupational health and safety

representatives". Responses in this study are on a 5-point scale ranging from 0 (*strongly disagree*) to 4 (*strongly agree*). Cronbach's alpha (α) was .82 at Time 1 and .78 at Time 2. We also found that unit level PSC at Time 1 was related to between-group variation in PSC at Time 2, indicating a stability in this measure beyond individual perception, $\gamma = .30$, $SE = .13$, $p < .05$.

Previous research with this four-item scale (Dollard & Bakker, 2010) has shown that PSC has good group-level properties, with a mean $r_{(WG)}(j)$ agreement index (James, Demaree, & Wolf, 1984) of .76, suggesting homogeneity of perceptions within work units, and significant between-group variance, ANOVA, $F(17, 190) = 3.90$, $p < .001$, with an intra-class correlation coefficient, (ICC) (1) of .22, indicating 22% of the variance in PSC is explained by differences between work units. The ICC (2) or reliability of the group mean was .74, reaching the $\alpha > .70$ threshold (Nunnally, 1978). Dollard and Bakker (2010) showed that high PSC was associated with lower sickness absence and burnout, and higher skill discretion across time, thus showing adequate predictive validity. The scale showed good psychometric qualities, and there was sound justification for assuming that the tool assesses a "shared" climate construct (Bliese, 2000).

Psychological strain. Emotional exhaustion was measured with the first four items of the five-item subscale from the Maslach Burnout Inventory General Survey (MBI-GS; Schaufeli, Leiter, Maslach, & Jackson, 1996) with items such as "I feel emotionally drained from my work", and responses corresponding with a 7-point scale ranging from 0 (*never*) to 6 (*everyday*) (α was .93 at Time 1 and .94 at Time 2). *Psychological distress* was measured using the General Health Questionnaire-12 (GHQ-12) (Goldberg & Williams, 1991). The GHQ-12 assesses change in general well-being and psychological health in the past two weeks, and includes 12 items such as, "Have you recently lost much sleep over worry?". Participants are required to respond on a 4-point scale ranging from 1 (*not at all*) to 4 (*much more than usual*). The GHQ is a well-established scale with high internal consistency as found here (α at Time 1 was .91 and at Time 2 was .88).

Demands. Workload was assessed using the format "How often do you?" followed by five items such as "Perform excessive overtime" and "Perceive your workload as unmanageable" with a 7-point rating scale ranging from 0 (*less than once a year*) to 6 (*everyday*) (α at Time 1 was .83 and at Time 2 was .83). *Emotional demands* were assessed using a three-item subscale from the well-established Copenhagen Psychosocial Questionnaire (COPSOQ) (Kristensen, Hannerz, Høgh, & Borg, 2005). An example item is, "Does your work put you in emotionally demanding situations", with responses from 1 (*very rarely/never*) to 5 (*very often/always*). The internal consistency in this study was sound (α at Time 1 was .83 and at Time 2 was .80).

Job control. In line with Karasek's original formulation of job control as "decision latitude" we combined the *influence at work* subscale (10 items) (e.g. "I have some influence on how I do my work") and the *degree of freedom* subscale (four items) (e.g. "I can decide when to take a break") of the COPSOQ. Responses are on a 5-point scale, ranging from 1 (*never*) to 5 (*always*) (α at Time 1 was .84 and at Time 2 was .81).

Social support. Supervisor support and co-worker support were measured using the relevant subscales of the Job Content Questionnaire (JCQ) (Karasek et al., 1998). Each subscale comprises four items, such as “My supervisor pays attention to what I am saying” and “People I work with are competent in doing their job” respectively. Responses were on a 5-point scale, ranging from 0 (*strongly disagree*) to 4 (*strongly agree*). Cronbach’s alpha for supervisor support (α at Time 1 was .90 and at Time 2 was .94), and for co-worker support (α at Time 1 was .85 and at Time 2 was .79) were acceptable.

Demographics. Participants were asked about age, gender and time in position.

Statistical analyses

We used hierarchical linear modelling (HLM) as the main statistical analysis strategy using HLM 6.06 software (Raudenbush et al., 2005). Our data were nested, individuals within work units ($N=48$), under different employers ($N=25$). This implies the need for a three-level HLM model; we ruled this out because there was no significant random variance due to employer in the three-level model. We proceeded with a two-level model.

We used Statistical Package for the Social Sciences (SPSS) for Windows, version 16, to create two data files for HLM. The Level 2 data file was aggregated at the work unit level; the variables in this file were from both Time 1 and Time 2, merged to form a single aggregated data set. Data could be matched across time at the work unit level. The Level 1 data file was at the individual level, and individual responses at Time 1 and Time 2 within this data set could not be matched. The data files were linked via the work unit variable.

Modelling mediation in multilevel models is very complex. Zhang, Zyphur, and Preacher (2009) suggest that it is important to consider the variance in the criterion measure that is due to between-group effects (i.e. due to the unit, or organization), and within-group effects (i.e. individual influences, such as personality). It is important to note that because PSC varies only between Level 2 work units, it cannot be associated with differences *across people* within units i.e. individual differences in psychological strain. It can however be associated with variance that is due to differences *between groups* in work conditions and in psychological strain. Therefore, following Zhang et al. (2009) we focus on the between-group mediation effect only.

In preparation we assessed baseline random coefficients models to determine the relative magnitude and significance of variance that resides within and between Level 2 units, for each Level 1 mediator and criterion variable, to establish that sufficient between-group variance existed to warrant prediction.

Next we assessed the effects of the components of the mediation path ($X \rightarrow M$, $M \rightarrow Y$) determined in the following steps. Note that each Level 2 $\rightarrow$ Level 1 relationship is of a between-groups effect; Step 1 tested the Level 2 M (mediators, job demands, job control, supports Time 2) $\rightarrow$ Level 1 Y (psychological strain Time 2) relationships as proposed in Hypotheses 1a, b and c.

Step 2 tested Level 2 X (PSC Time 1) $\rightarrow$ Level 1 M , proposed as Hypotheses 2a, b and c. Step 3 tested the Level 2 M (Time 2) $\rightarrow$ Level 1 Y (Time 2) relationship with Level 2 X (Time 1) in the model, not adding any significant additional variance to ascertain full mediation (Hypotheses 3a, b, c). Following Zhang et al. (2009), we

used group-mean centred analysis for lower level independent variables, and reintroduced the means for the variable at Level 2 in Step 3 (between-group effects are the ones of interest in the study). Example equations are available from the first author on request.

Finally, we formally assessed the significance of the indirect effect of PSC on psychological strain (i.e. the between-groups mediation) using a Monte Carlo approach that utilizes confidence intervals (Bauer, Preacher, & Gil, 2006; Selig & Preacher, 2008). This approach is thought to be superior to Sobel tests (MacKinnon, Lockwood, & Williams, 2004).

To confirm that PSC could be validly aggregated to the group level we assessed: (1) the between-group variance relative to within-group variance using the ICC (1); the homogeneity of perceptions within units using the James, Demaree, and Wolf (1984) mean $r_{(WG)(j)}$ agreement; and the reliability of the measure at Level 2, i.e. the ICC (2).

There was significant between-group variance as indicated by one-way ANOVA, $F(45, 107) = 1.77, p < .01$. The ICC (1) at Time 1 indicated that 15% of the variance in PSC was due to work unit-level effects. The reliability of the group mean, the ICC (2) for Time 1 was .85, reaching the threshold of .70 (Nunnally, 1978). These results indicated that aggregating PSC to the unit level was justified.

Results

Means and standard deviations are shown in Table 1. There were no differences between work conditions and psychological distress in the Time 1 and Time 2 samples; however, emotional exhaustion was significantly lower at Time 2. As shown in Table 1, chi-square results from the baseline models showed that sufficient variance resided between work units to warrant prediction by between-group factors for workload, emotional demands, job control, supervisor support, co-worker support and emotional exhaustion (all at Time 2). For example, nearly 32% of the variance in workload was due to group effects.

Mediation model: Emotional exhaustion as outcome

Step 1 tested Hypothesis 1, that Level 2 work conditions (mediators) will be related to Level 1 psychological strain. As shown in Table 1, at Level 2 (our central interest), demands, control, and co-worker support, but not supervisor support were significantly related to emotional exhaustion (column 8, with *Variables* as column 1), supporting Hypotheses 1a and 1b, with partial support for 1c.

Step 2 tested Hypothesis 2, that Level 2 PSC Time 1 is significantly related to the Level 1 mediators Time 2. As shown in Table 1 (last column), Level 2 PSC at Time 1 was significantly negatively related to Level 1 workload at Time 2 $\gamma = -.92, SE = .33, p < .05$ but not to emotional demands; this is in partial support of Hypothesis 2a. PSC was positively related to job control, supporting Hypothesis 2b. PSC was positively related to supervisor support but not to co-worker support. This is partial support for Hypothesis 2c.

Step 3 required that $M \rightarrow Y$ between-groups relationships were significant with X in the model. As shown in Table 2, at Level 2, only workload Time 2 was significantly related to Level 1 emotional exhaustion Time 2. This effect was over and above Level

Table 1. Means, standard deviations, variance and between-group effects.

Variable	Time 1		Time 2		Baseline model		Y		Y		X	
	Mean	SD	Mean	SD	Chi-square df 45	% Variance	Emotional Exhaustion ^a Time 2		Psychological Distress ^a Time 2		Safety Climate ^b Time 1	
<i>M</i>							<i>M(T2)_j → Y(T2)_j</i>		<i>M(T2)_j → Y(T2)_j</i>		<i>X(T1)_j → M(T2)_j</i>	
Workload	17.48	5.09	12.96	5.10	106.75***	31.69	0.67 (0.13)***		0.28 (0.11)*		0.92 (0.33)*	
Emotional demands	7.09	1.72	7.35	2.39	62.58*	7.27	1.29 (0.26)***		0.97 (0.21)***		-0.17 (0.11)	
Job control	24.89	5.07	25.46	6.48	64.65*	6.05	0.28 (0.10)**		0.36 (0.10)**		0.54 (0.24)*	
Supervisor support	10.34	2.32	10.38	3.93	117.96***	34.47	0.13 (0.23)		0.34 (0.16)*		0.48 (0.17)**	
Co-worker support	10.95	1.81	11.45	2.47	70.07*	11.21	-0.69 (0.28)*		-0.94 (0.21)***		0.19 (0.11)	
<i>X</i>											<i>X(T1)_j → X(T2)_j</i>	
PSC	7.72	3.61	8.37	3.38	98.12***	26.14					0.30 (0.13)*	
<i>Y</i>											<i>X(T1)_j → Y(T2)_j</i>	
Emotional exhaustion	14.66	7.67	10.33	6.60	65.18*	8.90					-0.29 (0.10)**	
Psychological distress	14.05	5.85	12.86	6.04	49.07	1.23					0.20 (0.10)	

Note: ^aHLM regression analysis, parameter estimates with standard errors in brackets, all Level 2 → Level 1. Means and SDs are at the work unit level, however *Y* (dependent measure) is at the individual level. *X*=independent measure PSC; *M*=mediator.

p* < .05, *p* < .01, ****p* < .001.

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1 within-groups effects in the model (i.e. individual workload, emotional demands and job control, Time 2, were significantly related to emotional exhaustion Time 2). The final model accounted for 90% of the between-group variance and the R^2 for the total model was 35%. In the final model PSC was no longer significant consistent with full mediation.

Hypotheses 3a, b, c, proposed that the between-groups relationship between Level 2 PSC and exhaustion will be mediated via job demands, job control and job support.

To test these hypotheses we took the parameter estimate of $X \rightarrow M$ (Table 1) along with the between-group result $M \rightarrow Y$ from Table 2. We found a significant mediation effect PSC Time 1 $\rightarrow$ workload Time 2 $\rightarrow$ emotional exhaustion Time 2, using the Monte Carlo method, with the 95% Confidence Interval (CI), Lower Level (LL) = $-.57$, Upper Level (UL) = $-.08$. Note that the 95% confidence interval for the indirect effects did not contain zero, therefore the result is significant.

Hypothesis 3a was supported and the effects are shown in Figure 1. There was no support for Hypothesis 2b (mediator job control), or 3c (mediator supervisor and co-worker support).

Another potential path linking PSC to strain is via Time 1 work conditions. PSC Time 1 was related to emotional demands Time 1, $\gamma = -.24$, S.E. = .11, $t = -2.13$. As shown in Table 2, emotional demands at Time 1 were in turn related to emotional exhaustion at Time 2. The mediation effect was significant, 95% CI, LL = $-.54$, UL = $-.01$ (see Figure 1), providing additional support for H3a.

Table 2. HLM random coefficient models of psychological strain

	Emotional Exhaustion Time 2 $M(T2) \rightarrow Y(T2)$	Psychological Distress Time 2 $M(T2) \rightarrow Y(T2)$
	Estimate (SE)	Estimate (SE)
<i>Level 1 (Within-groups effects)</i>		
Supervisor support T2	-0.08 (0.18)	-0.33 (0.19)
Job control T2	-0.25 (0.07)***	-0.26 (0.08)**
Workload T2	0.27 (0.06)***	0.17 (0.08)**
Emotional demands T2	0.45 (0.19)**	0.22 (0.18)
<i>Level 2 (Between-groups effects)</i>		
Intercept	-4.26 (4.51)	5.49 (5.08)
Psychosocial safety climate T1	-0.14 (0.18)	-0.11 (0.23)
Supervisor support T2	0.14 (0.19)	-0.19 (0.20)
Job control T2	-0.12 (0.08)	-0.30 (0.14)*
Workload T2	0.44 (0.09)***	0.48 (0.09)
Emotional Demands T1	0.68 (0.25)**	0.22 (0.22)
<i>Variance components</i>		
Baseline		
Work unit $\mu\theta$	3.39*	0.01
Individual r	40.40	34.92
Final model		
Work unit $\mu\theta$	0.34	0.08
Individual r	27.96	25.02

Note: * $p < .05$, ** $p < .01$, *** $p < .001$. Variance components refers to variance unexplained; μ = work unit error; r = individual-level error.

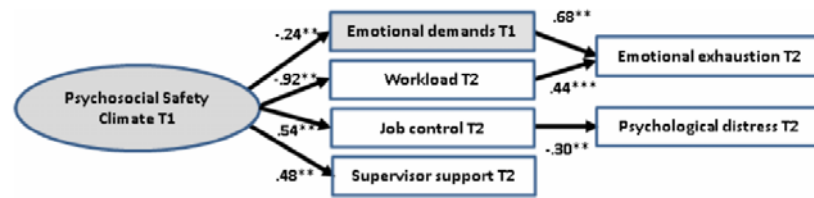


Figure 1. Mediation model and main effects. Shaded boxes refer to Sample T1 ($N=202$); clear boxes refer to the “different” sample T2 ($N=163$). Independent samples are matched by work unit ($N=48$). Time 1 $\rightarrow$ Time 2 lag is 24 months. The model is a between-groups effects model. Values are unstandardized parameters.

Mediation model: Psychological distress as outcome

Next we considered the mediation hypotheses with GHQ (psychological distress) as the outcome. Between-unit variance was not significant for GHQ. As explained by Mathieu and Taylor (2007) a significant effect provides reassurance that there is significant variance to be predicted, but they explain that a lack of a significant chi-square does not rule out a cross-level effect because “ χ^2 is an omnibus test that has relatively low power to detect such differences” (Mathieu & Taylor, 2007, p. 158). They recommend that researchers proceed to test a priori theorized cross-level relationships even if the chi-square test is not significant.

Step 1 tested the Level 2 M (stressor Time 2) $\rightarrow$ Level 1 Y (psychological distress Time 2) relationships (see Table 1, column 9); each was significant, providing additional support for Hypotheses 1a, b, c. Step 2, Level 2 $PSC \rightarrow$ Level 1 M relationships (Table 1, last column) were confirmed above, showing that PSC was related to workload, control and supervisor support, all eligible mediators for Step 3.

Step 3 required significant Level 2 $M \rightarrow$ Level 1 Y relations with X in the model. Level 2 job control Time 2 was significantly negatively related to psychological distress Time 2. The final model R^2 was 28%. Monte-Carlo results showed significant between-groups indirect effects, PSC Time 1 $\rightarrow$ job control Time 2 $\rightarrow$ psychological distress Time 2, 95% CI, LL = $-.37$, UL = $-.01$. This supports Hypothesis 3b, but not Hypotheses 3a or 3c. No Time 1 work conditions were related to distress at Time 2.

At this juncture, it is important to consider the directionality of the relationships and whether the reverse of the hypotheses is true. Only two of the seven reverse effects of work conditions and strain at Time 1 on PSC at Time 2 were significant: workload Time 1, $\gamma = -.18$, S.E. = $.08$, $p < .05$, and emotional demands Time 1 $\gamma = -.41$, S.E. = $.17$, $p < .05$, were related to PSC Time 2.

Discussion

This study is one of the first to examine the multilevel PSC theoretical framework and specifically PSC as a “cause of the causes” of hazardous work conditions (i.e. psychosocial risk factors), and psychological strain. In doing so, it is one of a small but fortunately growing number of studies that considers the multilevel aetiology of work stress. We tested a multilevel model of work stress, and found cross-level effects

of PSC estimated at a group level, on Time 2 work conditions (workload, job control, supervisor support) and psychological strain (emotional exhaustion) at the individual level. We found that the individual experience of exhaustion and distress may be predicted by the climate context, and that the mechanism may be explained by the mediation effect of work conditions. It is notable that the expected effects of work unit PSC on exhaustion and distress were found in an unrelated sample (i.e. other members of the unit) two years later via effects on work conditions (demands, control). Our study relied on data from one cohort linking to data from a completely independent cohort over 24 months. A positive feature of the design is that it ruled out test-retest effects; on the other hand it must be acknowledged that matching at the individual level would have been a true longitudinal design.

Our study has the potential to make a valuable contribution to the work stress literature in several respects. First, we showed the effects of work unit-level PSC on work conditions and the psychological health of workers 24 months later. Previous research has shown the long-lasting effects of safety climate whereby workgroup safety climate showed effects on individual safety behaviours over time (Neal & Griffin, 2006). Our study is similar in that climate (in this case PSC) showed effects, but the target was different; in this case PSC showed effects on emotional distress, an outcome that was present in a different sample two years later.

Second, the multilevel design enabled us to use completely independent data sets from Time 1 to Time 2 (recall participants who participated at Time 1 and Time 2 were removed from the study) so that in testing PSC effects, artefacts involving individual perceptual bias, common method effects or other personal predisposition factors were designed out of the study. This design also enabled us to examine the aetiology of work stress in a high-risk industry. A particular challenge in the field is the longitudinal study of stress in workers in high-turnover industries when analyses are conducted at the individual level. Yet the threat to an individual-level repeated measures study design, i.e. turnover and increased sickness absence, is a likely outcome of stress and precisely the reason why the occupation is of interest to study in the first place. Our multilevel design assisted the research by utilizing data over time matched by work unit, making it possible to study effects over time at the level of the work unit rather than the individual.

Thirdly, our study enabled, for the first time, the examination of the direction of relationships proposed in PSC theory (Dollard & Bakker, 2010), albeit at the level of the work unit – we cannot claim this at the individual level because we could not test this relationship. We found that the relationship was generally in the direction of PSC → psychological strain and work conditions. We did not find a relationship here predicting Time 2 emotional demands from PSC, but we did find that PSC was cross-sectionally related to emotional demands. Also we detected a reverse effect of emotional demands on PSC. The hypothesised relationship has been shown previously, controlling for baseline levels of emotional demands (Dollard & Bakker, 2010) and using a shorter 12-month time frame. Taken together these results suggest that PSC and emotional demands may be related in the short and longer term, as a reciprocal relationship, that leads to a negative spiral of psychological strain over time. Reciprocal effects were also noted with the other demand measure, workload. Future research should examine the reverse and reciprocal effects of PSC, work conditions, and strain using three waves of data, to really tease out the process.

We believe that the most potentially valuable theoretical implication of the study, however, is its support for the proposition that PSC is the genesis of JDC hypotheses;

this is because, as we suggest, it could be a precursor to the JDC core components workload and job – controls that are in turn related to psychological strain. Previously evidence has been provided of the role of PSC as trigger for both the health erosion and motivational hypotheses of the Job Demands-Resources theory (Dollard & Bakker, 2010; Idris, Dollard, & Winefield, 2011; Law et al., 2011). At the heart of PSC theory is the proposition that PSC presages work conditions. Our results support the theory that PSC appears to engender opportunities for control at the task level that might offset psychological strain. PSC was also related to supervisor support over time, but in the context of the other measures this antecedent path could not explain between-group variance in strain.

There are several practical implications of this research. First, the multilevel model implies that primary prevention may be achieved by targeting PSC. Remote health work is carried out in a demonstrably under-resourced system coping with high population health needs (AIHW, 2008). The prevailing climate in remote area nursing is one of poorly “managing at a distance” (Wakerman & Davey, 2008). Managers are not properly trained, and are supervising staff who are not particularly well prepared for their jobs. High turnover is indicative of these conditions. Living and working in very small remote communities (which sometimes experience endemic violence, with very limited amenities and services), likely affects psychological health, especially if management does not adequately recognize and address the impacts of these demands on nurses. This essentially means that more effective management, enhanced training for *psychological* health leadership (Gurt, Schwenen, & Elke, 2011) and changing management behaviours and values is required for remote nurse management. More research is needed to establish whether the implications of this research are generalizable to other working populations.

Further, if a strong PSC is built, we expect that it will lead to more sustainable productivity objectives (Dollard & Karasek, 2010). For example, several studies of PSC have shown that PSC is linked to motivational outcomes such as work engagement (Dollard & Bakker, 2010; Idris et al., 2011; Law et al., 2011), job satisfaction (Dollard, 2012), reduced intention to leave (Dollard, 2012), and sickness absence (Dollard & Bakker, 2010).

We would also like to raise a cautionary note, as Dollard (2012) found that in the implementation of a participatory action research intervention, significantly better intervention implementation was achieved with higher starting levels of work unit PSC. This suggests that higher level systems strategies may be required to build PSC, as described in the Healthy Conducive Production Model (Dollard & Karasek, 2010). The foundational strategies require management political will, employee goodwill, union support and financial or capacity surpluses, to build a higher level social control system to design well-coordinated policies, practices and procedures that protect worker psychological well-being, in this case across far-flung remote nurse work units (Dollard & Karasek, 2010; Dollard, 2012). This will enable the better management or reduction of unexpected and uncontrollable demands within the system, with increased system control to manage them, rather than requiring individuals to respond in isolation.

Limitations

A proposition of PSC theory is that it interacts with work conditions, reducing their possible deleterious effects on psychological health (see Dollard, 2012). We examined

two-way and three-way interaction effects between PSC, demands and control, and found no support for interaction effects. Previous research has found PSC interaction effects (i.e. two-way interactions, Dollard & Bakker, 2010; Dollard & Karasek, 2010, and three-way interactions, see Dollard et al., 2012), so our result may be an artefact of the research design. In terms of timing, it is possible that PSC may not be potent enough to reduce the impact of work conditions on psychological strain two years later. Therefore, research should continue to investigate interactions as a component of PSC theory testing, with consideration to the proximity of assessed PSC to perceived demands and psychological strain.

We used a four-item scale which canvases all of the proposed domains of PSC (management support and commitment, organizational communication, organizational participation and involvement) except management priority (Hall et al., 2010). Since the present study began, the PSC scale has been enlarged to the PSC-12, now comprising four domains, each with three items. In a sample of 30 organizations, the aggregate relationship between PSC-4 used here and the PSC-12 was .82, $p < .01$ (Law et al., 2011). This strong association, along with the sound psychometrics reported for this study, suggests that the present results using the small scale are valid.

Another possible limitation is that we used the first four items of the emotional exhaustion subscale of the MBI for the HLM analysis because the between-unit variance was stronger and significant when doing so. However, the four- and five-item scales correlated .99, so it is unlikely that the validity of the scale was affected, and the mediation results were the same using the five-item scale. Also, although the baseline model for GHQ was not significant the test proved conservative because we found cross-level mediated effects of PSC to psychological distress. Further, since we used groups that were composed of few very members, our study may underestimate within-group variance relative to between-group variance in the mediator and outcome measures.

Although we found differences between Time 1 and Time 2 samples on age, when this was controlled for all results remained virtually the same. Overall we believe the sampling was not biased in a way that affected the findings and, given the general nature of the measures used and consistency of our results with theory, we believe that our findings should generalize across occupations.

In our study we were unable to test differences between organizations with different employers because of a relatively small number of upper level work units. Future research should try to discern the variation in PSC at the highest levels within an organization (top-level management) vs. lower levels (e.g. employees within a specific remote hospital). We expect that the psychosocial safety climates would be globally aligned (see Zohar & Luria, 2005), but would also vary because of the discretion that local managers have to enact policies, practices and procedures for PSC, and also because top-level management may differ in their approach towards specific work units. This clarity would further help focus intervention efforts.

Not having a three-wave longitudinal design means that mediation could not be tested adequately. Therefore future research could also consider having three time points. There is also a need for future studies to replicate the findings in other populations.

Conclusion

This study adds to the literature that is increasingly concerned about organizational contextual factors as origins of the work stress process. From our findings it would appear that a low level of psychosocial safety climate within a work unit is a latent pathogen for adverse work conditions (i.e. high job demands, low job control) that in turn have knock on effects of emotional exhaustion and psychological distress in workers. There was a little evidence of reciprocal relationships between PSC and job demands. The effects of PSC on psychological strain were found 24 months later, in different nurses within the same units. The study used a design in which effects were studied over time at the level of the work unit rather than the individual. This design could be applied to other occupational samples where high rates of turnover are expected across time. Our results imply that primary prevention of strain is best achieved by targeting PSC and changing management behaviours – and hence psychosocial safety climate – towards the psychological care of workers.

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APPENDIX O

ARTICLE BY OPIE ET AL. (2013)

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Occupational Stress in Remote Area Nursing: Development of the Remote Area Nursing Stress Scale (RANSS)

**Tessa Opie, PhD
Maureen Dollard, PhD**

University of South Australia

Sue Lenthall, RN, RM, MPH&TM

Centre for Remote Health

Sabina Knight, MTH

James Cook University

Background and Purpose: The purpose of this study was to develop a measure that would adequately and sensitively measure the occupational stress experience of nurses working in very remote health care facilities. Because no existing nursing stress tool is suitable to assess the unique stressors of remote nursing practice, the aim was to address this gap in psychometric measurement capacity and develop the Remote Area Nursing Stress Scale (RANSS). **Method:** A focus group ($n = 19$) of remote area nurses identified potential questionnaire items through open discussion and by later listing the stressors they experienced individually in their day-to-day functioning. Subsequently, the Delphi method was employed to further refine the questionnaire ($n = 12$ experts). The RANSS was successfully pilot tested and was afterward administered to nurses working in very remote Australia in 2008 ($n = 349$) and in 2010 ($n = 433$). **Results:** Principal components analysis and confirmatory factor analysis were performed for both waves of survey administration, demonstrating a robust 7-factor structure consistent across samples and accounting for significant variance in dependent measures. **Conclusion:** The development and validation of the RANSS is a significant advancement in remote area nursing research. The RANSS should be administered on an ongoing basis to monitor occupational stress among nurses working in very remote Australia. The RANSS should also be administered internationally in countries that also accommodate remote health care facilities. This would determine whether the RANSS is a psychometrically valid stress measure beyond the context of very remote Australia.

Keywords: Remote Area Nursing Stress Scale (RANSS); Delphi Method; Principal component analysis (PCA); confirmatory factor analysis (CFA); structural equation modelling (SEM)

There is little wonder about why general nursing stress has been the subject of intense and long-term examination historically. What does warrant question, however, is the lack of stress examination in reportedly high stress areas within nursing, such as remote area nursing. With comparatively fewer health practitioners per capita,

remote area nurses (RANs) are the constant frontline workers, delivering health services to communities with the most complex health care needs in Australia (Australian Institute of Health and Welfare, 2008). To address these health needs, RANs are required to practice advanced clinical skills, including accident and emergency, public health, health promotion, cultural safety, primary health care, chronic disease management, and community development (CRANA, 2003; Lenthall et al., 2009; Opie, Dollard et al., 2010).

There is an emerging appreciation that nurses practicing in very remote Australian communities are subject to extreme conditions and unique stressors (Fisher et al., 1996; Kelly, 1999; Lenthall et al., 2009; Lenthall et al., 2011; Morrell, 2005; Opie, Dollard, et al., 2010; Opie, Lenthall, et al., 2010), exacerbated demonstrably by social, geographical, and professional isolation (Wakerman, 2004). As more recently documented, the conditions within which RANs are expected to operate are undeniably stressful and are often responsible for alarmingly low retention rates (Opie, Dollard et al., 2010; Lenthall et al., 2009).

BACKGROUND AND CONCEPTUAL FRAMEWORK

Measurement of Occupational Stress in Nursing

There are several extant stress instruments that have been designed specifically for the measurement of stress within the nursing profession. Most notably, there is the Nursing Stress Scale (NSS; Gray-Toft & Anderson, 1981), the Nurse Stress Index (Harris, 1989), and the Nurse Stress Checklist (Benoliel, McCorkle, Georgiadou, Denton, & Spitzer, 1990), which are well-known and universally employed. Despite the popularity of these tools, however, they cannot justifiably be applied to many nurses working beyond a hospital-based context and as a result of this limitation, several nursing specialty areas have seen the development of stress tools specific to their area of practice (Baker, Menard, & Johns, 1989; Cocco, Gatti, Augusto de Mendonça Lima, & Camus, 2003; Edwards, Burnard, Coyle, Fothergill, & Hannigan, 2000; Flanagan & Flanagan, 2001; Foxall, Zimmerman, Standley, & Bené Captain, 1990; Jackson, Clare, & Mannix, 2002; Keane, Ducette, & Adler, 1985; Kennedy, 2005; Laposa, Alden, & Fullerton, 2003; N. Payne, 2001; Stewart, Yarkin, Meyerowitz, Harvey, & Jackson, 1982).

As per other nursing specialty areas that have observed the development of stress instruments specific to their unique workplace stressors, our aim was to develop a questionnaire that was specific to remote nursing practice and able to sensitively measure the relevant workplace stressors in this context. In identifying these stressors, we should then know how and where to intervene appropriately.

The purpose of this study was therefore threefold:

- To identify stress-related items (pertinent to remote area nursing specifically) that had sufficient internal consistency to form an occupational stress scale.
- To identify the dimensions of this measure, and
- To evaluate the validity of this measure.

Procedures for Instrument Development

Item Identification. There were 19 RANs who participated in a focus group to identify stressors in remote area nursing practice. Participation was voluntary, consent forms were collected and confidentiality was assured. Participants of the focus group were asked by

the facilitator, "As a RAN, what causes you stress?" This was followed with an open discussion of the stressors experienced by the participants, who (30 min later) were given a pad of "post-it" notes and were requested to write down the most significant stressors for them personally. This approach was taken to ensure that the perceptions of all participants were represented. There was no limit to participant responses. Post-it notes were collated and duplications of the same stressors were eliminated. The focus group identified 116 stressors that were reportedly experienced within remote area nursing practice.

In an effort to clarify some of the items identified by the focus group, some informal interviews were conducted with RANs at a national remote area nursing conference. Because some of the focus group responses were only single word items, we asked RANs to elaborate further and provide some insight into the exact nature of ambiguous items. A thematic analysis was then conducted by two members of the research team, which was informed and guided by relevant research examining occupational stress in the remote area nursing workforce. Thirteen themes were identified, namely, Management, Staff, Bullying, On Call, Workload, Responsibilities and Expectations, Support, Cultural Issues, Infrastructure and Equipment, Safety Concerns, Social Issues, Isolation, and Environment. Throughout this analysis, the original 116 items were reduced to 84 items because of multiple response duplications. An additional reference to relevant literature established that no documented sources of occupational stress had been omitted from this list.

The Selected Framework for Questionnaire Development. For succeeding stages of questionnaire development, the decision was made to adopt the Delphi technique. The Delphi technique has proven to be a reliable empirical method for reaching consensus in several areas, including health care (Fink, Kosecoff, Chassin, & Brook, 1991; Whitman, 1990) and nursing specifically (Keeney, Hasson, & McKenna, 2001). The "Delphi" was selected because it has distinct advantages over other survey development methods and was deemed appropriate for the development of the Remote Area Nursing Stress Scale (RANSS) for two fundamental reasons: (a) there is limited existing knowledge or empirical evidence within the field of remote area nursing and (b) the unavoidable geographical separation of potential participants (J. Jones, Sanderson, & Black, 1992). The Delphi technique is an iterative process involving a series of sequential "rounds" that seek the most reliable consensus through consultation with a group of experts. It is documented as a sound method for structuring group communication and decision-making processes (Goodman, 1987).

The Delphi Participants. For the purposes of this study, a list of experts in the field of remote area nursing was accessed from the Centre for Remote Health in Alice Springs, Australia. There were 18 potential panellists approached via email and invited to participate in the development of the RANSS. Of those, 12 professionals accepted the invitation, yielding a 67% response rate, and thus formed the "expert panel" for our Delphi process. Panellists included representatives from professional remote area nursing bodies, remote health centre managers, a remote area nurse educator, an academic in the field of remote area nursing, a social worker with extensive experience in working with RANs, an epidemiologist, previous RANs, and practicing RANs. The panel included both males and females and both Indigenous and non-Indigenous Australians.

The Delphi Process. In the first "round" of consultation, participants were presented with 84 items as generated by the RAN focus group, which were categorized into 13 sub-groups, according to the thematic analysis. Further to information regarding the nature of the study and their participation requirements, panellists were also presented with the following instruction: "In the development of a questionnaire that aims to measure stress

experienced by RANs, please rate the following stressors according to the degree to which you believe they are important in measuring RAN-specific stress." Rating options were 1, 2, 3, and 4, representing no importance, little importance, important, and essential, respectively. Panellists were also invited to provide comments below each subgroup, or subscale, of items. They were encouraged to remove, revise, or add items as they deemed appropriate, and were also encouraged to criticize or amend any items that they considered to be ambiguously worded. Consensus was defined using a 70% level of agreement for item inclusion.

Results from the first phase of consultation dictated the removal of 11 items, which occurred because of their failure to achieve adequate consensus or because most panellists perceived them to be sufficiently represented by another item. For example, "worry about the health of community members" was removed as "an overwhelming sense of responsibility for the community" was perceived to adequately express this same construct.

Feedback also revealed that although interpersonal conflict between colleagues was not an issue unique to remote area nursing, the construct needed to be retained because this issue is reportedly exacerbated by remoteness and was represented in multiple items from the focus group (i.e., colleagues with mental health issues, personality conflicts, staff incompatibility, and team dysfunction). This section was retained but consequently refined.

Further to this, racism emerged as a significantly important issue, alongside the conflict experienced between cultural beliefs. Similarly, other panellists reported that issues surrounding cultural differences or working in a cross-cultural context needed to be further explored and more adequately represented.

Quantitative and qualitative responses were analyzed and the necessary amendments to the questionnaire were made. Participants were then provided with thorough feedback detailing this process, including descriptive statistics, removed and revised items, and a summary of emerging concepts and items that would subsequently require consideration.

The second stage of Delphi consultation included 73 items for assessment and, again, panellists were asked to rate the importance of items for inclusion in the questionnaire adopting the same scale as previously used. In addition to these instructions, panellists were also presented with more specific requests as a result of previous feedback. For example,

- "How can we better articulate *item X*?"
- "How can we contextualise these items further to make them more specific to the remote context?"
- "Can we condense this section further or is it important to maintain clear separation between these stressors?"

The questionnaire included 14 subscales, namely, Management, Staff, Bullying, On Call, Workload, Responsibilities and Expectations, Support, Infrastructure and Equipment, Safety Concerns, Social Issues, Isolation, Intercultural Factors, Remote Health, and Environment.

This round of consultation demonstrated a significant degree of consensus between participants. Six items were removed because of their failure to achieve consensus and further three items were removed because of the perception that they were adequately represented by other items in the questionnaire. Other subscales were expanded, namely Management and Intercultural Factors, with the inclusion of additional items, whereas the Bullying and Environment subscales were deleted. Remaining questionnaire items were either reworded

or retained in their original form. Once again, changes made to the questionnaire and the respective reasons about why were feedback to participants, including descriptive statistics for each item, removed and revised items, and amendments made to subscales.

The resulting 64 items were then presented to the panel for a third and final round of consultation. According to Altschuld (1993), three iterations are usually sufficient because new information that may be gained thereafter does not generally justify further iterations. Unique to this phase was the incorporation of only two response options. Participants were asked to rate the 74 stressors according to whether they believed were important in measuring RAN-specific stress, with 1 and 2 corresponding with *Not important* and *Important*, respectively. Again, participants were invited to provide comments and suggestions regarding additional items for consideration. This questionnaire included 12 subscales because of the removal of Bullying and Environment.

Once again, significant consensus was achieved, resulting in the removal of two items, the expansion of one item, and the inclusion of five additional items addressing cross-cultural differences, entitled "Acknowledging New Cultures." The results from this third phase of Delphi consultation demonstrated no further need for seeking consensus. The prototype for the RANSS had thus been developed, comprising 13 subscales and 68 items. The RANSS was then administered to nurses working in remote Australia (Accessibility/Remoteness Index of Australia [ARIA] + index value of 5.92–10.53), as opposed to our target sample of nurses working in very remote Australia (ARIA + index value of 10.53–15.00), to pilot readability, interpretability, and face validity, as recommended by Jairath and Weinstein (1994). Classifications of remoteness are in accordance with the ARIA classification (Australian Institute of Health and Welfare, 2004). Survey administration to the pilot sample of nurses working in remote Australia ($n = 62$) demonstrated no concern in relation to the face validity and interpretability of items. Furthermore, preliminary analyses revealed sound internal consistencies of subscales (with $\alpha = .75$ and greater), sound convergent validity with the NSS ($r = .60, p < .01$), and sound divergent validity with the Utrecht Work Engagement Scale (UWES; $r = -.16, p < .01$). The overall method for the development of the RANSS can be viewed in Figure 1.

METHODS

The RANSS was administered to the target population of nurses working in very remote Australia (index value of 10.53–15.00) and underwent psychometric analysis. Two waves of data were obtained, in 2008 and subsequently in 2010. The project received ethics approval from the Central Australian Human Research Ethics Committee, the Top End Human Research Ethics Committee, and two university research ethics committees.

The RANSS assessed various RAN-specific workplace stressors including Management, Staff, On Call, Workload, Responsibilities and Expectations, Support, Infrastructure and Equipment, Safety Concerns, Social Issues, Isolation, Intercultural Factors, The Remote Context, and Acknowledging New Cultures. Specific stressful situations are listed and participants are required to indicate the frequency with which they are experienced, using a 7-point scale ranging from 0 (*never*) to 6 (*everyday*). Accordingly, the RANSS yields a continuous measure of RAN stress severity appropriate for parametric analysis. Other established research instruments were also incorporated in this study for validity checks, including the General Health Questionnaire-12 (GHQ-12), the Maslach Burnout Inventory (MBI), the Posttraumatic Stress Disorder Checklist (PCL), the NSS, and the UWES. The selection

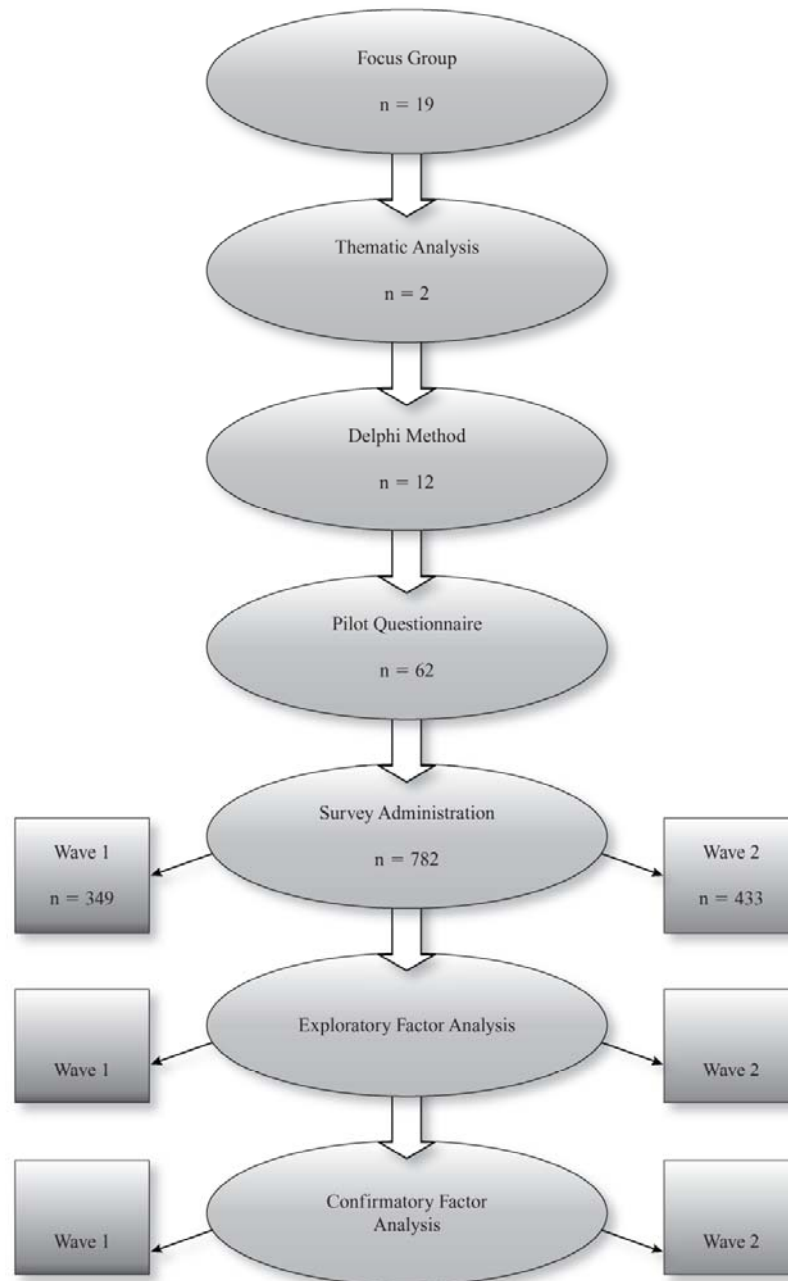


Figure 1. Method for the development of the RANSS.

of these instruments was caused by the theoretical underpinnings of the Job Demands-Resources (JD-R) Model (Demerouti, Nachreiner, Bakker, & Schaufeli, 2001) asserting that high job demands lead to negative work outcomes such as occupational stress and burnout, whereas low job resources lead to withdrawal behaviors such as work disengagement (Demerouti et al., 2001). It was therefore expected that the theoretical job demands assessed in this study would be positively related to stress outcome measures (i.e., GHQ-12, PCL, NSS, and MBI), and unrelated to a measure of work engagement (i.e., UWES).

Analysis Strategy

Data from the questionnaire were analyzed using the Statistical Package for the Social Sciences (SPSS) version 16 to conduct principal components analysis (PCA), correlations, and regressions. Analysis of Moment Structures (AMOS; Arbuckle, 2005) software was used to perform confirmatory factor analysis (CFA).

RESULTS

Descriptive Statistics

The first wave of data collection was from 349 nurses working in very remote Australia, which demonstrated an overall response rate of 34.6%. Most respondents were female (88.5%), with ages ranging from 20 to 68 years ($M = 44$, $SD = 11$). The highest proportions of respondents were working in the Northern Territory (30.1%), Queensland (28.1%), and Western Australia (26.1%). The next highest participant representations were in South Australia (9.2%), New South Wales (3.7%) and Tasmania (1.7%), respectively.

The second wave of data included the participation of 433 nurses working in very remote Australia, generating a response rate of 42.9%. Again, the majority of respondents were female (85.5%), with ages similarly ranging from 21 to 72 years. Jurisdictions with greater rates of representation were the Northern Territory (34.6%), Western Australia (29.3%), and Queensland (22.7%). Comparable to the first wave of data, RANs from South Australia (9.2%), New South Wales (2.3%), and Tasmania (0.5%) comprise smaller sample sizes.

Psychometric Testing

Prior to performing PCA, the suitability of both data sets was assessed. Firstly, data sets were screened for normality and outliers. Sample sizes were then determined to exceed the generally accepted minimum requirement of 300 cases necessary to undertake sound factor analysis (Tabachnick & Fidell, 2007), with sample sizes of 349 and 433 for the first and second waves, respectively. Furthermore, data for both samples satisfied requirements for the desired strength of intercorrelations among items, as recommended by Tabachnick and Fidell (2007). For both data sets, more than 90% of variables revealed correlations of .3 and greater. Consequently, the 68 items of the RANSS were subjected to PCA for both waves of survey administration.

Initial analysis suggested the presence of eight components with eigenvalues of 1 or more and a distinct change in the scree plot after the eighth component. Accordingly, these eight components were retained and subjected to further investigation. Wave 1 data revealed a Kaiser-Meyer-Olkin value of .87 and a significant result for Bartlett's Test of

Sphericity ($\chi^2[861] = 8541.4$), satisfying sampling adequacy. Wave 2 data also demonstrated an analyzable sample with a Kaiser-Meyer-Olkin value of .88 and a significant Bartlett's Test of Sphericity ($\chi^2[946] = 10907.3$). For both sets of data, the eight-factor solution yielded Eigen values of 1 or more, explaining 64.9% and 62.7% of the variance for Wave 1 and Wave 2, respectively.

To augment interpretation of these eight components, oblimin rotation was performed for both sets of data. All components showed several strong loadings ($>.70$) and all but five items loaded substantially on one component.

The interpretation of these eight components supported strongly the items generated by the focus group and subsequent Delphi method. Although four components became redundant (for both samples), items retained from these themes were absorbed by other components. For example, items from Intercultural Factors and The Remote Context were observable in the Cultural Differences component and items from Social Issues emerged in the Isolation component. The Staff component became obsolete. All changes and outcomes as a result of this PCA were theoretically supported.

In addition, each component revealed a Cronbach's alpha of .70 or higher for both data samples. Correlations were also performed between components demonstrating related but distinct conceptual constructs and all components correlated significantly with psychological distress (GHQ-12), posttraumatic stress disorder symptomology (PCL) or emotional exhaustion (MBI).

To further investigate the psychometric properties of the RANSS and confirm the proposed factor structure, structural equation modelling as executed by AMOS (Arbuckle, 2005) was implemented. Multiple different fit indices were observed to test model fit, as recommended by Bollen and Long (1993), including chi-square (χ^2), goodness-of-fit index (GFI), adjusted goodness-of-fit index (AGFI), and root mean square error of approximation (RMSEA). According to Bollen and Long, the generally accepted cutoff points for good model fit are as follows: GFI of .90 or higher; AGFI of .80 or higher; RMSEA of .08 or lower; and a significant reduction in χ^2 in comparison to a single model factor. Further to this, because the goodness-of-fit statistic is sensitive to sample size, with greater sample sizes increasing the likelihood of rejecting a hypothesised model (Bentler, 1990), relative goodness-of-fit measures were also included: normed fit index (NFI), nonnormed fit index (NNFI), and comparative fit index (CFI). For each of these relative fit indices, values of .90 or higher are generally considered as demonstrating a good fit (Hoyle, 1995).

Model testing was performed for each sample in both waves of survey administration. Firstly, eight-factor analytic models were tested, using a model that proposes that all stress items weigh on one single factor (M1), and a model that proposes eight correlated factors—Management, On Call, Workload, Support, Infrastructure, Isolation, Safety Concerns, and Cultural Differences (M2). As both models are nested, the χ^2 difference test was used to assess the best fitting model.

Analyses revealed that a model incorporating the eight RANSS subscales demonstrated significantly better fits, $\chi^2(874) = 1933.62$, $p < .001$ (Wave 1) and $\chi^2(874) = 2215.72$, $p < .001$ (Wave 2), than hypothetical single factor models $\Delta\chi^2(28) = 4798.04$, $p < .001$ (Wave 1) and $\Delta\chi^2(28) = 5519.33$, $p < .001$ (Wave 2). Results are displayed in Tables 1 and 2.

Although the eight-factor model (M2) did demonstrate a significantly better fit than a single-factor model (M1), several fit indices failed to meet the previously stipulated cutoff points accepted for a good model fit (Bollen & Long, 1993). As such, a decision was made to revisit the covariances and factor loadings of all analyzed items. Through

TABLE 1. Goodness-of-Fit Indices Confirmatory Factor Analyses in the Wave 1 Sample

Model	χ^2	df	$\Delta^2(1)$	GFI	AGFI	RMSEA	NFI	NNFI	CFI
1-Factor	6731.66	902		.42	.36	.14	.31	.31	.34
8-Factor	1933.62	874	4798.04 ^a	.79	.77	.06	.80	.87	.88

Note. GFI = goodness-of-fit index; AGFI = adjusted goodness-of-fit index; RMSEA = root mean square error of approximation; NFI = normed fit index; NNFI = nonnormed fit index; CFI = comparative fit index.

^aIndicates significant ($p < .001$) change in χ^2 between the single factor and eight factor model.

this undertaking, it became apparent that the items constituting the “support” subscale (although loading significantly on that construct) loaded very poorly and that omitting the support items would likely improve the fit of the model. The item demonstrating the highest loading for the support subscale was “How often do you experience adequate clinical support?”; whereas “community support” and “administrative/ancillary support” did not appear to add value to the model. Because there was already an item in the “management” subscale considered to be representative of the concept of clinical support (i.e. “How often does your manager provide inadequate clinical support?”), a decision was made to omit the support subscale completely. Once this scale was removed, and in an effort to augment the rigor of the survey and thoroughness of the process, other items with less than desirable factor loadings were also removed (i.e., $< .32$; Tabachnick & Fidell, 2007) and principal components analysis was repeated.

In this round of PCA, seven components clearly emerged. Further to this, oblimin rotation revealed that all components demonstrated strong loadings (i.e., $.65$ and greater), with all variables loading substantially on only one component.

Once again, Wave 1 data revealed a Kaiser-Meyer-Olkin value of $.87$ and a significant result for Bartlett’s Test of Sphericity ($\chi^2[465] = 6440.7$). Wave 2 data also satisfied sampling adequacy, with a Kaiser-Meyer-Olkin value of $.86$ and a significant Bartlett’s Test of Sphericity ($\chi^2[465] = 8080.3$). For both sets of data, the seven-factor solution yielded eigenvalues of 1 or more, explaining 72.3% and 72.1% of the variance for Wave 1 and

TABLE 2. Goodness-of-Fit Indices Confirmatory Factor Analyses in the Wave 2 Sample

Model	χ^2	df	$\Delta^2(1)$	GFI	AGFI	RMSEA	NFI	NNFI	CFI
1-Factor	7735.05	902		.45	.39	.13	.33	.33	.36
8-Factor	2215.72	874	5519.33 ^a	.81	.79	.06	.81	.86	.87

Note. GFI = goodness-of-fit index; AGFI = adjusted goodness-of-fit index; RMSEA = root mean square error of approximation; NFI = normed fit index; NNFI = nonnormed fit index; CFI = comparative fit index.

^aIndicates significant ($p < .001$) change in χ^2 between the single factor and eight factor model.

TABLE 3. Alpha Coefficients for the 7 RANSS Subscales

	Alpha Coefficients (α)	
	Wave 1	Wave 2
Management	.90	.90
On call	.91	.86
Workload	.86	.88
Infrastructure	.79	.83
Safety	.86	.80
Isolation	.85	.86
Cultural Differences	.92	.93

Wave 2, respectively. Subscales for each data set demonstrated Cronbach's alphas of .70 or higher (Table 3), and correlations revealed seven related but distinct conceptual constructs (Tables 4 and 5).

Once this second round of PCA was complete, our intention was to repeat *SEM* to confirm the newly proposed factor structure of the RANSS. Our methods for conducting CFA using *SEM* were also reviewed. As confirmed, we considered chi-square to be the original fit index for structural models but, practically speaking, is not always a truly dependable index because it may be affected by several influences, including sample size, model size, variable distribution, or omitted variables.

Further to this, it was established that other "absolute" indices, including GFI and AGFI, are also potentially subject to the issues akin to those of chi-square as they are based on simple variations of chi-square. For this reason, a decision was made to assess chi-square in combination with RMSEA and three relative fit indices, namely, Bollen's Incremental Fit Index (IFI), the Tucker-Lewis Index (TLI), and the Bentler-Bonett Normed Fit Index (NFI). Relative fit indices compare a chi-square for the tested model to the chi-square obtained for the null model, or baseline model. The generally accepted cutoff points for these indices are values of .90 or higher (Bollen, 1989; Gerbing & Anderson, 1993; Hu & Bentler, 1995;

TABLE 4. Correlation Matrix for All 7 RANSS Subscales for Wave 1

	On call	Workload	Infrastructure	Safety	Isolation	Cult Diff
Management	.10*	.42**	.30**	.18**	.30**	.15**
On call	—	.29**	.23**	.07	.22**	.14**
Workload		—	.41**	.23**	.42**	.40**
Infrastructure			—	.23**	.31**	.39**
Safety				—	.33**	.34**
Isolation					—	.44**
Cult Diff						—

Note. Cult Diff = Cultural Differences.

* $p < .05$. ** $p < .01$.

TABLE 5. Correlation Matrix for All 7 RANSS Subscales for Wave 2

	On call	Workload	Infrastructure	Safety	Isolation	Cult Diff
Management	.10*	.45**	.27**	.19**	.28**	.22**
On call	—	.24**	.23**	.00	.27**	.07
Workload		—	.46**	.23**	.41**	.29**
Infrastructure			—	.31**	.36**	.27**
Safety				—	.32**	.50**
Isolation					—	.47**
Cult Diff						—

Note. Cult Diff = Cultural Differences.

* $p < .05$. ** $p < .01$.

Marsh, Hau, Balla, & Grayson, 1998). According to Hu & Bentler (1995), it is useful to use a combination of one of the preceding relative fit indices and the RMSEA. The chi-square, RMSEA, and all three aforementioned relative fit indices are reported here.

Initially, model testing was performed for the first sample of survey administration (Wave 1). The seven-factor analytic model was tested twice, each time using a separate factor structure. The first structural model (M1) proposed an inherent assumption that all stress items weigh on one factor. The alternate model (M2) proposed seven correlated factors, namely, Management, On Call, Workload, Infrastructure, Isolation, Safety Concerns, and Cultural Differences. Both models were nested and the chi-square difference test was used to determine the best fitting model. Results are displayed in Table 3.

Analyses for Wave 1 revealed that a model structure of seven separate RANSS components demonstrated a significantly better fit, $\chi^2(329) = 726.73$, $p < .001$, than a hypothetical single factor model, $\Delta\chi^2(31) = 3360.60$, $p < .001$. Furthermore, the seven-factor model fit well to the data with all but one fit index meeting the stipulated cutoff points for a good model fit (i.e., RMSEA = .06, IFI = .93, TLI = .92). The only fit index to fall short of its corresponding minimum for acceptability was the NFI (i.e., NFI = .89), falling only .01 lower than the minimum desired value. Despite this, the seven-factor model (M2) was a significantly better fitting model, demonstrating satisfaction of the selected fit indices (see Table 6).

TABLE 6. Goodness-of-Fit Indices Confirmatory Factor Analyses in the Wave 1 Sample

Model	χ^2	<i>df</i>	$\Delta^2(1)$	RMSEA	IFI	TLI	NFI
1-Factor	4087.33	350		.18	.38	.33	.36
7-Factor	726.73	329	4083.42 ^a	.06	.93	.92	.89

Note. RMSEA = root mean square error of approximation; IFI = Incremental Fit Index; TLI = Tucker-Lewis Index; NFI = Normed Fit Index.

^aIndicates significant ($p < .001$) change in χ^2 between the single factor and seven factor model.

TABLE 7. Goodness-of-Fit Indices Confirmatory Factor Analyses in the Wave 2 Sample

Model	χ^2	df	$\Delta^2(1)$	RMSEA	IFI	TLI	NFI
1-Factor	4963.44	350		.17	.40	.35	.38
7-Factor	880.02	329	4083.42**	.06	.93	.92	.89

Note. RMSEA = root mean square error of approximation; IFI = Incremental Fit Index; TLI = Tucker-Lewis Index; NFI = Normed Fit Index.

*Indicates significant ($p < .001$) change in χ^2 between the single factor and seven factor model.

CFA was next repeated for the second wave of data (Wave 2), once again testing a single-factor model and a seven-factor model (M2), with each model assuming the previous propositions.

Not surprisingly, results for Wave 2 were very similar. Analyses revealed that a model comprising seven separate RANSS subscales demonstrated a significantly better fit, $\chi^2(329) = 880.02$, $p < .001$, than a single-factor model, $\Delta\chi^2(31) = 4083.42$, $p < .001$. Moreover, the fit indices for M2 met their required minimum/maximum standards for acceptability (RMSEA = .06, IFI = .93, TLI = .92), with the exception of the NFI, which again fell short by only .01 (NFI = .89). These results are displayed in Table 7.

The RANSS also revealed sound convergent validity with the NSS, with $r = .57$, $p < .01$, and $r = .50$, $p < .01$, for Wave 1 and Wave 2, respectively, and divergent validity with the UWES ($r = -.13$, $p < .05$, Wave 1; $r = -.17$, $p < .01$, Wave 2). Correlations can be viewed in Table 8.

Finally, regression analyses were performed using the Wave 1 data to ascertain whether the RANSS accounted for unique and significant variance in a range of outcome measures, beyond that which was accounted for by the NSS. Results demonstrated that the NSS significantly related to psychological distress (as measured by the GHQ-12), emotional exhaustion (as measured by the MBI), and posttraumatic stress disorder symptomology (as measured by the PCL), and that the addition of the RANSS accounted for further variance in each of these outcome measures. Specifically, the RANSS accounted for an additional 16%, 20%, and 19% of the variance in the GHQ, MBI, and PCL, respectively,

TABLE 8. Correlation Matrix for the RANSS and Other Outcome Measures, for Wave 1 and Wave 2

	GHQ	EE	PTSD	WE	NSS
RANSS					
Wave 1	.35**	.46**	.50**	-.13*	.57**
Wave 2	.24**	.55**	.50**	-.17**	.50**

Note. RANSS = Remote Area Nursing Stress Scale; GHQ = General Health Questionnaire; PTSD = Posttraumatic Stress Disorder Symptomology; WE = Work Engagement; NSS = Nursing Stress Scale.

* $p < .05$. ** $p < .01$.

TABLE 9. R^2 Change for the NSS and RANSS for Outcome Measures for Wave 1 and Wave 2

	GHQ	EE	PTSD	Job Sat	Engagement
Nurse stress measures					
NSS	.16	.20	.16	.10	.05
RANSS	.10	.23	.19	.25	.14

Note. F change significance for all steps was $p < .001$; RANSS = Remote Area Nursing Stress Scale; GHQ = General Health Questionnaire; EE = Emotional Exhaustion (from the Maslach Burnout Inventory); PTSD = Posttraumatic Stress Disorder Symptomology; NSS = Nursing Stress Scale; Job Sat = Job Satisfaction; Engagement = Work Engagement.

over and above the variance accounted for by the NSS (see Table 9). For each of these models, the RANSS added unique and significant variance in outcome measures that was not accounted for when using the NSS alone, demonstrating a broader and more comprehensive model of occupational stress in the remote area nursing workplace.

Description, Administration, and Scoring of the RANSS

The RANSS is a 28-item, self-administered questionnaire comprising seven major sources of stress in remote area nursing—management, on call, workload, infrastructure, isolation, safety concerns, and cultural differences. Scores range from 0 to 168, providing a continuous measure of occupational stress severity. This design is useful when a quick analysis of overall exposure to stressors is required. Assessment of the seven subscales individually will provide insights into the specific sources of stress that can act as a guide for tailored workplace interventions.

CONCLUSION

The purpose of this study was to generate a user-friendly, self-report instrument to assess the occupational stress experienced by RANs. Specifically, the intentions were to identify stress-related items for RANs that had sufficient internal consistency to form an occupational stress scale, to identify the dimensions of this measure and to evaluate the psychometric properties of this measure.

Item generation was achieved through a focus group and afterward refined through the implementation of the Delphi technique, which developed the prototype for the RANSS. The instrument was pilot tested and internal validities of subscales were assessed. The RANSS was then administered in two waves of survey distribution to nurses working in very remote Australia.

Initially, PCA produced an eight-factor structure of the RANSS. However, revisitation of covariances and factor loadings as generated by CFA resulted in the removal of one component, namely, support. In an additional undertaking of PCA, a seven-factor solution emerged, which was confirmed through CFA. A seven-factor model demonstrated a significantly better fit than a proposed single factor model, fitting well with the data meeting all

(but one) stipulated cutoff points accepted for good model fit. The RANSS demonstrates sound face, convergent and divergent validities, and accounts for additional variance in outcome measures beyond that accounted for by the generic NSS. This finding provides evidence that the RANSS adequately measures both unique and salient stressors for nurses working in very remote Australian health care facilities. In addition, all subscales revealed sound internal consistency.

The correlation matrices for both waves of survey administration for the seven-factor model are notable. Although oblique rotation was used because of the expectation that subscales would be correlated, the observation that some subscales were not correlated may indicate that they are assessing separately unique constructs. Future research should ascertain whether these unrelated subscales account for significant variances in stress related outcomes and therefore whether they are worthy of future inclusion in the RANSS.

The RANSS represents the only extant measure available to adequately assess occupational stress among RANs, with most subscales yet to be observed in other measures of nursing stress. Although poor management, unmanageable workloads, and safety concerns may be factors contributing to stress for many nurses across the profession, these have been identified as salient stressors for RANs, possibly because they are exacerbated by the geographically remote environment in which they work. Other subscales such as on call, infrastructure, cultural differences, and isolation (as conceptualized in the RANSS) are seemingly unique to remote area nursing practice. These components highlight the most significant stress-related facets of the role, presenting what may be the foundations for an innovative work-environment model of stress that considers the nurse, within the job, and within the community. Such a model is yet to be proposed elsewhere in the nursing literature.

An additional limitation concerns the debate surrounding whether self-reported assessments of the psychosocial work environment reflect individual characteristics, or whether they are a true and accurate reflection of environmental conditions (Theorell & Hasselhorn, 2005). Having noted this, however, workforce turnover between Wave 1 and Wave 2 of survey distribution was relatively high, with only 17.8% of participants involved in both waves of survey administration. The low rate of participant repetition may logically be an argument for the psychometric reliability and stability of the RANSS.

This study has achieved in meeting its aforementioned objectives, and most importantly, it was successful in the development of a psychometrically sound RANSS (Appendix). We now better understand the extreme conditions, and both the unique and salient stressors inherent in remote area nursing practice, and we have benchmarked the levels and nature of this stress. Future research may focus on further exploring the psychometric properties of the RANSS, with specific investigations relating to the adequacy of the 28 items presented in this study. Future research should also explore the generalizability and validity of the RANSS in countries beyond Australian shores that also accommodate very remote health care facilities. There is also scope to explore what may be an emerging work-environment model of stress for nurses working in very remote Australia.

Importantly, empirical evidence now exists, which can be used as an impetus to implement the necessary workplace interventions for Australia's very remote nurses and to address the deplorable turnover rates in this field of practice. If this can be achieved, there will be vast improvements in the quality and continuity of health service delivery to our most disadvantaged populations in Australia.

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Correspondence regarding this article should be directed to Tessa Opie, PhD, Centre for Applied Psychological Research, University of South Australia, City East Campus, Adelaide SA 5000. E-mail: Tessa.Opie@postgrads.unisa.edu.au

APPENDIX

The Remote Area Nursing Stress Scale (RANSS)

Here is a list of situations that may have the potential to cause occupational stress in nurses. Please indicate how frequently you experience each of these situations by circling the corresponding number in the scales provided. If you have not experienced the situation listed, please circle the “0” in the adjoining scale.

Never	A few times a year or less	Once a month or less	A few times a month	Once a week	A few times a week	Everyday
0	1	2	3	4	5	6

Management

How often does your manager . . .

1. Fail to be accessible for support or advice?	0	1	2	3	4	5	6
2. Show a poor understanding of the issues impacting on you as a nurse?	0	1	2	3	4	5	6
3. Provide inadequate clinical support?	0	1	2	3	4	5	6
4. Fail to appropriately management critical incidents?	0	1	2	3	4	5	6

On Call

How often are you . . .

5. On call 24 hours a day?	0	1	2	3	4	5	6
6. Called out?	0	1	2	3	4	5	6
7. Called out for nonurgent issues?	0	1	2	3	4	5	6

Workload

How often do you . . .

8. Perceive your workload as unmanageable?	0	1	2	3	4	5	6
9. Feel unable to plan or control your workload?	0	1	2	3	4	5	6
10. Feel as though you never achieve your work-related goals or outcomes?	0	1	2	3	4	5	6

Infrastructure

How often do you experience . . .

11. Difficulties with equipment?	0	1	2	3	4	5	6
12. Difficulties with infrastructure?	0	1	2	3	4	5	6
13. Difficulties with information technology?	0	1	2	3	4	5	6

Safety

How often do you feel concerned about . . .

14. Safety in the community?	0	1	2	3	4	5	6
15. Insecure or unsafe housing?	0	1	2	3	4	5	6
16. Your personal safety?	0	1	2	3	4	5	6
17. Client-initiated violence toward nursing staff?	0	1	2	3	4	5	6

Isolation

How often do you . . .

18. Experience difficulty initiating or maintaining social interaction?	0	1	2	3	4	5	6
19. Experience difficulty maintaining personal relationships?	0	1	2	3	4	5	6
20. Feel isolated from family and friends?	0	1	2	3	4	5	6
21. Feel isolated from the community?	0	1	2	3	4	5	6
22. Feel isolated from services and colleagues?	0	1	2	3	4	5	6
23. Feel isolated from professional development opportunities?	0	1	2	3	4	5	6

Cultural Differences

How often do you . . .

24. Experience uneasiness about living or working in a different culture?	0	1	2	3	4	5	6
25. Feel a sense of uneasiness because of the expectations of another culture?	0	1	2	3	4	5	6
26. Experience difficulty adjusting to an unfamiliar culture?	0	1	2	3	4	5	6
27. Experience uneasiness about misunderstandings or disagreements arising from cultural differences?	0	1	2	3	4	5	6
28. Feel confronted by an absence of familiar attitudes, value systems, or behaviors?	0	1	2	3	4	5	6