

# **Nurse Staffing and Workload Drivers in Small Rural Hospitals: An Imperative for Evidence**

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## **Abstract**

**Purpose:** The aim of this study was to explore staffing issues and the workload drivers influencing nursing activities in designated small rural hospitals of Western Australia. A problem for small rural hospitals is an imbalance between nurse staffing resources and work activity.

**Sample:** A purposive sample of 17 nurse leaders employed at designated small rural hospitals in Western Australia.

**Method:** A qualitative research design was used. Data were collected by focus group and semi-structured interviews and review of Western Australian Country Health Service records. Thematic analysis was used to interpret data.

**Findings:** A minimum nurse staffing model is in use. Staff workload is generated from multiple activities involving 24-hour emergency services, inpatient care, and other duties associated with a lack of clinical and administrative services. These factors together impact on nursing staff resources and the skill mix required to ensure the safety and quality of patient care.

**Conclusion:** Nurse staffing for small rural hospitals needs site-specific recording techniques for workload measurement, staff utilisation and patient outcomes. It is imperative that evidence guide nurse staffing decisions and that the workload driving nursing activity is reviewed.

**Keywords:** rural health nursing; nursing staff; skill mix; workload; workload measurement; hospitals, rural; rural health services.

### **Nurse Staffing and Workload Drivers in Small Rural Hospitals: An Imperative for Evidence**

Small rural hospitals providing emergency and inpatient services are often situated in sparsely populated outlying regions of countries such as Australia, the United States (US), and Canada, and rely on registered nurses (RNs) to maintain continuity of health care. The small rural hospital environment, with limited medical, clinical and administrative support services, impacts on nurse staffing and nurse workloads (Baumann, Hunsberger, Blythe, & Crea, 2006; Havens, Warshawsky, & Vasey, 2012; Hegney, 2007; Sullivan, Hegney, & Francis, 2012; WA Country Health Service (WACHS), 2011). The nurses' workload is influenced by hospital bed size, distance from urban centres, variability of 24-hour emergency department (ED) activity, fluctuations in patient acuity, and the staffing pool available (Cramer, Nienaber, Helget, & Agrawal, 2006; Hegney, 2007; Klingner, Moscovice, Tupper, Coburn, & Wakefield, 2009; MacKinnon, 2012). There is, however, limited

exploration of workload drivers in small rural hospitals and the implications for nurse staffing and patient care.

The term rural generally describes geographic areas outside metropolitan cities, and contributes to a lack of awareness regarding the context of small rural hospitals (Montour, Baumann, Blythe, & Hunsberger 2009; Pitblado, 2005). An imprecise definition has implications for health policy, resource distribution, and research initiatives (Cox, Mahone, & Merwin, 2008; McGrail & Humphreys, 2009; Neumayer, Chapman, & Whiteford, 2003). In Australia, Canada and the US, the small rural hospital, with minimum nursing staff, constitutes the local health service (Cramer et al., 2006; MacKinnon, 2012; Ross & Bell, 2009; Thornlow, 2008; WACHS, 2011). Appropriate allocation of resources for staffing rural hospitals is hindered by a lack of site-specific reporting systems for accurately monitoring patient activity and acuity and, therefore, nurse staffing requirements (Cramer, Jones, & Herzog, 2011; WACHS, 2011). The aim of this paper is to describe the nurse staffing issues and workload drivers that affect nursing activity at designated small rural hospitals in Western Australia (WA).

### **Setting**

A tiered 'hub and spoke' model delineates the role of hospitals operated by the Western Australian Country Health Service (WACHS). As in Queensland, services in this WA network model of health service delivery with lower level capabilities are formally linked to higher level services (Queensland Health, 2010). WA has six regional hospitals, 15 integrated district hospitals, and 50 'designated small rural hospitals' (WACHS, 2007). The latter provide 24-hour health care in sparsely populated rural, regional and remote WA, an area almost one-third of the Australian continent. Most of these hospitals are located more than 150 km from a regional hospital and 500-1,500 km from a major metropolitan hospital. Overnight capacity ranges from 5-54 beds (including residential care), with most having 10-

12 beds. Of these hospitals, 30 are multi-purpose services (MPS) jointly funded by the federal and state governments to provide residential aged care.

Western Australia's coastal and inland rural populations vary in size, age distribution, social conditions, and local industry, such as agriculture, fisheries, cattle farming, and mining (WACHS, 2007). Population size also fluctuates between permanent and temporary residents. With tourists and mine site fly-in fly-out staff, for example, a population could swell by 1,500 - 5,000 residents during peak periods (Australian Bureau of Statistics, 2012). Rural population health is generally characterised by an ageing population and high rates of chronic diseases, mental health problems, drug and alcohol issues, and accidental trauma (Australian Institute of Health and Welfare, 2014). In WA, mortality rates in most age groups tend to be higher in rural populations than the state averages (WACHS, 2007). The demand at small rural hospitals is influenced by the geographic isolation and the paucity of local health services.

### **Method**

A descriptive qualitative research design used a focus group and semi-structured interview technique to explore workload and staffing issues at designated small rural hospitals.

### **Sample**

The University's and Health Service's Human Research Ethics Committees approved the study (Protocol No. 9389 and 2013:22 respectively). Informed consent was obtained from participants.

The purposively selected sample comprised nurse leaders from designated small rural hospitals in the Great Southern, Wheatbelt, Mid-west, and Kimberley regions of WA including six Directors of Nursing (DON), one Health Service Manager (HSM), and 10 Clinical Nurse Managers (CNM) (equivalent to Nurse Unit Manager). Regions were

nominated by an industry liaison, a senior WACHS officer familiar with the state's rural health services, as representing WA's diversity in terms of demographics, economy, industry, and geography.

### **Data Collection and Analysis**

Data was collected from September to December 2013 through two focus groups with DONs, the HSM and CNMs, and 10 semi-structured interviews with CNMs. The 60-90 minute focus groups were conducted in person and by videoconferencing. The 1-hour interviews with CNMs were conducted by videoconferencing. All focus groups and interviews were conducted by experienced qualitative researchers, digitally-recorded, and transcribed verbatim. In terms of their nursing backgrounds, one researcher (co-author D.T.) had held metropolitan-based nursing executive positions and was familiar with the nurse staffing methodology in WA, one (co-author J.C.) had nursed in country health services throughout Australia and internationally, while the third (co-author J.P.) had nursed in metropolitan acute care hospitals. The researchers engaged in regular dialogue from the outset so as to enrich the conceptual analysis and interpretation and help to reduce bias that might arise from any one perspective (Barry, Britten, Barber, Bradley, & Stevenson, 1999). Focus group discussions were used to elicit the main staffing issues in small rural hospitals encountered by participants, the resources and/or strategies they used to solve staffing problems, and factors impacting RN workloads. We drew on recurrent issues in the literature pertaining to the rural environment of nursing care, the scale and scope of nursing activities in isolated small rural hospitals, gaps in patient services, and workforce shortages for prompts to encourage the flow of ideas and discussions (Krueger & Casey, 2009). Semi-structured interview questions were developed from the information gathered in the focus group discussions.

Qualitative data analysis involved the researchers independently coding words/phrases in the interview transcripts, crosschecking within and between coders for consistency, and grouping coded data into content categories with similar meaning (Leech & Onwuegbuzie, 2007). Themes were formed through a process of analytic interpretation (Burns & Grove, 1999). As a team, the researchers compared records and differences in analysis were resolved. Individual interview transcripts were made available to participants for them to check the accuracy of details. To ensure that the interpretation captured essential aspects (interpretive validity), the researchers presented a summary of the interviews and an outline of the themes at a meeting with WACHS DONs. The DONs confirmed their agreement with the key findings.

### **Findings**

Nurse staffing models of care together with a diversity of workload factors driving nursing activity present a major challenge for the provision of safe and quality patient care in small rural hospitals and were of fundamental concern to the nurse leaders. The main impacts on nurses and hospital services, which compromised patient care, were the availability of clinical staff resources, the multiple demands for in-patient and emergency care for unplanned presentations, alongside non-clinical activities.

Each 24-hour period at small rural hospitals is covered by three shifts: morning, evening, and night shift. A minimum 2/2/2 nurse shift roster operates over the 24-hour cycle. Each shift is staffed by either two RNs, or an RN and an enrolled nurse (EN) working under the direction and supervision of the RN for delegated care. The minimum roster is constant irrespective of differences in the work activity level, such as bed usage and patient acuity; the frequency and distribution of unplanned ED patient presentations; and the small hospital's distance from a regional hospital. The clinical skills and skill-mix of available nurses is most important given their responsibilities in ED.

Staffing management adapts the Nurse Hours per Patient Day (NHpPD) staffing method used state-wide in public hospitals, which determines ward category by distinct patient types and the complexity of nursing care required (Twigg & Duffield, 2009). The demands on nurse staffing resources, however, arise from workload drivers particular to small rural hospitals. The NHpPD reporting, which uses patient activity as a denominator, was thought to misrepresent small hospital staffing as either significantly over- or under-staffed (WACHS, 2011).

### Workload Drivers

Workload drivers in this study are the elements of a service and its context that influence or generate nursing activity. Workload drivers for nursing in a small rural hospital relate to multiple areas of activity involving direct and indirect care; access to staffing resources; and regional population and health characteristics (Figure 1).

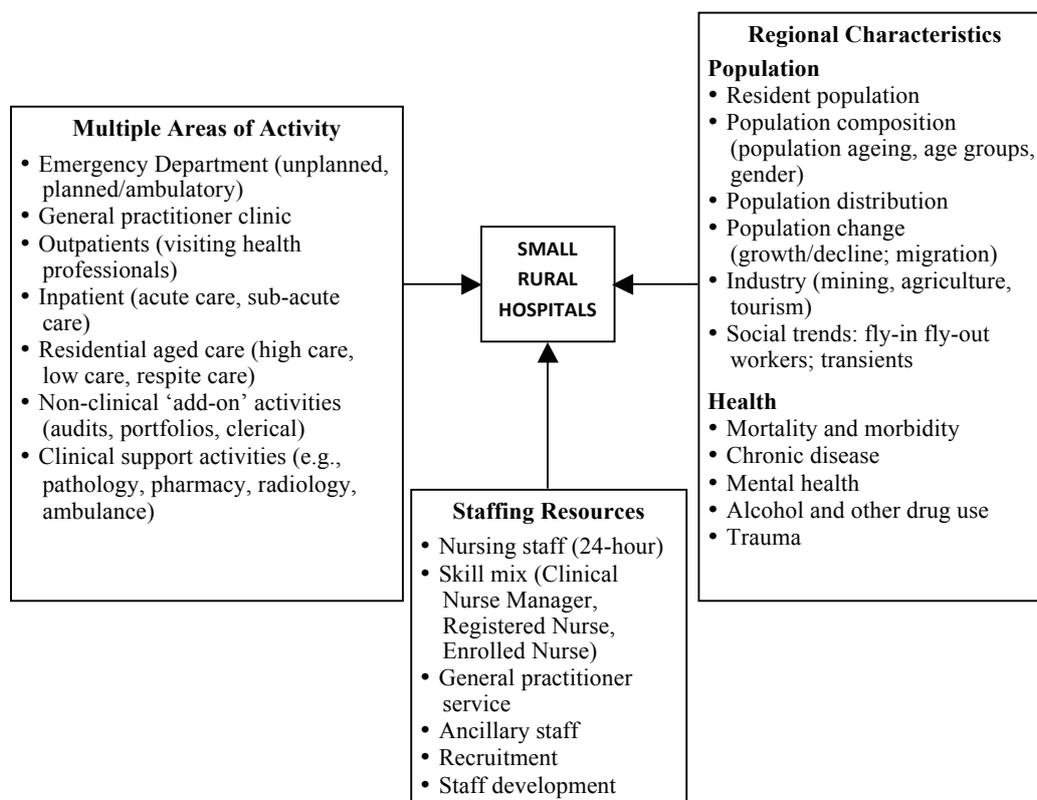


Figure 1. Workload drivers for nursing in small rural hospitals in Western Australia.

## **Multiple Areas of Activity**

According to nurse managers, the range of nursing activities in a small rural hospital is all-encompassing comprising direct and indirect care within multiple areas of activity. In ED and inpatient wards, RNs routinely work across areas of the service when providing nursing care: *“Sometimes it is one RN triaging and treating all the people in ED, managing sick inpatients and doing the medications on the ward as well”* (CNM 10). An important component of the nurses’ workload, and integral to patient care, is their collaboration with medical practitioners, particularly the Royal Flying Doctor Service (RFDS) based at regional centres, and/or a local general practitioner (GP).

### **Emergency department.**

The 24-hour ED service, attended as needed by an RN, has a major impact on nurses’ workload and on staffing resources. The ED accommodates all unplanned patient presentations and, during weekday mornings, a medical clinic and an outpatient service. ED attendance is exacerbated by the lack of alternative local health services, particularly for mental health, alcohol and other drug use, dentistry and after hours’ medical problems.

The unpredictable surges and diversity of emergency presentations at small rural hospitals produce large variations in nurses’ routine workloads. Australian Triage Scale (ATS) category 4 patients (less-urgent) and category 5 patients (non-urgent) are assessed and routinely treated by nurses and usually depart ED without medical review. Aside from the medical assessment, whether patients presenting to ED are admitted or transferred to another health service largely depends upon the RNs clinical skills and support resources.

### **Ambulance services.**

High acuity patients are rarely admitted to WA small rural hospitals. Instead, these patients are transferred by the RFDS either to a regional or major metropolitan hospital by volunteer ambulance officers of the St John Ambulance WA service with an RN escort if

needed. A road ambulance patient transfer could take 3-8 hours, depending on the distance, weather and road conditions. If accompanied by an RN, road ambulance transfers stress nursing resources further. A shortage of volunteer ambulance officers may delay patient transfers and require continued RN presence in ED thereby reducing the RN's availability to provide inpatient care and residential aged care.

### **Medical practitioner services.**

General Practitioners employed by WACHS usually provide a 24-hour medical contact for the hospital nursing staff, either on-site or on-call, during week days only. At the GP week-day morning clinic in ED, RNs triage patients prior to a medical consultation, and collect specimens for pathology or perform X-rays if requested. With tacit approval from WACHS, an RN in ED supports the GP practice:

*The GPs [conducting a clinic in the hospital] see the service as an extension of their practice, and that generates work – work that shouldn't be necessarily ours . . . So it's not uncommon for a nurse to see mostly outpatients with some ED intermingled [who are] there to see the doctor. (DON 4)*

The absence of a town GP, limited operating hours of a medical clinic or a GP's limited availability may increase hospital attendance. When patients are unable to attend ED during scheduled medical clinic times, they often present to ED after-hours. Sometimes, however, patients simply choose to “wait until the doctor is out of town and come up to the hospital because then that is more convenient [for them]” (CNM 6).

### **Outpatient services.**

In addition to supporting the GP services, RNs may assist visiting medical specialists during their consultations. A daily outpatient clinic within ED, distinct from the medical clinic, generates additional nursing activity that is difficult to resource: “*Outpatients is not necessarily an emergency department activity or an extension of a GP clinic. It is about the*

*outpatient activity in ED being unplanned and not being able to get planning in place, and get planning in place for the community” (DON 4).*

To reduce congestion in ED, managers may reschedule outpatient clinic opening times to coincide with the overlap period between morning and afternoon shifts. Although reducing nursing handover time, this arrangement enables the manager to staff the outpatient clinic with an additional nurse.

### **Ward inpatients.**

Active inpatient bed numbers ranged between three and 12. If a GP is unavailable, patients requiring more than 48 hours’ care are usually transferred to another health service such as a regional hospital.

A variety of inpatients occupy beds in the one ward, for example: *“The maximum beds we have are five. There could be anyone in those five beds. Now we have three palliative care patients, and a couple of acute patients” (DON 1).* Ward inpatients might include admissions for longer-term non-residential aged care or respite care, such as a patient with a non-acute mental illness. Palliative inpatient stays can vary between a few days and several weeks: *“We do have palliative care. The patient will choose to come to hospital rather than be at home. They tend to stay at home for as long as the family can cope, then for the last few days or few weeks they might come to us” (CNM 8).*

An inpatient’s length of stay could be extended by delays in discharge planning, such as waiting on GP services. Other inpatients include those who, previously transferred out, return and are admitted for ongoing care. Such decisions depend on the RNs’ capabilities and resources: *“Sometimes patients are transferred out in an emergency and then come back for rehab (sic) or further management. If their acuity is high we can’t accept them, say a stroke patient who lives here. We don’t have the capacity to provide appropriate care” (CNM 8).*

### **Residential aged care.**

Small rural hospital services could include the oversight of aged and community-based care, which has implications for nursing workload and for staff management. At several small rural hospitals and MPS sites, inpatient beds are utilised for respite care lodging and for residential aged care, comprising both high and low care and dementia care services. The demand for residential aged care has increased and, at several sites, represents “*a high proportion of nurses’ workload*” (CNM 8). MPS sites in WA provide 3 - 54 beds for aged care residents. While the basic staff level at these sites remains at a 2/2/2 roster, staffing for residential aged care is occasionally supplemented by the employment of unregulated care assistants. Additionally, small rural hospitals may provide community-based services: “*The CNM, DON or HSM will not just oversee the hospital [but] other sectors as well and how they actually staff this and the workload are important issues*” (DON 3).

### **Associated clinical support activities.**

Nurses routinely undertake clinical support activities associated with general stock supplies, pharmacy, pathology, and X-ray services, in addition to their patient care workload. Nurses may, for example, liaise with a pharmacist and access pharmacy services from another hospital that functions as a health hub. Often of a night shift, nurses perform the inventory management, including ordering, storage and auditing for pharmacy and other clinical supplies: “*It’s the same with stores, and that sort of stuff. Nurses have to order the equipment, they have to do all the re-stocking and basically make sure we have got enough resources to keep running*” (CNM 9).

In several hospitals a state pathology service phlebotomist attends for limited weekday morning hours. Outside of these hours or apart from these sites, all specimens are collected and packed by nurses for courier transport to pathology bases in regional centres or metropolitan Perth.

RNs trained as X-ray operators perform limb and chest imaging as requested by medical personnel. In any one hospital, few RNs are qualified as X-ray operators due to training costs. RN substitution for clinical support services is time-consuming and detracts from nursing care: *“The nursing time you are using in pharmacy, and the time that is used in radiology, adds up. And that is a half an hour for an X-ray, for example, and with the volume that is quite a lot of nursing time that nurses in other hospitals don’t do”* (CNM 2).

### **Non-clinical ‘Add-ons’.**

Other determinants of nurses’ workloads in small rural hospitals, and peculiar to this context, are non-clinical activities termed ‘add-ons’. These are necessary additional activities performed daily by nurses at small rural hospitals *“that you could argue a lot of which is not necessarily nursing work. It is that there is nobody else to do it”* (DON 3).

The major add-ons are regular audits, staff portfolios, and other administrative work. In effect, these activities enlarge nurses’ workloads, and absorb nursing time that could otherwise be used for direct patient care. WACHS policies for hospital performance and clinical governance require nurses to submit a range of monthly audit reports: *“We audit almost everything. It is a huge amount of work. The MRIs [forms for documenting patient care] in ED are done monthly. We are currently in accreditation for aged care so it is all aged care documentation. It is falls, hygiene, and injuries. It is everything. Everything is audited these days”* (CNM 6). Each nurse, other than agency or casual staff, is assigned a portfolio or ‘extra job’ such as staff development, pharmacy stores, or infection control.

A ward clerk is usually employed during weekday office hours. After hours, however, there is no clerical support and nurses perform all administrative tasks including reception and retrieval of medical records. Attending to telephone calls and the hospital reception after hours is a major source of frustration for the RN who, at the same time, covers both inpatient and ED areas: *“A huge issue that is very time-consuming and falls on the emergency*

*department nurse is answering the telephone. You are trying to manage a busy ED and answer the telephone. . . . The nurses complain bitterly about the amount of time, and you just have to keep stopping care to answer the telephone”.* (CNM 8)

Such undocumented nursing time and activities make it difficult for nurse leaders to validate what nurses in small rural hospitals do and their impact on patient safety and quality of care.

### **Staffing Resources for Small Rural Hospitals**

Nurse leaders in small rural hospitals attempt to balance the diverse workload that generates nurses’ activities with limited nursing staff resources. Nurse managers regarded performance-based management as an important mechanism for exposing the shortcomings of service and potential risks to patient safety and quality of care. They reflected, however, that service delivery and patient care was potentially compromised by the lack of human resources, specifically adequately skilled nurses or an appropriate skill mix and a practice of ‘making do’ when resources were depleted.

#### **A skeleton staff.**

Participants described staffing in terms of a skeleton structure, “*running at a bare minimum*” (CNM 4) and “*nursing services on the bone; barely functional*” (CNM 6). Across all small rural hospital sites a minimum 2/2/2 shift roster of nurses over a 24-hour cycle remains the norm.

The NHpPD staffing method lacks the flexibility to reflect staff movements and the nursing hours worked between areas of care, and various patient types within one ward. Capturing ED data within the NHpPD system presents another problem: “*With our nursing hours per patient day we have two categories, two areas, we enter in for the ward and we enter data for ED as well. So there are two reporting mechanisms within the current system. How we calculate the hours is a bone of contention, and if the data is accurate*” (DON 1).

Another major issue is RN clinical skills and the skill mix needed for practice in a small rural hospital setting. Nurse leaders found it difficult to staff each shift over a 24-hour period, seven days a week with appropriately skilled nurses: *“The skill mix is difficult because we need nurses with ED experience . . . you have got one nurse in one area and one in another, and it is difficult to have junior staff who are not ED savvy and, with a small roster, can’t go on night duty”* (DON 2).

A minimum staffing model with few clinically skilled RN reserves left nurses leaders few options. They reported ‘juggling the roster’ or performing a ‘juggling act’ in order to maintain staffing at their hospitals. They used staff on-call and overtime, made adjustments to Full Time Equivalents (FTE), and relied on part-time and casual relief staff.

#### **On-call and overtime.**

Provision of an RN on-call roster and use of overtime was needed to cover for clinically-skilled staff shortages, and remain ready for unpredictable emergency presentations. An on-call RN might provide back-up assistance in ED or elsewhere in the hospital if urgently needed. At times, the extent of over-time worked was considered onerous and posed additional staffing problems for nurse managers: *“Nurses are under pressure week in and week out with overtime and overall we are getting busier. The RN staff we have are picking up extra shifts, more than I would really like. And I haven’t got a workable tool that allows for those spikes in workload. There is no capacity for staffing when we spike and I can’t predict that”* (CNM 8).

Managers could modify the roster to manage RN overtime and to maintain staffing levels. Backfilling, when a nurse filled in for another nurse, required re-arranging shift times to enable a nurse to have reasonable stand-down time without on-call. This, in turn, imposed on other staff, including nurse managers, to cover a roster: *“Either you get the nurse that’s worked a morning shift to do some overtime and stay on until the RN can come in. Or,*

*sometimes a DON will pick up a shift. Sometimes you will call in someone who is on days off* (DON 4).

### **Full time equivalent (FTE) adjustments.**

The FTE allocation for small rural hospitals hampered nurse managers trying to ensure RN cover for each shift over the 24-hour, seven day week cycle. There is a lack of quantitative data capturing the range of nursing activities in these hospitals that would permit accurate FTE estimates. FTE cutbacks within WACHS added to the difficulty nurse managers experienced when managing a minimum staff roster: *“They’ve just cut me down again to 4.1 FTE and my concern is that it is going to become unsafe. I still have to accommodate a 2/2/2 roster”* (CNM 4). One approach to manage the allotted FTEs was to roster nurses part-time instead: *“Sometimes I’m a bit reluctant to put too many full-time staff because if you put them on say at 0.8 or 0.9, they have got capacity to pick up an extra shift”* (CNM 9).

Despite the roster adjustments, the overtime worked by an RN could amount to an additional FTE at small rural hospitals with a high demand for emergency care and ambulance services: *“I look at the record of ambulance call-outs and sometimes it would equate to a FTE, sometimes a full-time FTE for a month, sometimes a bit more than that. And if you add up all the times nurses are getting overtime on night duty, not having meal breaks, it could probably get 1.4 of an FTE”* (DON 5).

### **Part-time and relief staff.**

Apart from permanent full-time nursing staff, small rural hospitals often employ nurses from the local community on a part-time, casual, or contract basis. Relief RNs employed on short-term fixed contracts are sourced from the state government’s relief nursing staff service, a private nurse recruitment agency, or other employment services. Before employing an agency RN for short-falls in the roster, however, nurse managers might work additional

shifts themselves: “RN-wise I could probably cope depending on how many management days I’m rostered. But if I’m already doing five or six clinical shifts a fortnight then it is really hard. I need to get an agency nurse for anything more than four shifts” (CNM 3).

Casual contract nurses usually specify their availability. In some situations, casual nurses are semi-permanently rostered while permanent part-time staff work extra hours. A high proportion of staff are on casual contracts and refuse to sign permanent contracts. “We have nurses on a casual contract and working full-time hours, or permanent hours. Come harvesting or school holidays, or whatever, they walk. So we have a high proportion of agency, or an increase in permanent part-time staff always picking up hours, or we have full-time staff doing over-time. (DON 3).

Repeatedly using part-time and casual staff and relying on full-time permanent RNs for over-time work, however, has implications for the quality of care in small rural hospitals: Other significant issues impacting on staffing are RN recruitment, staff development, and career opportunities.

### **Nurse Recruitment and Training**

RN recruitment at small rural hospitals is a constant challenge. Although a large number of applicants apply for advertised RN positions, few have the ED clinical experience needed. The nurse manager on-site is responsible for the time-consuming process of reviewing and short-listing as many as 60-70 applicants, many of whom do not fit recruitment criteria.

The appointment of applicants from overseas requires a minimum three-month process for obtaining employer sponsorship, immigration approval for a temporary work (skilled) visa, and nursing registration. According to nurse leaders, employing overseas nurses on these visas represents an important adjunct for staffing small rural hospitals but is not a sustainable solution.

Whether RNs are appointed from within Australia or overseas, if they cannot work independently, nurse leaders found that they require prolonged preparation on-site to acquire the requisite clinical skills for nursing in a small rural hospital. A new recruit, therefore, represents considerable investment in terms of resources and time: *“For the first six months, new nurses do take a lot of resources. It has great ramifications for our roster because I don’t put them on without another RN for a considerable time until I think they are safe”* (CNM 7).

While online learning at induction and refresher training is mandatory for WACHS nurses, updating clinical skills for, and practice experience in, nursing high acuity patients is not feasible by e-learning. Moreover, few ED presentations provide opportunities to *“see high acuity managed patients to maintain nurses’ skills and competencies to ensure best practice”* (CNM 10). However, budget constraints for time, travel and accommodation, which are considerable given WA’s size and diverse geography, present a barrier to off-site clinical education. Study leave is further curtailed by the lack of replacement nurses to backfill for the regular nurses. Nurse leaders reported that limited opportunities for clinical skills development and career advancement influence the retention of RN staff. Moreover, the predominant hiring of RNs at the lowest level of the WA career structure, and in non-promotional positions, failed to attract suitable nurses.

### **Limitations**

This research focused on nurse staffing and workload drivers and was limited to the perspective of nurse leaders employed in designated small rural hospitals in WA. The findings are, therefore, primarily based on the interview data with the selected participants. The study, however, resonates with previous published reports on nurse staffing in small rural hospitals. Nursing and health care providers at small rural hospitals throughout Australia and overseas would be able to evaluate the relevance of the study for their circumstances.

## Discussion

The study findings are consistent with local and international research on small rural hospitals that describe features of minimum staffing, and the workload that generates multiple activities by nurses for direct and indirect patient care within a context of scarce resources, and distance from urban hospital services (Baker & Dawson, 2013; Cramer et al., 2011; Ross et al., 2009; Thornlow, 2008; WACHS, 2011). Objective evidence is lacking, however, to verify claims of deficiencies in nursing resources for workload demand. The inadequacies of data present a barrier to constructive improvements for nurse staffing and workload management in small rural hospitals. A common problem for nurse managers in such hospitals is the lack of site-specific quantitative data, or even appropriate techniques to measure workload and nurse staffing (Jiang, Stocks, & Wong, 2006; Montour et al., 2009; Sullivan et al., 2012).

The ED is the main source of workload variability for nurses in small rural hospitals. This is compounded as the ED in these hospitals is not a dedicated unit with assigned staffing and resources as is defined by the Australasian College for Emergency Medicine (2012). Baker (2009) and Baker and Dawson (2013) describe small rural emergency facilities as a distinct type with shared features of an ED but different in that the service is not medically staffed and is attended as needed by an RN rostered to a general ward. In this context, and as revealed in this study, it is usual for patients triaged 4 (less-urgent) or 5 (non-urgent) by a nurse, to be treated and discharged without medical review (Baker et al., 2013; Chen & Tescher, 2010). Despite the demand for emergency care at WA small rural hospitals and the additional nursing workload activities associated with the provision of ambulance services, inadequate reporting of ED activities is likely to underestimate the workload of nurses in these hospitals.

Staffing frameworks that use annual aggregates of hospital unit activity for nurse staffing calculations, such as the NHpPD, are clearly inadequate for this context. The averages do not reflect the wide variability of nursing input (WACHS, 2011). Moreover, it is difficult to derive meaning from averages with few beds in use and where a ward is occupied by patients of no particular diagnostic group, hence not captured within specific ward categories and criteria (Australian Industrial Relations Commission, 2002). In a small rural hospital where, in one shift, nurses work across separate areas of care, as well as undertake clinical support functions and administrative duties, nursing hours may be under-reported and thus obscure the extent of direct and indirect care activities performed by nurses. In a major US study, Cramer et al. (2011, p. 341) reported similarly that nurses' workloads and nurse staffing in small rural hospitals are under-reported and hence under-estimated, because they do not consider the full range of RN activities that benefit the patient.

The extraordinary and under-resourced practice environment, unpredictable patient care needs, and discontinuous access to on-site medical practitioners necessitates an appropriate staffing skill mix and flexibility of RN staffing (NSW Rural Critical Care Committee, 2004). The limited clinical back-up support at small rural hospitals for managing high acuity patient care at small rural hospitals also requires consideration. That rural nurses 'get by' and 'make do' with the skills they possess to provide a service perpetuates the mismatch between staff resources and workload variations, while associated patient care outcomes remain unmeasured.

The multi-faceted issues of nurse staffing costs, workload measurement, practice environment and patient care are a prominent subject for research in large hospital settings with designated units of service (Gerdtz & Nelson, 2007; McGillis Hall et al., 2006; Spetz, Harless, Herrera, & Mark, 2013). Nonetheless, valid tools from which reliable nurse staffing decisions are made in any hospital context remain elusive (Ferguson-Pare & Bandurchin,

2010). According to McGillis-Hall et al. (2006), nurse staffing and workload variability particular to small rural hospitals, and as is reported in this study, warrant further scrutiny in order to inform an effective staffing system and workload management.

### **Conclusion**

The work environment, resources available, and patient acuity influence the nature of nursing activities and nurse staffing needs in WA designated small rural hospitals. Inattention to the well-known difficulties for nurse staffing and resource inadequacies in these hospitals compromises the service and the capacity for providing safe patient care. This study elucidates the need for on-site evaluation of current workforce utilisation and workload issues for nursing in small rural hospitals of WA and other countries with similar entities. Site-specific data recording techniques for workload measurement, nurses' activities, patient acuity, and outcomes of care are particularly required. The imperative is to acquire high-level evidence from small rural hospitals to guide nurse-staffing decisions and to safeguard patient care.

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