BMJ Open

Workplace health and safety issues among community nurses: A cohort study regarding the impact on providing care to rural consumers

Journal:	*BMJ Open*
Manuscript ID:	bmjopen-2015-008306
Article Type:	Research
Date Submitted by the Author:	29-Mar-2015
Complete List of Authors:	Terry, Daniel; The University of Melbourne, Department of Rural Health Lê, Quynh; University of Tasmania, Centre for Rural Health Nguyen, Uyen; University of Tasmania, Centre for Rural Health Hoang, Ha; Univeristy of Tasmania, Centre for Rural Health
Primary Subject Heading:	Nursing
Secondary Subject Heading:	Health services research, Qualitative research
Keywords:	Risk management < HEALTH SERVICES ADMINISTRATION & MANAGEMENT, QUALITATIVE RESEARCH, HEALTH SERVICES ADMINISTRATION & MANAGEMENT

SCHOLARONE™
Manuscripts

Workplace health and safety issues among community nurses: A cohort study regarding the impact on providing care to rural consumers

Daniel Terry[1*], Quynh Lê[2], Uyen Nguyen[2] and Ha Hoang[2]

[1]The Department of Rural Health, The University of Melbourne, Shepparton, Victoria, Australia
[2]The Centre for Rural Health, University of Tasmania, Launceston, Tasmania, Australia

*Corresponding author:
49 Graham Street, Shepparton
Victoria 3632 Australia
d.terry@unimelb.edu.au
Tel: +61 3 5823 4505
Fax: +61 3 58234555

Keywords: Community Health Nursing, Rural Health Services, Occupational Safety

Word count: 4489

Workplace health and safety issues among community nurses: A cohort study regarding the impact on providing care to rural consumers

Abstract

Objectives: Community nurses experience many workplace health and safety issues within daily practice that may lead to dissatisfaction with employment, poor mental health, high levels of absenteeism and staff turnover. There is little evidence regarding workplace health and safety issues among rural community nurses. This study aimed to investigate the types of workplace health and safety issues rural community nurses encounter and its impact on providing care to rural consumers.

Methods: The research examined the workplace health and safety issues that are encountered by rural community nurses. Data were collected using semi-structured interviews with 15 community nurses in rural and remote communities in Tasmania, Australia. Thematic analysis was used to analyse interview data.

Results: A number of workplace health and safety themes were identified that centred on the geographical, physical and organisational environment that community nurses work across. The WHS challenges within these environments included driving large distances and working in isolation; client and carer behaviour; the condition of the patients' homes; clients smoking; navigating animals in the workplace; vertical and horizontal violence; and issues around workload, burnout and work-related stress.

Conclusion: Many nurses achieved good outcomes to meet the needs of rural community health consumers and managers were vital to ensure service objectives were met. Despite the positive outcomes, many processes were considered unsafe by community nurses. It was identified that

greater training and capacity building are required to meet the needs among all staff. This included discipline specific training; competency training for rural community nurses; and increased support and training for operational managers to appropriately manage staff that is centred on WHS practices.

Strengths and limitations of this study

- Community nurses experience many workplace health and safety issues within daily practice that may lead to dissatisfaction, poor mental health, absenteeism and staff turnover and this study highlights that many practices and processes remain unsafe among community nursing services.

- It also highlights that community nurses have developed strategies to prevent workplace health and safety, despite inadequacies within current quality improvement and pastoral care systems

- It is recognised that improved policy and greater training and capacity building regarding workplace health and safety are required to address current inadequacies.

- It should be noted that the advantage of using qualitative approaches in this study is to deeply understand the voices of the participants about their own personal experiences from which thoughts and feelings manifest. While this approach downplays the significance of research generalization which is normally seen in quantitative research, it provides a different illuminative side of the research story.

3

Introduction

In Australia, over 25% of health care professionals work in rural areas. These health workers are more vulnerable to occupational injury, work instigated disability, and are at higher risk of experiencing prolonged work absence due to WHS issues (Franche et al., 2010). In many cases, this is due to "risk factors such as heavy workloads, long hours, heavy on-call demands, high stress levels, limited support and workplace violence" (Franche et al., 2010, p. 2).

It has been suggested that the greater demand of the health workforce in rural areas is due to a number of intrinsic and extrinsic rural challenges. These include poorer health outcomes and lower life expectancy within the rural population (AIHW, 2013). Also there are higher rates of violence, disability, poisoning and accidents in rural communities. In addition, rural healthcare delivery systems are often different in terms of resources availability and models of care than larger urban health care systems (AIHW, 2013; Franche et al., 2010; Molinari & Monserud, 2008).

This diversity of delivery systems, delayed health seeking and poorer overall health in rural areas has implications for community nurses (Molinari & Monserud, 2008). Community health nursing is recognised as a synthesis of public health care and nursing applied to protect and promote the health of population and fundamental to maximise the health of individuals, families, groups, and communities (Hunsberger, Baumann, Blythe, & Crea, 2009; MacLeod, Browne, & Leipert, 1998a). However, in rural and remote contexts, community nurses play a generalist role due to smaller populations and clients with a broad range of medical conditions. In addition, their nursing practice in rural areas has developed to be more around crisis management rather than preventative care. Rural community nurses are also often described as being 'multi-specialist' in knowledge and skills to care for a diverse population and client needs (Hunsberger et al., 2009; MacLeod et al., 1998a).

Workplace Health and Safety (WHS) seeks to protect the safety and health of all individuals in the work environment from exposure risks and hazards resulting from work (Danna & Griffin, 1999; Hilgert, 2012). Within health, nursing and community nursing, stressors related to WHS issues are

4

evident within daily practice. These stressors may include poor quality of care, dissatisfaction with employment and health care workload. Other critical stressors include cognitive, physical, behavioural and emotional stressors within the health care workplace (Salmond & Ropis, 2005; Stuart, Jarvis, & Daniel, 2008).

In addition to the day-to-day demands of health practice, community nurses may experience inadequate staffing levels, frequent overtime, on-call duties, violence in the work place, limited opportunities for career development, professional isolation, concerns for personal safety, and limited management support and supervision (Ellis & Kelly, 2005). These factors may lead to occupational stress and high staff turnover and are outlined in greater detail.

Stress and burnout

Stress is a common issue in community nurse populations which leads to nurses having a greater likelihood of taking time away from work ██████████████████ Newman & Berens, 2010). Factors such as emotional demands, staffing problems, work pressure, responsibilities and expectations, social issues, poor management and safety concerns can be link with psychological distress and emotional exhaustion. Other reasons leading to stress, particularly in rural areas, may include lack of replacement staff and the inability to take leave for personal, medical, or professional development ██████████ Kaasalainen et al., 2012; MacLeod, Browne, & Leipert, 1998b; Weymouth et al., 2007).

Workload

Stress and difficult workload management tend to relate to excessive work, rather than challenging care situations. Increased workload has shown to adversely impact the quality of attention community nurses give to their patients which leads to dissatisfied and guilt (Gershon et al., 2007). Furthermore, it was shown that community nurses worked without regular breaks, with the majority experienced busy schedules seeing clients. Newman and Berens (2010), in their study, indicated that 90% of community nurses stopped lunch, however the timing of their lunch was at odd times, while

5

10% did not stop and ate in the car between clients. In most cases, no time was allocated or taken for morning or afternoon breaks.

Environment

An additional impact on workload is that community nurses have to travel long distance to and from each client's house that may often be time consuming and exhausting. To add to their difficulties the road conditions in these areas are not always well developed or maintained (Wakerman & Davey, 2008). Both the geography and climate of rural areas can increase the vulnerability of rural healthcare workers. In some cases, weather related illness and injury leads to high levels of absenteeism from work (Opie et al., 2010a).

Physical injury

In addition to environmental hazards, physical hazards are experienced by community nurses, such as smoke, chemical, mechanical and exposure to biological infectious agents that increases the risk to safety (Billay, 2001; Bushy, 2002). The most common physical injury among community nurses related to musculoskeletal disorders that include soft tissue and surrounding structures that occur in the neck, shoulder, elbow, hand, wrist, lower back, ankles and feet. A study conducted by Newman and Berens (2010) revealed that 48% of all community nurses experienced an injury within their workplace that led to being absent from work from one to more than five days.

Violence at work

In Australia it was revealed that 86% of remote area nurses reported experiencing violence or aggression at work in the previous 12 months, compared with 43% of urban nurses. They also reported receiving limited or delayed support following critical incidents, such as violence. However, there is no indication if working in rural health care settings has an impact of health care workers being at a higher risk of workplace violence (Ellis & Kelly, 2005).

6

Workplace violence in the health sector is destructive and has a negative impact on the professional and personal lives of health care workers, but also on the quality and coverage of care provided. This leads to deterioration of quality of care provided to clients with degeneration of working environment. These factors lead to reduction in health services available to the rural population as more nurses and a propensity to leave the profession (Hunsberger et al., 2009; Kaasalainen et al., 2012; MacLeod et al., 1998b).

Although nurses in general experience many WHS challenges, much of the literature has focused on remote area nurses and there is little evidence that focussed specifically on WHS among rural community nurses ████████████. On this basis, this study aimed to investigate the types of WHS issues rural community nurses encounter and its impact on providing care to rural consumers. To achieve this aim, the study sought to address a number of objectives, which included identifying the key WHS issues that community nurses encounter; highlighting the impact WHS issues play on nursing practice and provision of care; and what strategies community nurses develop and use to overcome the WHS issues in their practice.

Methods

The research examined the WHS issues that are encountered by rural community nurses using an explorative approach. Qualitative data were collected using semi-structured interviews with 15 community nurses. The purpose and the focus of the research was to identify the key WHS issues that community nurses encounter and the strategies community nurses develop to overcome the WHS issues in their practice.

Setting

The research was conducted in the north, northwest, and northeast of Tasmania, a small island stated of the southeast coast of mainland Australia that has a population of over 500,000 people and a rural population of 35% (ABS, 2011). The study sites included thirteen publically funded community

7

nursing services with ten in the north and north east and six community nursing services located

across the north west of the state. These services employ approximately 36 full-time equivalent

(FTE) staff are provided across approximately two thirds of the state where 50.2% of the population

live (ABS, 2011).

Inclusion criteria

To achieve the aims of the study, those community nurses who worked exclusively in rural areas and

employed in a permanent capacity were invited to participate in the project.

Recruitment

All directors of nursing across the study area were approached for their support to the study. Each

nurse unit manager or community nursing staff that met the inclusion criteria were contacted with

13 of the 16 community nursing services had consented to participate in the study. All community

nurses from the 13 sites that expressed a desire to participate in the project were interviewed. On

receipt of their individual consent, an interview was arranged at a convenient date and time.

Participants were interviewed either face-to-face or by phone between August and October 2014.

The project received no external funding and was approval from the Human Research Ethics

Committee (Tasmania) Network (H0013420).

Data collection and analysis

Each interview lasted between 30 and 90 minutes and was audio recorded with the permission of

the participants. The interviews were collected by a nurse that was not a community nurse to reduce

any bias. The interviews were transcribed verbatim. The transcribed data were imported to NVivo 10

software. Data were then thematically analysed to systematically identify recurring themes and

experiences arising from the interviews (Braun & Clarke, 2006; Fereday & Muir-Cochrane, 2008).

Results

The participants comprised fifteen community nurses, including thirteen females and two males aged between 40 to 60 years of age. Ten nurses were from the Northern region, three nurses from the north-west Tasmanian region, one from the east coast and one from the west coast of Tasmania. The community nurses had worked an average of 8.8 years with the least experienced working in a community setting for three years, while the most experienced had been working in the role for 31 years.

The role, function and structures of community nursing services varied greatly from site to site. For example, some nurses were sole practitioners working largely in isolation, others worked in small teams with other community nursing staff, while others worked with enrolled nurses or carers. In addition, some community nursing services were predominantly centre based with staff rarely providing nursing care in client homes, while others worked predominantly in the community with minimal or no centre based service provision.

A number of key WHS themes were identified from the interview data that centred on geographical, physical and organisational environment issues.

Geographical environment issues

Among many community nurses, there were a number of WHS issues that centred on geography that were highlighted and included concerns around large travel distances and working in isolation.

Driving large distances

Driving was considered the greatest hazard within the workplace with major driving issues including great travel distances, long travel times, road condition, and the impact that weather played in road safety. Other issues included encountering wildlife when driving, lack of full attention while driving due to looking for client addresses particularly in rural and remote areas; or lack of concentration due to thinking about workload and prioritisation. One nurses stated driving was stressful due to

9

"just being on the road with other cars and trucks... one day, I even had a kangaroo jump off the bank in front of the car" (Nurse 5).

Beyond other drivers and wildlife, the weather had an impact on staff safety. Some examples that were highlighted included extreme weather such as wild winds causing trees to fall across roads; flooding that impacted access to client homes; extreme hot and cold weather; fog; frost; rain or snow causing slick and icy roads. These types of conditions not only posed a palpable risk to community nurses' WHS, but also put them under pressure when service delivery had been compromised due to road closure and alternative longer routes were required to see clients.

Although driving was considered stressful, nurses felt there was a level of acceptance concerning driving. For example, one nurse stated "you just accept it. If you have to go out to remote areas, then you just go. That is what we do" (Nurse 5). Another participant stated that it was the current process of vehicle use and mitigating vehicle theft and damage that left her, as a person, feeling vulnerable. In her case, as with her colleagues, work vehicles were returned more than 30 kilometres from her workplace, to a city compound each night, which posed personal safety concerns.

> *"After dark, sometimes I'm the only one there [at the compound]... I have to physically open and shut the gate by myself... I always ring my husband and say I'm on my way if I'm late so he knows... it is not safe." (Nurse 4)*

Working in isolation

The concern of working in isolation and being vulnerable were echoed among other participants. Within this study, it was shown that community nurses were working on their own in client's homes that were quite remote. In these rural areas mobile or cell phone coverage is often temperamental or nonexistent. Nurses reported frequent dropout areas especially in very remote areas away from town centres. They were concerned for their safety when being out working on their own and losing communication with the administration staff. One nurse stated "a big problem is communication.

10

When you use a mobile phone... it probably will not work. There is usually no signal and that is big a

problem" (Nurse 2).

Another nurse shared her experience where she was made aware of the client's history of violence

and who was living in a remote area of Tasmania. She said "anything could have happened and no

one would have known until the end of the day... I was completely vulnerable" (Nurse 3). Another

example was shared by another community nurse who was working on one of the remote islands of

Tasmania, when she received an after-hours telephone call through the night from a client who

requested a home visit. She said "I didn't feel comfortable going out at night, not knowing the

island, the client lived in a quite isolated part of the island and you are really there on your own"

(Nurse 1).

Physical environment issues

Working in isolation can also impact when working in people's homes as nurses may encounter a

number of challenges that are not observed within the acute setting. These issues included the

condition of the home; access to the home; animals in the home; smoking issues; trip hazards; family

domestic issue; falls risk for clients and community nurses; firearms; and tension between

community nurses and clients related to home modification, while attempting to negotiate client

care.

Client behaviour

A client's home was highlighted as a unique and 'uncontrolled' work environment that is

unpredictable, unable to be prepared and often not well equipped to provide certain types of care

adequately. The most common WHS issue within a client's home was working with each individual

client and overcoming the issues around poor behaviour. Aggressive behaviour from a client or their

family members was the most commonly cited issue. Six participants stated that they encountered

aggression and violence. The most common was verbal abuse or verbal threats and in some cases

there was physical aggression. This was demonstrated by one community nurse who stated

11

I was caring for a lady with dementia... her husband who was her carer didn't understand dementia at all... and it was a very, very difficult relationship. In the end it got so bad that this fellow actually threatened my life. He said 'I'll shoot you'... 'Don't come in, I'll shoot you' ... he was so frustrated at the whole situation... he couldn't cope. (Nurse 4)

Participants indicated that aggression commonly involved clients with dementia or a mental illness. In these cases when aggression was observed, participants stated that they would communicate with the client, investigate root causes of the situation and offer social support or immediately leave depending on the severity of risk. One nurse stated that

In some cases I would back out immediately and leave the scene, while in other cases I may try to talk the client around and calm them down. It depends on whether anyone else in the house is at risk... I have, on a few occasions managed the situation until the police and ambulance arrived. (Nurse 6)

Home condition

When highlighting the condition of a client's home condition, participants said they were 'less than savoury' or 'horrendous'. Various homes were cluttered, filthy, and untidy with unpleasant odours. Other homes had poor ventilation, poor lighting, or damp floors. In one case, there was a snake found in a client's home and to facilitate greater WHS standards, the client had keep the area around the home clear of clutter and have the grass cut regularly.

At times bathrooms were too small and beds were too low to provide appropriate and safe care. Manual handling issues included heavy patient lifting and positioning clients that related to the care of palliative care clients and wound-care-related activities. For example, one rural community nurse stated "bending over the bed is really hard to prevent if you are caring for someone who is palliative in a double bed" (Nurse 4). At times, it was highlighted that appropriate equipment was unavailable, delivery was often delayed or that the community nurse may be the sole operator of the equipment which may place them at greater risk.

12

Despite the manually handling issues, and the condition of the home, it was stated that the community nurses always try to improve the manual handling situation or condition of the home for the client and for their own safety. However, one nurse stated

> *We try and educate people, but often they have lived in this sort of environment for so long. It's a comfortable environment for them and if we go in and start posing our values and judgment too much, it may not work and it is not really what we do. (Nurse 15)*

For these specific situations, community nurses would try and educate clients; offer services to help cleaning; wear protective equipment; create a clean zone where possible; and discuss with clients and families how best to provide care through the use of additional equipment.

Animals

It was recognised that animals such as a dog or a cat may be beneficial for many clients, particularly the elderly, as they provide company and emotional attachment. However, some community nurses did express discomfort when working home environments where animals were present, such as large barking dogs or dogs that become aggressive when providing physical care to a client. In addition to the safety risk of pets, it was highlighted that animals at times may compromise an aseptic field or impact infection control by sitting on or walking past wound dressing trays, licking a client's wound or due to the owner poor maintenance of the pets overall needs that impact the health of the owner.

Smoking issues

Beyond animals, smoking was raised as a significant concern. One participant stated clients have the right to smoke in their own home, but as the home is also a community nurses' work environment and that it creased a "difficult social paradox" (Nurse 8). Participants agreed that passive smoking is dangerous for their health and is a WHS issue that remains difficult to overcome. In many instances, clients were requested not to smoke while the nurse was presents but to participants it did not change the environment where cigarette smoke had been building up over time.

13

Regardless of the issues that community nurses encountered, there were always difficult decisions to be made which by the community nurse, to accept the current risk(s) and continue care or withdraw service. Most participants said before withdrawing service they would propose creative solutions with the client then let them decide whether the service would be continued or ceased.

> *I have had experience of patient's houses not being safe places to work in and there's ways around that. You'd bring them into the district hospital to deliver wound care or shower them... because their home environment was not conducive to safe practice. (Nurse 9)*

Organisation environment issues

In addition to the geographic and physical WHS issues that community nurses encountered, they also experienced WHS issues that were embedded within the organisations where they were employed. The three key issues participants highlighted encompassed workload challenges, vertical and horizontal violence and work-related stress.

Vertical and horizontal violence

Among the participants, there was a mixed response regarding the experience of vertical and horizontal violence in the workplace. Three participants confirmed they got along well with their colleagues, two highlighted issues with both managers and staff, while three participants shared stories of bullying and harassment from their managers and other staff. One participant indicated that she did not want to discuss the issue, however stated that she was aware of it occurring in her workplace. Overcoming violence, various strategies were attempted to be employed, such as risk assessment and cultural safety techniques yet were all based on experience, advice of other staff and not based on service policy.

When asked about the biggest workplace health and safety issue that impacts on their health, three participants emphasised vertical violence that had occurred in various situations as community nurses. The overall detrimental effect was so intense that community nurses required ongoing

14

counselling and psychology consultation for high level of stress, anxiety and depression. They each share similar stories of taking stress leave which led to eventually leaving their respective workplaces. It was indicated that they were not the only community nurses to experience this type of vertical violence, stating that many staff had left the various workplaces and even the profession altogether.

Workload, burnout and work-related stress

Within the community nursing setting, workload fluctuates throughout the year where there may be higher or lower than normal client numbers. However, this workload may fluctuate week to week and day to day. When busy, community nurses' workload may be very heavy due to time constraints, large amount of documentation or due to taking on extra clients and responsibilities when staff are on leave or sick. One participant suggested that the time required delivering care for clients varied depending on their individual care needs and the impact of overall workload. Some participants shared similar experience where unanticipated situations occur suddenly that may impact their work day even when carefully planned in advance.

> *You might visit someone and they have had a fall. So your planned 15-20 minutes visit will turn into a couple of hours. You may have to get the ambulance or you would have to wait for their family to come. (Nurse 15)*

In addition to the fluctuation of workload there were other major factors that cause stress and burnout among community nurses and was felt to be a WHS issue if appropriate support was not provided. Caring for palliative clients and encountering confronting situations, such as death and tragedy was the most discussed burnout issue among participants. It many cases a number of community nurses called it 'compassion fatigue', a common stress factor among community nurse as "we deal with quite gory things a lot of the time and people get burned out" (Nurse 3). This was further reflected by one community who stated that they had more than nine palliative care clients that required daily care at various times over a period of 18 months.

15

Despite these challenges, many participants showed strong self-awareness and discussed work-life balance, such as not taking work home or taking a break or time off if necessary. Participants said they would share their stress or concerns with colleagues, managers or loved ones, however not all of them was able to do this. It was highlighted that community nurses would, if possible, organise their workloads to share clients if a nurse was overloaded with palliative clients.

Discussion

The WHS issues and challenges that were highlighted were many, complex and centred on the 'environments' where community nurses were working at the time. It was noted that many of the WHS issues were reflective of the current literature that is focussed on remote area nursing and there were many commonalities between the two disciplines. This included working across large geographical areas, working in isolation, driving issues; poor behaviour from clients and family members. It also encompassed the state of the client's homes, manual handling issues especially relating to palliative care; workplace issues including conflict, bullying, excessive workload, stress and burnout (Franche et al., 2010; Hegney, McCarthy, Rogers-Clark, & Gorman, 2002; Lenthall et al., 2009; Lenthall et al., 2011; MacLeod et al., 1998b; McCullough, Lenthall, Williams, & Andrew, 2012; Opie et al., 2010a; Opie et al., 2010b; Wakerman & Davey, 2008).

Despite the consistencies within the literature, the research also revealed that there were key skills that had been developed, emerged or were suggested to meet or at least 'making do' the WHS challenges that were encountered. The strategies that were elucidated were often aspirational and included organisational approaches to remove stress. These also included addressing overall workplace demands, a greater focus on improved debriefing systems, and greater awareness of and access to employee assistance programs. In addition, coping with stress and burnout included seeking social support, planned problem solving, self-controlling, positive reappraisal (Hegney et al.,

2002). Each of these mechanisms were felt to provide more effective management of the emotional demands inherent in the workplace.

Overcoming violence, various strategies were attempted to be employed, such as risk assessment and cultural safety techniques. However, these approaches were often not based on policy and procedure, but on experience and advice sought from other community nurses. In addition educating staff around violence, its negative consequences was highlighted, but rarely provided to staff. Similarly, implementing zero tolerance as part of the workplace culture was aspirational, yet in many cases was not consistently occurring in practice. In addition, it was suggested that health services need to work more closely with communities to develop greater safety programs to address violence between health consumers and health care providers (Hegney, Plank, & Parker, 2003).

In terms of strategies to prevent musculoskeletal disorders it has been suggested a risk assessment to be conducted during the first visit to a client's home, which was dependent upon the service and the assessments that were developed. In addition to assessing and addressing client's needs, it was felt that community nurses required additional time for thorough WHS assessments and planning with adequate devices and procedures to be in place until care could be provided. Another intervention that was considered to be beneficial was aerobic and strength building exercise training program for nursing staff (Joseph, Skinner, & Yantzi, 2013).

Beyond the day-to-day WHS issues that many community nurses were encountering and addressing as best they could, it was demonstrated that current approaches to workload issues were inadequate. For example, addressing workload issues included client load being divided between teams or frequent rotation of staff between clients. This addressed driving distance issues and overburden of client contact, however decreased continuity of care among clients. In other circumstances it was shown that when workload was excessive, nurses would prioritise tasks that may have included, cancelling appointments, not completing paperwork in a timely manner or working unpaid overtime to meet the needs of the service. There was great autonomy among staff;

17

however, currently there were poor processes in place to ensure the capable and well skilled staff are practicing safely when providing care in a complex and unforgiving environment.

Overall, there were a number of issues that were highlighted which included chronic underfunding of services; lack of discipline specific training and access to training for rural community nurses; poor quality improvement and pastoral care systems; and workforce supply problems, encompassed by poor recruitment, staff relief systems and inadequate orientation of new staff. In addition, it highlights that there is inadequate preparation and capacity of a number of operational managers to appropriately manage systems and support staff to meet the needs of the community in an environment that is centred on WHS practices.

Limitations

It should be noted that the advantage of using qualitative approaches in this study is to deeply understand the voices of the participants about their own personal experiences from which thoughts and feelings manifest. While this approach downplays the significance of research generalization which is normally seen in quantitative research, it provides a 'different illuminative side of the research story' – the lived experience (Wong & Lohfeld, 2008, p. 54).

Conclusion

Overall, it was indicative that many nurses were achieving good outcomes to meet the needs of community health consumers. In many cases, management were assisting their staff to achieve service objectives under the auspice of WHS practices. However, many current processes that were highlighted by participants were considered unsafe, unsustainable, impracticable, and demonstrated a number of underlying issues within the current community health system. Again, it was highlighted that many community nurses and managers were doing their best, however, greater training and capacity building is required to meet the needs among all staff. Meeting the needs of the community

18

was achieved, however there was a reactive approach among many services and health care providers, rather than a proactive approach to ensure both nursing staff and health consumers were safe when providing care.

Contributor statement: Dr Terry and Dr Le developed the research design, assisted with data collection and developed, wrote and edited the final manuscript. Ms Nguyen undertook the data collection and provided assistance with manuscript development and its initial writing, while Dr Hoang provided technical advices throughout the research process and wrote and edited the final manuscript

Data sharing statement: No additional data available

References

ABS. (2011). Census 2011.   Retrieved 20 January, 2014, from http://www.abs.gov.au

AIHW. (2013). *Rural Health*. Canberra: Australian Government Retrieved from

http://www.aihw.gov.au/rural-health/.

Billay, E. (2001). *Personal safety of Alberta public health and home care nurses during home visiting.*

(MQ69471 M.N.), University of Alberta (Canada), Ann Arbor. ProQuest Dissertations &

Theses A&I database.

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in*

Psychology, 3(2), 77-101.

Bushy, A. (2002). International perspectives on rural nursing: Australia, Canada, USA. *Australian*

Journal of Rural Health, 10(2), 104-111.

Danna, K., & Griffin, R. W. (1999). Health and well-being in the workplace: A review and synthesis of

the literature. *Journal of management, 25*(3), 357-384.

Ellis, I., & Kelly, K. (2005). Health infrastructure in very remote areas: an analysis of the CRANA Bush

Crisis Line database... Council of Remote Area Nurses of Australia. *Australian Journal of Rural*

Health, 13(1), 1-2.

Fereday, J., & Muir-Cochrane, E. (2008). Demonstrating rigor using thematic analysis: A hybrid

approach of inductive and deductive coding and theme development. *International Journal*

of Qualitative Methods, 5(1), 80-92.

Franche, R., Murray, E. J., Ostry, A., Ratner, P. A., Wagner, S. L., & Harder, H. G. (2010). Work

disability prevention in rural areas: a focus on healthcare workers. *Rural & Remote Health,*

10(4), 1-24.

Gershon, R. R. M., Stone, P. W., Zeltser, M., Faucett, J., MacDavitt, K., & Chou, S.-S. (2007).

Organizational climate and nurse health outcomes in the United States: a systematic review.

Industrial Health, 45(5), 622-636.

Hegney, D., McCarthy, A., Rogers-Clark, C., & Gorman, D. (2002). Why nurses are attracted to rural

and remote practice. *Australian Journal of Rural Health, 10*(3), 178-186. doi: 10.1046/j.1440-

1584.2002.00447.x

Hegney, D., Plank, A., & Parker, V. (2003). Workplace violence in nursing in Queensland, Australia: a

self-reported study. *International Journal of Nursing Practice, 9*(4), 261-268.

Hilgert, J. (2012). Future of Workplace Health and Safety as a Fundamental Human Right, The.

Comparative Labour Law and Policy Journal, 34, 715-736.

Hunsberger, M., Baumann, A., Blythe, J., & Crea, M. (2009). Sustaining the rural workforce: nursing

perspectives on worklife challenges. *The Journal of Rural Health, 25*(1), 17-25.

Joseph, G. M., Skinner, M. W., & Yantzi, N. M. (2013). The weather-stains of care: interpreting the

meaning of bad weather for front-line health care workers in rural long-term care. *Soc Sci

Med, 91*, 194-201. doi: 10.1016/j.socscimed.2012.08.009

Kaasalainen, S., Brazil, K., Williams, A., Wilson, D., Willison, K., Marshall, D., . . . Ramsey, D. (2012).

Barriers and enablers to providing palliative care in rural communities: a nursing

perspective. *Journal of Rural and Community Development, 7*(4), 4-19.

Lenthall, S., Wakerman, J., Opie, T., Dollard, M., Dunn, S., Knight, S., . . . Watson, C. (2009). What

stresses remote area nurses? Current knowledge and future action. *Aust J Rural Health,

17*(4), 208-213. doi: 10.1111/j.1440-1584.2009.01073.x

Lenthall, S., Wakerman, J., Opie, T., Dunn, S., MacLeod, M., Dollard, M., . . . Knight, S. (2011). Nursing

workforce in very remote australia, characteristics and key issues. *Australian Journal of Rural

Health, 19*(1), 32-37. doi: 10.1111/j.1440-1584.2010.01174.x

MacLeod, M., Browne, A. J., & Leipert, B. (1998a). International perspective: Issues for nurses in rural

and remote Canada. *Australian Journal of Rural Health, 6*(2), 72-78.

MacLeod, M., Browne, A. J., & Leipert, B. (1998b). Issues for nurses in rural and remote Canada. *The Australian journal of rural health, 6*(2), 72-78.

McCullough, K. M., Lenthall, S., Williams, A. M., & Andrew, L. (2012). Reducing the risk of violence towards remote area nurses: a violence management toolbox. *Aust J Rural Health, 20*(6), 329-333. doi: 10.1111/j.1440-1584.2012.01313.x

Molinari, D., & Monserud, M. (2008). Rural nurse job satisfaction. *Rural and remote health, 8*(4), 1055-1064.

Newman, B., & Berens, H. (2010). Occupational health-related experiences in rural Tasmania. *British Journal of Community Nursing, 15*(7), 355-359.

Opie, T., Dollard, M., Lenthall, S., Wakerman, J., Dunn, S., Knight, S., & Macleod, M. (2010a). Levels of occupational stress in the remote area nursing workforce. *Aust J Rural Health, 18*(6), 235-241. doi: 10.1111/j.1440-1584.2010.01161.x

Opie, T., Lenthall, S., Dollard, M., Wakerman, J., MacLeod, M., Knight, S., . . . Rickard, G. (2010b). Trends in workplace violence in the remote area nursing workforce. *Australian Journal of Advanced Nursing, 27*(4), 18-23.

Salmond, S., & Ropis, P. E. (2005). Job stress and general wellbeing: a comparative study of medical-surgical and home care nurses. *Medsurg Nurs, 14*(5), 301-309.

Stuart, E. H., Jarvis, A., & Daniel, K. (2008). A ward without walls? District nurses' perceptions of their workload management priorities and job satisfaction. *Journal of clinical nursing, 17*(22), 3012-3020. doi: 10.1111/j.1365-2702.2008.02316.x

Wakerman, J., & Davey, C. (2008). Rural and remote health management: 'the next generation is not going to put up with this…. *Asia Pacific Journal of Health Management, 3*(1), 13-18.

Weymouth, S., Davey, C., Wright, J. I., Nieuwoudt, L. A., Barclay, L., Belton, S., . . . Bowell, L. (2007). What are the effects of distance management on the retention of remote area nurses in Australia? *Rural and remote health, 7*(3), 652.

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60

Wong, A., & Lohfeld, L. (2008). Recertifying as a doctor in Canada: international medical graduates

and the journey from entry to adaptation. *Medical Education, 42*(1), 53-60. doi:

10.1111/j.1365-2923.2007.02903.x

23

STROBE Statement—checklist of items that should be included in reports of observational studies

	Item No	Recommendation
Title and abstract	1	(*a*) Indicate the study's design with a commonly used term in the title or the abstract **[Within the title page 1 and method section of the abstract page 1]**
		(*b*) Provide in the abstract an informative and balanced summary of what was done and what was found **[See results section of abstract page 1]**
Introduction		
Background/rationale	2	Explain the scientific background and rationale for the investigation being reported **[page 3-6]**
Objectives	3	State specific objectives, including any prespecified hypotheses **[page 6]**
Methods		
Study design	4	Present key elements of study design early in the paper **[page 6]**
Setting	5	Describe the setting, locations, and relevant dates, including periods of recruitment, exposure, follow-up, and data collection **[page 6]**
Participants	6	(*a*) *Cohort study*—Give the eligibility criteria, and the sources and methods of selection of participants. Describe methods of follow-up *Case-control study*—Give the eligibility criteria, and the sources and methods of case ascertainment and control selection. Give the rationale for the choice of cases and controls *Cross-sectional study*—Give the eligibility criteria, and the sources and methods of selection of participants **[page 6-7]**
		(*b*) *Cohort study*—For matched studies, give matching criteria and number of exposed and unexposed *Case-control study*—For matched studies, give matching criteria and the number of controls per case
Variables	7	Clearly define all outcomes, exposures, predictors, potential confounders, and effect modifiers. Give diagnostic criteria, if applicable **[N/A]**
Data sources/ measurement	8*	For each variable of interest, give sources of data and details of methods of assessment (measurement). Describe comparability of assessment methods if there is more than one group **[N/A]**
Bias	9	Describe any efforts to address potential sources of bias **[page 7]**
Study size	10	Explain how the study size was arrived at **[page 6]**
Quantitative variables	11	Explain how quantitative variables were handled in the analyses. If applicable, describe which groupings were chosen and why **[N/A]**
Statistical methods	12	(*a*) Describe all statistical methods, including those used to control for confounding
		(*b*) Describe any methods used to examine subgroups and interactions **[N/A]**
		(*c*) Explain how missing data were addressed **[N/A]**
		(*d*) *Cohort study*—If applicable, explain how loss to follow-up was addressed **[N/A]** *Case-control study*—If applicable, explain how matching of cases and controls was addressed *Cross-sectional study*—If applicable, describe analytical methods taking account of sampling strategy
		(*e*) Describe any sensitivity analyses

Continued on next page

Results

Participants	13*	(a) Report numbers of individuals at each stage of study—eg numbers potentially eligible, examined for eligibility, confirmed eligible, included in the study, completing follow-up, and analysed **[page 7-14]**
		(b) Give reasons for non-participation at each stage **[N/A]**
		(c) Consider use of a flow diagram **[N/A]**
Descriptive data	14*	(a) Give characteristics of study participants (eg demographic, clinical, social) and information on exposures and potential confounders **[page 7]**
		(b) Indicate number of participants with missing data for each variable of interest **[N/A]**
		(c) *Cohort study*—Summarise follow-up time (eg, average and total amount) **[N/A]**
Outcome data	15*	*Cohort study*—Report numbers of outcome events or summary measures over time **[N/A]**
		Case-control study—Report numbers in each exposure category, or summary measures of exposure **[N/A]**
		Cross-sectional study—Report numbers of outcome events or summary measures **[N/A]**
Main results	16	(*a*) Give unadjusted estimates and, if applicable, confounder-adjusted estimates and their precision (eg, 95% confidence interval). Make clear which confounders were adjusted for and why they were included **[N/A]**
		(*b*) Report category boundaries when continuous variables were categorized **[N/A]**
		(*c*) If relevant, consider translating estimates of relative risk into absolute risk for a meaningful time period **[N/A]**
Other analyses	17	Report other analyses done—eg analyses of subgroups and interactions, and sensitivity analyses **[N/A]**

Discussion

Key results	18	Summarise key results with reference to study objectives **[pages 14-17]**
Limitations	19	Discuss limitations of the study, taking into account sources of potential bias or imprecision. Discuss both direction and magnitude of any potential bias **[page 17]**
Interpretation	20	Give a cautious overall interpretation of results considering objectives, limitations, multiplicity of analyses, results from similar studies, and other relevant evidence **[pages14-17]**
Generalisability	21	Discuss the generalisability (external validity) of the study results **[page 10]**

Other information

Funding	22	Give the source of funding and the role of the funders for the present study and, if applicable, for the original study on which the present article is based **[page 18]**

*Give information separately for cases and controls in case-control studies and, if applicable, for exposed and unexposed groups in cohort and cross-sectional studies.

Note: An Explanation and Elaboration article discusses each checklist item and gives methodological background and published examples of transparent reporting. The STROBE checklist is best used in conjunction with this article (freely available on the Web sites of PLoS Medicine at http://www.plosmedicine.org/, Annals of Internal Medicine at http://www.annals.org/, and Epidemiology at http://www.epidem.com/). Information on the STROBE Initiative is available at www.strobe-statement.org.

BMJ Open

Workplace health and safety issues among community nurses: A study regarding the impact on providing care to rural consumers

SCHOLARONE™
Manuscripts

Workplace health and safety issues among community nurses: A study regarding the impact on providing care to rural consumers

Daniel Terry PhD[1*], Quynh Lê PhD[2], Uyen Nguyen BN[2] and Ha Hoang PhD[2]

[1]The Department of Rural Health, The University of Melbourne, 49 Graham Street, Shepparton Victoria, Australia
[2]The Centre for Rural Health, University of Tasmania, 1 Newnham Way, Launceston, Tasmania, Australia

*Corresponding author:
49 Graham Street, Shepparton
Victoria 3632 Australia
d.terry@unimelb.edu.au

1

Workplace health and safety issues among community nurses: A qualitative study regarding the impact on providing care to rural consumers

Abstract

Objectives: The objective of the study was to investigate the types of workplace health and safety issues rural community nurses encounter and the impact these issues have on providing care to rural consumers.

Methods: The study undertook a narrative inquiry underpinned by a phenomenological approach. Community nursing staff who worked exclusively in rural areas and employed in a permanent capacity were contacted among 13 of the 16 consenting health care services. All community nurses that expressed a desire to participate were interviewed. Data were collected using semi-structured interviews with 15 community nurses in rural and remote communities. Thematic analysis was used to analyse interview data.

Results: The role, function and structures of community nursing services varied greatly from site to site and were developed and centred on meeting the needs of individual communities. In addition, a number of workplace health and safety challenges were identified and were centred on the geographical, physical and organisational environment that community nurses work across. The workplace health and safety challenges within these environments included driving large distances between clients homes and their office which lead to working in isolation for long periods and without adequate communication. In addition other issues included encountering, managing and developing strategies to deal with poor client and carer behaviour; working within and negotiating working environments such as the poor condition of patient homes and clients smoking; navigating animals in the workplace; vertical and horizontal violence; and issues around workload, burnout and work-related stress.

2

Conclusion: Many nurses achieved good outcomes to meet the needs of rural community health consumers. Managers were vital to ensure service objectives were met. Despite the positive outcomes, many processes were considered unsafe by community nurses. It was identified that greater training and capacity building are required to meet the needs among all staff.

Keywords: Community health nursing, Rural Nursing, Occupational Health, Workplace Health and Safety

Strengths and limitations of this study

- Community nurses experience many workplace health and safety issues within daily practice that may lead to dissatisfaction, poor mental health, absenteeism and staff turnover and this study highlights that many practices and processes remain unsafe among community nursing services.

- It also highlights that community nurses have developed strategies to prevent workplace health and safety, despite inadequacies within current quality improvement and pastoral care systems

- It is recognised that improved policy and greater training and capacity building regarding workplace health and safety are required to address current inadequacies.

- The advantage of using qualitative research is to better understand the lived experience, the challenges they encounter and gain greater insight into community nurses as they work and live in rural Tasmania. The strength of the study is that the interviews were giving voice to the community nurses. It was perceived by the participants that it was a vital opportunity for them to tell their story and that someone was actually listening. In many cases, the community nurses were speaking candidly with the researchers.

3

Introduction

In Australia, over 25% of health care professionals work in rural areas. These health workers are more vulnerable to occupational injury, work instigated disability, and are at higher risk of experiencing prolonged work absence due to WHS issues.[1] In many cases, this is due to "risk factors such as heavy workloads, long hours, heavy on-call demands, high stress levels, limited support and workplace violence".[1]

It has been suggested that the greater demand of the health workforce in rural areas is due to a number of intrinsic and extrinsic rural challenges. These include poorer health outcomes and lower life expectancy within the rural population.[2] Also there are higher rates of violence, disability, poisoning and accidents in rural communities. In addition, rural healthcare delivery systems are often different in terms of resources availability and models of care than larger urban health care systems.[1-3]

This diversity of delivery systems, delayed health seeking and poorer overall health in rural areas has implications for community nurses.[3] Community health nursing is recognised as a synthesis of public health care and nursing applied to protect and promote the health of population and fundamental to maximise the health of individuals, families, groups, and communities.[4,5] However, in rural and remote contexts, community nurses play a generalist role due to smaller populations and clients with a broad range of medical conditions. In addition, their nursing practice in rural areas has developed to be more around crisis management rather than preventative care. Rural community nurses are also often described as being 'multi-specialist' in knowledge and skills to care for a diverse population and client needs.[4,5]

Workplace Health and Safety (WHS) seeks to protect the safety and health of all individuals in the work environment from exposure risks and hazards resulting from work.[6,7] Within health, nursing and community nursing, stressors related to WHS issues are evident within daily practice. These

4

stressors may include poor quality of care, dissatisfaction with employment and health care workload. Other critical stressors include cognitive, physical, behavioural and emotional stressors within the health care workplace.[8, 9]

In addition to the day-to-day demands of health practice, community nurses may experience inadequate staffing levels, frequent overtime, on-call duties, violence in the work place, limited opportunities for career development, professional isolation, concerns for personal safety, and limited management support and supervision.[10] These factors may lead to occupational stress and high staff turnover and are outlined in greater detail.

Stress and burnout

Stress is a common issue in community nurse populations which leads to nurses having a greater likelihood of taking time away from work.[11, 12] Factors such as emotional demands, staffing problems, work pressure, responsibilities and expectations, social issues, poor management and safety concerns can be link with psychological distress and emotional exhaustion. Other reasons leading to stress, particularly in rural areas, may include lack of replacement staff and the inability to take leave for personal, medical, or professional development.[12-15]

Workload

Stress and difficult workload management tend to relate to excessive work, rather than challenging care situations. Increased workload has shown to adversely impact the quality of attention community nurses give to their patients which leads to dissatisfied and guilt.[16] Furthermore, it was shown that community nurses worked without regular breaks, with the majority experienced busy schedules seeing clients. Newman and Berens,[11] in their study, indicated that 90% of community nurses stopped for lunch, however the timing of their lunch was at odd times, while 10% did not stop and ate in the car between clients. In most cases, no time was allocated or taken for morning or afternoon breaks.

5

Environment

An additional impact on workload is that community nurses have to travel long distance to and from each client's house that may often be time consuming and exhausting. To add to their difficulties the road conditions in these areas are not always well developed or maintained. [17] Both the geography and climate of rural areas can increase the vulnerability of rural healthcare workers. In some cases, weather related illness and injury leads to high levels of absenteeism from work.[18]

Physical injury

In addition to environmental hazards, physical hazards are experienced by community nurses, such as smoke, chemical, mechanical and exposure to biological infectious agents that increases the risk to safety.[19, 20] The most common physical injury among community nurses related to musculoskeletal disorders that include soft tissue and surrounding structures that occur in the neck, shoulder, elbow, hand, wrist, lower back, ankles and feet. A study conducted by Newman and Berens[11] revealed that 48% of all community nurses experienced an injury within their workplace that led to being absent from work from one to more than five days.

Violence at work

In Australia it was revealed that 86% of remote area nurses reported experiencing violence or aggression at work in the previous 12 months, compared with 43% of urban nurses. They also reported receiving limited or delayed support following critical incidents, such as violence. However, there is no indication if working in rural health care settings has an impact of health care workers being at a higher risk of workplace violence.[10]

Workplace violence in the health sector is destructive and has a negative impact on the professional and personal lives of health care workers, but also on the quality and coverage of care provided. This leads to deterioration of quality of care provided to clients with degeneration of working

6

environment. These factors lead to reduction in health services available to the rural population as

more nurses and a propensity to leave the profession.[4, 13, 15]

Although nurses in general experience many WHS challenges, much of the literature has focused on

remote area nurses and there is little evidence that focussed specifically on WHS among rural

community nurses.[12] On this basis, this study aimed to investigate the types of WHS issues rural

community nurses encounter and its impact on providing care to rural consumers. To achieve this

aim, the study sought to address a number of objectives, which included identifying the key WHS

issues that community nurses encounter; highlighting the impact WHS issues play on nursing

practice and provision of care; and what strategies community nurses develop and use to overcome

the WHS issues in their practice.

Methods

The research examined the WHS issues that are encountered by rural community nurses using a

narrative inquiry that was underpinned by a phenomenological approach. This study drew on

phenomenology as it allows a more developed understanding of the complexities concerning the

discourse of community nurses working in rural Tasmania. Phenomenology is a philosophy where

reality is viewed to be constructed from our own experiences and beliefs.[21-23] Phenomenology is the

study of the everyday subjective experiences of an individual's lived world, where meaning is shaped

and produced continuously.[24-26] Qualitative data were collected using semi-structured interviews

with 15 community nurses.

Setting

The research was conducted in the north, northwest, and northeast of Tasmania, a small island

stated of the southeast coast of mainland Australia that has a population of over 500,000 people and

a rural population of 35%.[27] The study sites included thirteen publically funded community nursing

services with ten in the north and north east and six community nursing services located across the

7

north west of the state. These services employ approximately 36 full-time equivalent (FTE) staff are

provided across approximately two thirds of the state where 50.2% of the population live.[27]

Participants

Participants were experienced, registered nurses working in rural areas of North and North-West

Tasmania. As the main purpose of the qualitative research was to provide an understanding of

workplace health and safety issues within the rural community nursing workforce, it was not

deemed necessary to recruit a large number of participants. Currently, 56 community nurses were

identified working across the two rural regions in full time and part time capacities. Merriam[28]

suggests "to discover, understand, and gain insight... one needs to select a sample from which one

can learn the most". Therefore, a sample of 10 – 15 participants was considered to not impact the

quality of the research project as the focus was on the richness and depth rather than on the

breadth of information obtained.

To achieve the aims of the study, those community nurses who worked exclusively in rural areas and

employed in a permanent capacity were invited to participate in the project. Due to the nature of

the subject of work health and safety issues and the impact that 'speaking out' may have on each

nurse, it was felt that community nurse participation needed to be made directly with each nurse

that was working in the area and that their participation was purely voluntary and they were fully

cognizant regarding the confidentiality of their participation.

Procedure All directors of nursing across the study area were approached for their support to the

study in 2013 with additional communication occurring in 2014. Each nurse unit manager or

community nursing staff that met the inclusion criteria were contacted with 13 of the 16 community

nursing services consenting to participate in the study. All community nurses from the 13 sites were

individually approached regarding the study and those that expressed a desire to participate in the

project were interviewed. On receipt of their individual consent, an interview was arranged at a convenient date and time.

Data collection

Data were collected face-to-face or via phone between August and October 2014 using semi-structured interviews. Semi-structured interviews were used as they allow for flexibility within the interview, which can ensure probing of further data which may not have been on the interview schedule.[24] This flexibility also allows no specific ordering of the questions to occur, which may be required.[24] The interviews were collected over an extensive time due to the busy schedules that community nurses maintained. At times interviews were conducted within lunch hours, after work and as requested by nurse managers, not in peak nursing times. Due to large distances or busy schedules phone interviews were conducted with four community nurses, while the remainder were undertaken face-to-face.

The interview schedule was based from a previous study by the authors that examined general health workforce and health service needs among community nurses in Tasmania, however the schedule was specifically developed to examine WHS issues rather than general workforce needs.[12] Each participant was interview once by author number three with interviews lasting between 30 and 90 minutes. Face-to-face interviews were held in a public place and were audio recorded with the permission of the participants. Similarly, permission was gained to audio record phone interviews over loud speaker within a private office of the university. The interviews were collected by a female registered nurse with interview training that was not a community nurse to reduce any bias.

Data analysis

The interviews were transcribed verbatim into Microsoft Word and then cross checked by a first and second researchers against audio recordings for anomalies or errors. Each participant was assigned a numerical code such as 'Nurse 3' or 'Nurse 6' and so on to maintain confidentiality. The data were

9

then imported to NVivo 10 software to assist with qualitative analysis. Throughout this process any hard copy data were stored in a locked, secure location identified within the University, while electronic data were be stored in a restricted folder located at the University. Access to the hardcopy or electronic data is restricted to the designated Archives Officer where a registry of project data are held.

Both face-to-face and phone data were then analysed to systematically identify recurring themes and experiences arising from the interviews by author one.[29, 30] To achieve this, the auto-coding function of NVivo 10 collated data based on question headings. Grouped data will be subject to double checking to ensure the integrity of the data. Additionally, thematic analysis of data was undertaken to identify key patterns and trends in the data and to compare expressed views. In the first stage, broad categories will be identified within an overall schema, and in the second stage, a detailed series of hierarchical nodes and sub-nodes were developed. Data were coded and, where necessary, extra nodes will be built into the schema. A number of quotations are included in the paper to illustrate and support the accounts emerging from the textual responses. ***Quality criteria and trustworthiness***

Qualitative research has been recognised as making a valuable contribution to improving healthcare practice and policy nowadays, but needs to establish different standards of rigour than quantitative studies.[31] Conventionally, the terms used to measure the quality or rigour of research are reliability and validly. Some argue that validity and reliability are important in qualitative research,[32] others argue that the reliability concept is misleading in qualitative research.[33] The quality of a study should be assessed within a framework suitable to its paradigm.[34] For instance, the terms reliability and validity are crucial criteria for quality in quantitative paradigms while the terms credibility, transferability, dependability, and confirmability are more suitable standards for judging quality and trustworthiness in qualitative paradigms.[35, 36] Nevertheless, the translation and development of criteria to assess the quality of qualitative research is still a disputed issue. [37] In this study credibility

10

was enhanced by the adoption of research methods successfully utilised in previous comparable

projects,[11-15, 18] frequent debriefing sessions between the research team and the advisory group, and

researchers' reflective commentary. Participants were also offered the opportunity to check their

interview transcripts and reflect on situations where they did not understand or they need to decide

what to do, etc. In addition, to validate the findings, the major themes were presented to study

participants and asked for responses to the major ideas. Additional literature was reviewed to

provide perspective on emerging understanding. Sufficient contextual information about the

fieldwork sites is provided to enable the reader to make a transfer to new situations that match

study situations as judged by closeness of descriptive findings. Dependability and confirmability of

findings were tested by rereading the data to determine the depth of evidence available for each of

the final themes analysed by the research team.

Ethics considerations

The project received no external funding and was approval from the Human Research Ethics

Committee (Tasmania) Network (H0013420). Participants provided written consent after being

informed of the study through a plain language statement and prior to their participation.

Results

The participants comprised fifteen community nurses, including thirteen females and two males

aged between 40 to 60 years of age. Ten nurses were from the Northern region, three nurses from

the north-west Tasmanian region, one from the east coast and one from the west coast of Tasmania.

The community nurses had worked an average of 8.8 years with the least experienced working in a

community setting for three years, while the most experienced had been working in the role for 31

years as indicated in Table 1.

Table 2: Demographics of community nurses

Variables	n (%)

11

Sex (N=15)	
− Male	2(13.3%)
− Female	13(86.7%)
Age groups (N=15)	
− 30-39	1 (6.7%)
− 40-49	3 (20.0%)
− 50-59 yrs	10 (66.6%)
− 60-65 yrs	1 (6.7%)
Location of community nurse (N=15)	
− In a large rural town	1 (6.7%)
− In a small rural town	12 (80.0%)
− Remote town	2 (13.3%)
Years of experience in community nursing (N=15)	
− 1-5 years	1 (6.7%)
− 6-10 years	2 (13.3%)
− 10-15 years	4 (26.6%)
− 16-20 years	2 (13.3%)
− 21- 25 Years	1 (6.7%)
− 26 years or more	5 (33.4%)

The role, function and structures of community nursing services varied greatly from site to site. For

example, some nurses were sole practitioners working largely in isolation, others worked in small

teams with other community nursing staff, while others worked with enrolled nurses or carers. In

addition, some community nursing services were predominantly centre based with staff rarely

providing nursing care in client homes, while others worked predominantly in the community with

minimal or no centre based service provision.

A number of key WHS themes were identified from the interview data that centred on geographical,

physical and organisational environment issues as highlighted in Table 2 and discussed in detail

below.

Table 2: *Coding used within thematic analysis of community nurses*

Themes	Sub-themes	Clusters
Geographical environment issues	− Driving large distances − Working in isolation	− Road condition − Travel times − Weather − Wildlife − Lack of attention

		− Personal safety − Remoteness − Poor phone reception − Vulnerability
Physical environment issues	− Client behaviour − Home condition − Animals − Smoking issues	− Unpredictable clients − Aggression and violence − Poor home condition − Fire hazard − Clutter − Poor bathrooms and beds − Equipment risk working alone − Aggressive animals − Poor infection control − Passive smoking
Organisation environment issues	− Vertical and horizontal violence − Workload, burnout and work-related stress	− Manager and staff violence − Bullying − Extremes of workload − Documentation − Dealing with the dying − Dealing with client families

Geographical environment issues

Among many community nurses, there were a number of WHS issues that centred on geography

that were highlighted and included concerns around large travel distances and working in isolation.

Driving large distances: Driving was considered the greatest hazard within the workplace with major

driving issues including great travel distances, long travel times, road condition, and the impact that

weather played in road safety. Other issues included encountering wildlife when driving, lack of full

attention while driving due to looking for client addresses particularly in rural and remote areas; or

lack of concentration due to thinking about workload and prioritisation. One nurses stated driving

was stressful due to "just being on the road with other cars and trucks... one day, I even had a

kangaroo jump off the bank in front of the car" (Nurse 5, 53 years old, woman).

Beyond other drivers and wildlife, the weather had an impact on staff safety. Some examples that

were highlighted included extreme weather such as wild winds causing trees to fall across roads;

flooding that impacted access to client homes; extreme hot and cold weather; fog; frost; rain or

13

snow causing slick and icy roads. These types of conditions not only posed a palpable risk to community nurses' WHS, but also put them under pressure when service delivery had been compromised due to road closure and alternative longer routes were required to see clients.

Although driving was considered stressful, nurses felt there was a level of acceptance concerning driving. For example, one nurse stated "you just accept it. If you have to go out to remote areas, then you just go. That is what we do" (Nurse 5, 53 years old, woman). Another participant stated that it was the current process of vehicle use and mitigating vehicle theft and damage that left her, as a person, feeling vulnerable. In her case, as with her colleagues, work vehicles were returned more than 30 kilometres from her workplace, to a city compound each night, which posed personal safety concerns.

> "After dark, sometimes I'm the only one there [at the compound]... I have to physically open
> and shut the gate by myself... I always ring my husband and say I'm on my way if I'm late so
> he knows... it is not safe." (Nurse 4, 45 years old, woman)

Working in isolation: The concern of working in isolation and being vulnerable were echoed among other participants. Within this study, it was shown that community nurses were working on their own in client's homes that were quite remote. In these rural areas mobile or cell phone coverage is often temperamental or nonexistent. Nurses reported frequent dropout areas especially in very remote areas away from town centres. They were concerned for their safety when being out working on their own and losing communication with the administration staff. One nurse stated "a big problem is communication. When you use a mobile phone... it probably will not work. There is usually no signal and that is big a problem" (Nurse 2, 47 years old, woman).

Another nurse shared her experience where she was made aware of the client's history of violence and who was living in a remote area of Tasmania. She said "anything could have happened and no one would have known until the end of the day... I was completely vulnerable" (Nurse 3, 49 years

14

old, woman). Another example was shared by another community nurse who was working on one of the remote islands of Tasmania, when she received an after-hours telephone call through the night from a client who requested a home visit. She said "I didn't feel comfortable going out at night, not knowing the island, the client lived in a quite isolated part of the island and you are really there on your own" (Nurse 1, 57 years old, woman).

Physical environment issues

Working in isolation can also impact when working in people's homes as nurses may encounter a number of challenges that are not observed within the acute setting. These issues included the condition of the home; access to the home; animals in the home; smoking issues; trip hazards; family domestic issue; falls risk for clients and community nurses; firearms; and tension between community nurses and clients related to home modification, while attempting to negotiate client care.

Client behaviour: A client's home was highlighted as a unique and 'uncontrolled' work environment that is unpredictable, unable to be prepared and often not well equipped to provide certain types of care adequately. The most common WHS issue within a client's home was working with each individual client and overcoming the issues around poor behaviour. Aggressive behaviour from a client or their family members was the most commonly cited issue. Six participants stated that they encountered aggression and violence. The most common was verbal abuse or verbal threats and in some cases there was physical aggression. This was demonstrated by one community nurse who stated

> *I was caring for a lady with dementia... her husband who was her carer didn't understand*
>
> *dementia at all... and it was a very, very difficult relationship. In the end it got so bad that*
>
> *this fellow actually threatened my life. He said 'I'll shoot you'... 'Don't come in, I'll shoot you'*

15

… he was so frustrated at the whole situation... he couldn't cope. (Nurse 4, 45 years old, woman)

Participants indicated that aggression commonly involved clients with dementia or a mental illness. In these cases when aggression was observed, participants stated that they would communicate with the client, investigate root causes of the situation and offer social support or immediately leave depending on the severity of risk. One nurse stated that

In some cases I would back out immediately and leave the scene, while in other cases I may try to talk the client around and calm them down. It depends on whether anyone else in the house is at risk... I have, on a few occasions managed the situation until the police and ambulance arrived. (Nurse 6, 51 years old, man)

Home condition: When highlighting the condition of a client's home condition, participants said they were 'less than savoury' or 'horrendous'. Various homes were cluttered, filthy, and untidy with unpleasant odours. Other homes had poor ventilation, poor lighting, or damp floors. In one case, there was a snake found in a client's home and to facilitate greater WHS standards, the client had keep the area around the home clear of clutter and have the grass cut regularly.

At times bathrooms were too small and beds were too low to provide appropriate and safe care. Manual handling issues included heavy patient lifting and positioning clients that related to the care of palliative care clients and wound-care-related activities. For example, one rural community nurse stated "bending over the bed is really hard to prevent if you are caring for someone who is palliative in a double bed" (Nurse 4*, 45 years old, woman*). At times, it was highlighted that appropriate equipment was unavailable, delivery was often delayed or that the community nurse may be the sole operator of the equipment which may place them at greater risk.

16

Despite the manually handling issues, and the condition of the home, it was stated that the community nurses always try to improve the manual handling situation or condition of the home for the client and for their own safety. However, one nurse stated

> *We try and educate people, but often they have lived in this sort of environment for so long. It's a comfortable environment for them and if we go in and start posing our values and judgment too much, it may not work and it is not really what we do. (Nurse 15, 52 years old, woman)*

For these specific situations, community nurses would try and educate clients; offer services to help cleaning; wear protective equipment; create a clean zone where possible; and discuss with clients and families how best to provide care through the use of additional equipment.

Animals: It was recognised that animals such as a dog or a cat may be beneficial for many clients, particularly the elderly, as they provide company and emotional attachment. However, some community nurses did express discomfort when working home environments where animals were present, such as large barking dogs or dogs that become aggressive when providing physical care to a client. In addition to the safety risk of pets, it was highlighted that animals at times may compromise an aseptic field or impact infection control by sitting on or walking past wound dressing trays, licking a client's wound or due to the owner poor maintenance of the pets overall needs that impact the health of the owner.

Smoking issues: Beyond animals, smoking was raised as a significant concern. One participant stated clients have the right to smoke in their own home, but as the home is also a community nurses' work environment and that it creased a "difficult social paradox" (Nurse 8, *52 years old, woman*). Participants agreed that passive smoking is dangerous for their health and is a WHS issue that remains difficult to overcome. In many instances, clients were requested not to smoke while the

17

nurse was presents but to participants it did not change the environment where cigarette smoke had been building up over time.

Regardless of the issues that community nurses encountered, there were always difficult decisions to be made which by the community nurse, to accept the current risk(s) and continue care or withdraw service. Most participants said before withdrawing service they would propose creative solutions with the client then let them decide whether the service would be continued or ceased.

> *I have had experience of patient's houses not being safe places to work in and there's ways around that. You'd bring them into the district hospital to deliver wound care or shower them... because their home environment was not conducive to safe practice. (Nurse 9, 55 years old, woman)*

Organisation environment issues

In addition to the geographic and physical WHS issues that community nurses encountered, they also experienced WHS issues that were embedded within the organisations where they were employed. The three key issues participants highlighted encompassed workload challenges, vertical and horizontal violence and work-related stress.

Vertical and horizontal violence: Among the participants, there was a mixed response regarding the experience of vertical and horizontal violence in the workplace. Three participants confirmed they got along well with their colleagues, two highlighted issues with both managers and staff, while three participants shared stories of bullying and harassment from their managers and other staff. One participant indicated that she did not want to discuss the issue, however stated that she was aware of it occurring in her workplace. Overcoming violence, various strategies were attempted to be employed, such as risk assessment and cultural safety techniques yet were all based on experience, advice of other staff and not based on service policy.

18

When asked about the biggest workplace health and safety issue that impacts on their health, three participants emphasised vertical violence that had occurred in various situations as community nurses. The overall detrimental effect was so intense that community nurses required ongoing counselling and psychology consultation for high level of stress, anxiety and depression. They each share similar stories of taking stress leave which led to eventually leaving their respective workplaces. It was indicated that they were not the only community nurses to experience this type of vertical violence, stating that many staff had left the various workplaces and even the profession altogether.

Workload, burnout and work-related stress: Within the community nursing setting, workload fluctuates throughout the year where there may be higher or lower than normal client numbers. However, this workload may fluctuate week to week and day to day. When busy, community nurses' workload may be very heavy due to time constraints, large amount of documentation or due to taking on extra clients and responsibilities when staff are on leave or sick. One participant suggested that the time required delivering care for clients varied depending on their individual care needs and the impact of overall workload. Some participants shared similar experience where unanticipated situations occur suddenly that may impact their work day even when carefully planned in advance.

> *You might visit someone and they have had a fall. So your planned 15-20 minutes visit will turn into a couple of hours. You may have to get the ambulance or you would have to wait for their family to come. (Nurse 15, 52 years old, woman)*

In addition to the fluctuation of workload there were other major factors that cause stress and burnout among community nurses and was felt to be a WHS issue if appropriate support was not provided. Caring for palliative clients and encountering confronting situations, such as death and tragedy was the most discussed burnout issue among participants. It many cases a number of community nurses called it 'compassion fatigue', a common stress factor among community nurse as

19

"we deal with quite gory things a lot of the time and people get burned out" (Nurse 3 49 years old, woman). This was further reflected by one community who stated that they had more than nine palliative care clients that required daily care at various times over a period of 18 months.

Despite these challenges, many participants showed strong self-awareness and discussed work-life balance, such as not taking work home or taking a break or time off if necessary. Participants said they would share their stress or concerns with colleagues, managers or loved ones, however not all of them was able to do this. It was highlighted that community nurses would, if possible, organise their workloads to share clients if a nurse was overloaded with palliative clients.

Discussion

The WHS issues and challenges that were highlighted were many, complex and centred on the 'environments' where community nurses were working at the time. It was noted that many of the WHS issues were reflective of the current literature that is focussed on remote area nursing and there were many commonalities between the two disciplines. This included working across large geographical areas, working in isolation, driving issues; poor behaviour from clients and family members. It also encompassed the state of the client's homes, manual handling issues especially relating to palliative care; workplace issues including conflict, bullying, excessive workload, stress and burnout.[1, 15, 17, 18, 38-42]

Despite the consistencies within the literature, the research also revealed that there were key skills that had been developed, emerged or were suggested to meet or at least 'making do' the WHS challenges that were encountered. The strategies that were elucidated were often aspirational and included organisational approaches to remove stress. These also included addressing overall workplace demands, a greater focus on improved debriefing systems, and greater awareness of and access to employee assistance programs. In addition, coping with stress and burnout included seeking social support, planned problem solving, self-controlling, positive reappraisal.[38] Each of

20

these mechanisms were felt to provide more effective management of the emotional demands

inherent in the workplace.

Overcoming violence, various strategies were attempted to be employed, such as risk assessment

and cultural safety techniques. However, these approaches were often not based on policy and

procedure, but on experience and advice sought from other community nurses. In addition

educating staff around violence, its negative consequences was highlighted, but rarely provided to

staff. Similarly, implementing zero tolerance as part of the workplace culture was aspirational, yet in

many cases was not consistently occurring in practice. In addition, it was suggested that health

services need to work more closely with communities to develop greater safety programs to address

violence between health consumers and health care providers.[43]

In terms of strategies to prevent musculoskeletal disorders it has been suggested a risk assessment

to be conducted during the first visit to a client's home, which was dependent upon the service and

the assessments that were developed. In addition to assessing and addressing client's needs, it was

felt that community nurses required additional time for thorough WHS assessments and planning

with adequate devices and procedures to be in place until care could be provided. Another

intervention that was considered to be beneficial was aerobic and strength building exercise training

program for nursing staff .[44]

Beyond the day-to-day WHS issues that many community nurses were encountering and addressing

as best they could, it was demonstrated that current approaches to workload issues were

inadequate. For example, addressing workload issues included client load being divided between

teams or frequent rotation of staff between clients. This addressed driving distance issues and

overburden of client contact, however decreased continuity of care among clients. In other

circumstances it was shown that when workload was excessive, nurses would prioritise tasks that

may have included, cancelling appointments, not completing paperwork in a timely manner or

working unpaid overtime to meet the needs of the service. There was great autonomy among staff;

21

however, currently there were poor processes in place to ensure the capable and well skilled staff are practicing safely when providing care in a complex and unforgiving environment.

Overall, there were a number of issues that were highlighted which included chronic underfunding of services; lack of discipline specific training and access to training for rural community nurses; poor quality improvement and pastoral care systems; and workforce supply problems, encompassed by poor recruitment, staff relief systems and inadequate orientation of new staff. In addition, it highlights that there is inadequate preparation and capacity of a number of operational managers to appropriately manage systems and support staff to meet the needs of the community in an environment that is centred on WHS practices.

Limitations

It must be noted that a number of telephone interviews were undertaken, which may have influenced the data that were collected in terms of quality and its depth of information. Face-to-face interactions allow greater probing, clarification and more in-depth data to be gathered from the participants than telephone interview.[24, 25, 45] However, to undertake face-to-face interviews with these select community nurses was impacted by five hour travel distances or the inability to meet due to work schedules and commitments of the nurses. As an alternative to no interview, the phone interviews were seen as the best alternative.

Lastly, the role, function and structures of community nursing services varied greatly from site to site and these difference may have influenced the participants´ responses as they may have encountered quite difference WHS challenges. However, the themes that occurred among most community nurses was reported within this paper. In some cases, site specific challenges, such as dealing with animals that were brought into the community nursing clinic for care, were outside the scope of the paper.

Conclusion

22

Overall, it was indicative that many nurses were achieving good outcomes to meet the needs of community health consumers. In many cases, management were assisting their staff to achieve service objectives under the auspice of WHS practices. However, many current processes that were highlighted by participants were considered unsafe, unsustainable, impracticable, and demonstrated a number of underlying issues within the current community health system. Again, it was highlighted that many community nurses and managers were doing their best, however, greater training and capacity building is required to meet the needs among all staff. Meeting the needs of the community was achieved, however there was a reactive approach among many services and health care providers, rather than a proactive approach to ensure both nursing staff and health consumers were safe when providing care.

References

1. Franche R, Murray EJ, Ostry A, Ratner PA, Wagner SL, Harder HG. Work disability prevention in rural areas: a focus on healthcare workers. Rural & Remote Health. 2010;10(4):1-24.

2. AIHW. Rural Health. In: Welfare AIoHa, editor. Canberra: Australian Government; 2013.

3. Molinari D, Monserud M. Rural nurse job satisfaction. Rural and Remote Health. 2008;8(4):1055-64.

4. Hunsberger M, Baumann A, Blythe J, Crea M. Sustaining the rural workforce: nursing perspectives on worklife challenges. The Journal of Rural Health. 2009;25(1):17-25.

5. MacLeod M, Browne AJ, Leipert B. International perspective: Issues for nurses in rural and remote Canada. Australian Journal of Rural Health. 1998;6(2):72-8.

6. Danna K, Griffin RW. Health and well-being in the workplace: A review and synthesis of the literature. Journal of management. 1999;25(3):357-84.

7. Hilgert J. Future of Workplace Health and Safety as a Fundamental Human Right, The. Comparative Labour Law and Policy Journal. 2012;34:715-36.

8. Stuart EH, Jarvis A, Daniel K. A ward without walls? District nurses' perceptions of their workload management priorities and job satisfaction. Journal of Clinical Nursing. 2008;17(22):3012-20.

9. Salmond S, Ropis PE. Job stress and general wellbeing: a comparative study of medical-surgical and home care nurses. Medsurg nursing : official journal of the Academy of Medical-Surgical Nurses. 2005;14(5):301-9.

10. Ellis I, Kelly K. Health infrastructure in very remote areas: an analysis of the CRANA Bush Crisis Line database... Council of Remote Area Nurses of Australia. Australian Journal of Rural Health. 2005;13(1):1-2.

11. Newman B, Berens H. Occupational health-related experiences in rural Tasmania. British Journal of Community Nursing. 2010;15(7):355-9.

24

12.   Barrett A, Terry DR, Lê Q. Rural community nurses: Insights into health workforce and health service needs in Tasmania. Launceston: University of Tasmania, 2014.

13.   Kaasalainen S, Brazil K, Williams A, Wilson D, Willison K, Marshall D, et al. Barriers and enablers to providing palliative care in rural communities: a nursing perspective. Journal of Rural and Community Development. 2012;7(4):4-19.

14.   Weymouth S, Davey C, Wright JI, Nieuwoudt LA, Barclay L, Belton S, et al. What are the effects of distance management on the retention of remote area nurses in Australia? Rural and remote health. 2007;7(3):652.

15.   MacLeod M, Browne AJ, Leipert B. Issues for nurses in rural and remote Canada. The Australian Journal Of Rural Health. 1998;6(2):72-8.

16.   Gershon RRM, Stone PW, Zeltser M, Faucett J, MacDavitt K, Chou S-S. Organizational climate and nurse health outcomes in the United States: a systematic review. Industrial Health. 2007;45(5):622-36.

17.   Wakerman J, Davey C. Rural and remote health management: 'the next generation is not going to put up with this…. Asia Pacific Journal of Health Management. 2008;3(1):13-8.

18.   Opie T, Dollard M, Lenthall S, Wakerman J, Dunn S, Knight S, et al. Levels of occupational stress in the remote area nursing workforce. Aust J Rural Health. 2010;18(6):235-41.

19.   Billay E. Personal safety of Alberta public health and home care nurses during home visiting [M.N.]. Ann Arbor: University of Alberta (Canada); 2001.

20.   Bushy A. International perspectives on rural nursing: Australia, Canada, USA. Australian Journal of Rural Health. 2002;10(2):104-11.

21.   McConnell-Henry T, Chapman Y, Francis K. Unpacking Heideggerian phenomenology. Southern Online Journal of Nursing Research. 2009;9(1):6-16.

22.   Creswell JW. Qualitative inquiry and research design: choosing among five traditions. Thousand Oaks: Sage Publications; 1998.

25

23. Carpenter DR. Phenomenology as Method. In: Speziale HJS, Streubert HJ, Carpenter DR, editors. Qualitative research in nursing: Advancing the humanistic imperative. 5th ed. Philadelphia: Lippincott Williams & Wilkins; 2010.

24. Bowling A. Research methods in health: Investigating health and health services. 2nd ed. Berkshire: Open University Press; 2005.

25. Liamputtong P, Ezzy D. Qualitative research methods. 2nd ed. South Melbourne: Oxford University Press; 2005.

26. Greenhalgh T. Primary health care: theory and practice. Malden, Mass: Blackwell/BMJ Books; 2007.

27. ABS. Census 2011 Canberra: Australian Bureau of Statistics; 2011 [cited 2014 20 January]. Available from: http://www.abs.gov.au.

28. Merriam S. Qualitative research. A guide to design and implementation. San Francisco: John Wiley & Sons; 2009.

29. Braun V, Clarke V. Using thematic analysis in psychology. Qualitative Research in Psychology. 2006;3(2):77-101.

30. Fereday J, Muir-Cochrane E. Demonstrating rigor using thematic analysis: A hybrid approach of inductive and deductive coding and theme development. International Journal of Qualitative Methods. 2008;5(1):80-92.

31. Dixon-Woods M, Sutton A, Shaw R, Miller T, Smith J, Young B, et al. Appraising qualitative research for inclusion in systematic reviews: a quantitative and qualitative comparison of three methods. Journal of health services research & policy. 2007;12(1):42-7.

32. Patton MQ. Qualitative evaluation and research methods. Thousand Oaks, CA: Sage; 2002.

33. Flick U. An introduction to qualitative research. London: Sage; 2006.

34. Healy M, Perry C. Comprehensive criteria to judge validity and reliability of qualitative research within the realism paradigm. Qualitative market research: An international journal. 2000;3(3):118-26.

26

35.   Guba EG. Criteria for assessing the trustworthiness of naturalistic inquiries. Educational Technology Research and Development. 1981(29):75-91.

36.   Lincoln YS, Guba EG. Naturalistic inquiry. Newbury Park (CA): Sage; 1985.

37.   Atkins S, Lewin S, Smith H, Engel M, Fretheim A, Volmink J. Conducting a meta-ethnography of qualitative literature: lessons learnt. BMC medical research methodology. 2008;8(1):21.

38.   Hegney D, McCarthy A, Rogers-Clark C, Gorman D. Why nurses are attracted to rural and remote practice. Australian Journal of Rural Health. 2002;10(3):178-86.

39.   Lenthall S, Wakerman J, Opie T, Dollard M, Dunn S, Knight S, et al. What stresses remote area nurses? Current knowledge and future action. Aust J Rural Health. 2009;17(4):208-13.

40.   Lenthall S, Wakerman J, Opie T, Dunn S, MacLeod M, Dollard M, et al. Nursing workforce in very remote australia, characteristics and key issues. Australian Journal of Rural Health. 2011;19(1):32-7.

41.   McCullough KM, Lenthall S, Williams AM, Andrew L. Reducing the risk of violence towards remote area nurses: a violence management toolbox. Aust J Rural Health. 2012;20(6):329-33.

42.   Opie T, Lenthall S, Dollard M, Wakerman J, MacLeod M, Knight S, et al. Trends in workplace violence in the remote area nursing workforce. Australian Journal of Advanced Nursing. 2010;27(4):18-23.

43.   Hegney D, Plank A, Parker V. Workplace violence in nursing in Queensland, Australia: a self-reported study. International Journal of Nursing Practice. 2003;9(4):261-8.

44.   Joseph GM, Skinner MW, Yantzi NM. The weather-stains of care: interpreting the meaning of bad weather for front-line health care workers in rural long-term care. Soc Sci Med. 2013;91:194-201.

45.   Minichiello V. Interview processes. In: Minichiello V, Aroni R, Timewell E, editors. In-Depth Interviewing. 3rd ed. Melbounre: Pearson Education; 2008.

27

Consolidated criteria for reporting qualitative studies (COREQ): 32-item checklist

YOU MUST PROVIDE A RESPONSE FOR ALL ITEMS. ENTER N/A IF NOT APPLICABLE

No. Item	Guide questions/description	Reported on Page #
Domain 1: Research team and reflexivity		
Personal Characteristics		
1. Inter viewer/facilitator	Which author/s conducted the inter view or focus group?	Page 9, para 3
2. Credentials	What were the researcher's credentials? E.g. PhD, MD	Page 9, para 3
3. Occupation	What was their occupation at the time of the study?	Page 9, para 3
4. Gender	Was the researcher male or female?	Page 9, para 3
5. Experience and training	What experience or training did the researcher have?	Page 9, para 3
Relationship with participants		
6. Relationship established	Was a relationship established prior to study commencement?	Page 9, para 1
7. Participant knowledge of the interviewer	What did the participants know about the researcher? e.g. personal goals, reasons for doing the research	N/A
8. Interviewer characteristics	What characteristics were reported about the inter viewer/facilitator? e.g. Bias, assumptions, reasons and interests in the research topic	Page 9, para 3
Domain 2: study design		
Theoretical framework		
9. Methodological orientation and Theory	What methodological orientation was stated to underpin the study? e.g. grounded theory, discourse analysis, ethnography, phenomenology, content analysis	Page 7, para 2
Participant selection		
10. Sampling	How were participants selected? e.g. purposive, convenience, consecutive, snowball	Page 8, para 2
11. Method of approach	How were participants approached? e.g. face-to-face, telephone, mail, email	Page 7-10
12. Sample size	How many participants were in the study?	Page 11, para 2

13. Non-participation	How many people refused to participate or dropped out? Reasons?	N/A
Setting		
14. Setting of data collection	Where was the data collected? e.g. home, clinic, workplace	Page 7-10
15. Presence of non-participants	Was anyone else present besides the participants and researchers?	Page 7-10
16. Description of sample	What are the important characteristics of the sample? e.g. demographic data, date	Page 8, para 2-3
Data collection		
17. Interview guide	Were questions, prompts, guides provided by the authors? Was it pilot tested?	Page 9, para 2
18. Repeat interviews	Were repeat inter views carried out? If yes, how many?	N/A
19. Audio/visual recording	Did the research use audio or visual recording to collect the data?	Pages 8-9
20. Field notes	Were field notes made during and/or after the inter view or focus group?	N/A
21. Duration	What was the duration of the inter views or focus group?	Page 9, para 3
22. Data saturation	Was data saturation discussed?	N/A
23. Transcripts returned	Were transcripts returned to participants for comment and/or correction?	Pages 10-11
Domain 3: analysis and findings		
Data analysis		
24. Number of data coders	How many data coders coded the data?	Page 10, para 3
25. Description of the coding tree	Did authors provide a description of the coding tree?	Pages 10-11
26. Derivation of themes	Were themes identified in advance or derived from the data?	Pages 10-11
27. Software	What software, if applicable, was used to manage the data?	Pages 9-10
28. Participant checking	Did participants provide feedback on the findings?	Pages 10-11
Reporting		
29. Quotations presented	Were participant quotations presented to illustrate the themes/findings? Was each quotation identified? e.g. participant number	Pages 13-18
30. Data and findings consistent	Was there consistency between the data presented and the findings?	Pages 19-20
31. Clarity of major themes	Were major themes clearly presented in the findings?	Pages 19-20
32. Clarity of minor themes	Is there a description of diverse cases or discussion of minor themes?	Pages 19-20

Once you have completed this checklist, please save a copy and upload it as part of your submission. When requested to do so as part of the upload process, please select the file type: *Checklist*. **You will NOT be able to proceed with**

submission unless the checklist has been uploaded. Please DO NOT include this checklist as part of the main manuscript document. It must be uploaded as a separate file.

Standards for Reporting Qualitative Research (SRQR)		
No. Item	**Guide questions/description**	**Reported on Page #**
Title and abstract		
S1 Title	Concise description of the nature and topic of the study Identifying the study as qualitative or indicating the approach (e.g., ethnography, grounded theory) or data collection methods (e.g., interview, focus group) is recommended	Page 1
S2 Abstract	Summary of key elements of the study using the abstract format of the intended publication; typically includes background, purpose, methods, results, and conclusions	Page 2
Introduction		
S3 Problem formulation	Description and significance of the problem/phenomenon studied; review of relevant theory and empirical work; problem statement	Pages 3-7
S4 Purpose or research question	Purpose of the study and specific objectives or questions	Page 7, para 2
Methods		
S5 Qualitative approach and research paradigm	Qualitative approach (e.g., ethnography, grounded theory, case study, phenomenology, narrative research) and guiding theory if appropriate; identifying the research paradigm (e.g., post positivist, constructivist/interpretivist) is also recommended; rationale	Page 7, para 3
S6 Researcher characteristics and reflexivity	Researchers' characteristics that may influence the research, including personal attributes, qualifications/experience, relationship with participants, assumptions, and/or presuppositions; potential or actual interaction between researchers' characteristics and the research questions, approach, methods, results, and/or transferability	Page 8-9
S7 Context	Setting/site and salient contextual factors; rationale	Page 8-9
S8 Sampling strategy	How and why research participants, documents, or events were selected; criteria for deciding when no further sampling was necessary(e.g., sampling saturation); rationale	Page 8-9
S9 Ethical issues pertaining to human subjects	Documentation of approval by an appropriate ethics review board and participant consent, or explanation for lack thereof; other confidentiality and data security issues	Page 10
S10 Data collection methods	Types of data collected; details of data collection procedures including(as appropriate) start and stop dates of data collection and analysis, iterative process, triangulation of sources/methods, and modification of procedures in response to evolving study findings; rationale	Page 8-9
S11 Data collection	Description of instruments (e.g., interview guides,	Page 8-9

instruments and technologies	questionnaires)and devices (e.g., audio recorders) used for data collection; if/how the instrument(s) changed over the course of the study	
S12 Units of study	Number and relevant characteristics of participants, documents, or events included in the study; level of participation (could be reported in results)	N/A
S13 Data processing	Methods for processing data prior to and during analysis, including transcription, data entry, data management and security, verification of data integrity, data coding, and anonymization/DE identification of excerpts	Page 9-10
S14 Data analysis	Process by which inferences, themes, etc., were identified and developed, including the researchers involved in data analysis; usually references a specific paradigm or approach; rationale b	Page 9-10
S15 Techniques to enhance trustworthiness	Techniques to enhance trustworthiness and credibility of data analysis(e.g., member checking, audit trail, triangulation); rationale	Page 10-11
Results/findings		
S16 Synthesis and interpretation	Main findings (e.g., interpretations, inferences, and themes); might include development of a theory or model, or integration with prior research or theory	Page 11-18
S17 Links to empirical data	Evidence (e.g., quotes, field notes, text excerpts, photographs) to substantiate analytic findings	Page 11-18
Discussion	S18 Integration with prior work, implications, transferability, and contribution(s) to the field Short summary of main findings; explanation of how findings and conclusions connect to, support, elaborate on, or challenge conclusions of earlier scholarship; discussion of scope of application/generalizability; identification of unique contribution(s) to scholarship in a discipline or field	Page 19-20
S19 Limitations	Trustworthiness and limitations of findings	Page 21
Other		
S20 Conflicts of interest	Potential sources of influence or perceived influence on study conduct and conclusions; how these were managed	N/A
S21 Funding	Sources of funding and other support; role of funders in data collection, interpretation, and reporting	Page 11