Roche, M. A., Friedman, S., Duffield, C., Twigg, D., & Cook, R. (2016). A comparison of nursing tasks undertaken by regulated nurses and nursing support workers: a work sampling study. *Journal of Advanced Nursing*. doi:10.1111/jan.13224

A COMPARISON OF NURSING TASKS UNDERTAKEN BY REGULATED NURSES AND NURSING SUPPORT WORKERS: A WORK SAMPLING STUDY

ABSTRACT

Aims: To determine which tasks unregulated nursing support staff spend their work time undertaking, and to determine differences between the work undertaken by licensed/regulated nurses on units which have nursing support workers and those on units which do not.

Background: Acute hospital nursing teams often include nursing support staff; little is known about what kinds of tasks these unregulated support workers do, and how it affects the work tasks of their licensed/regulated team members.

Design: Cross-sectional analysis of nurse work sampling data.

Methods: Data collection took place between March and October 2013. The proportion of time spent on 25 work activities by nursing support staff and licensed/regulated nursing staff was compared. Logistic regression models estimated whether nursing support staff or licensed/regulated nurses were more likely to conduct direct and indirect patient care tasks, and whether licensed/regulated nurses on units with nursing support staff were more likely to conduct direct or indirect tasks compared with those on units without nursing support workers.

Results/Findings: Nursing support staff spent the majority of their time engaged in direct care tasks, e.g. admission and assessment, hygiene, and mobility. Although licensed/regulated nurses were less likely to undertake direct care tasks compared with support workers, those who worked on units with support workers undertook more direct care compared with those who worked on units without support workers.

Conclusions: Nursing support workers were given tasks that required substantial amounts of patient interaction. These staff may be associated with an increase in direct care tasks for licensed/regulated nurses, who may duplicate the direct care done by nursing support workers.

Key Words: workforce, nurses, nursing support workers, work sampling, nursing care

SUMMARY STATEMENT

Why is this research or review needed?
- The introduction of unregulated nursing support workers to acute care nursing units is widespread and growing.
- The specific tasks performed by nursing support workers, and the impact this has on the work of licensed/regulated nurses, is not well explored.

What are the key findings?
- Nursing support workers mainly performed direct patient care activities; more than their licensed/regulated nurse colleagues.
- Licensed/regulated nurses working on wards with nursing support workers were more likely to undertake direct care tasks in comparison to those on wards without nursing support workers.

How should the findings be used to influence policy/practice/research/education?
- Concurrent increases in direct care provided by licensed/regulated nurses and nursing support workers indicates potential duplication of some tasks and suggests the need for improvements in delegation.
- The model of care used to integrate nursing support workers into the patient care team needs to be considered carefully and matched to patient care needs and staff mix.

Conflict of Interest
- No conflict of interest has been declared by the authors.

INTRODUCTION

Nursing shortages persist globally and have been addressed through a variety of methods including the creation of new roles, extending roles, and more commonly, substitution of existing roles (Sibbald et al. 2004). Often this has entailed the replacement of licensed/regulated workers (registered nurses (RN) and enrolled nurses (EN)) with unregulated workers. Referred to as assistants in nursing (AIN) in Australia, unlicensed assistive personnel in the United States (US) and health care assistants in the United Kingdom (UK), the generic term often used is nursing support worker (Duffield et al. 2014). While these staff can be used in a complementary role (adding nursing support workers to a unit), they are more commonly used in a substitutive role (replacement of regulated staff). In Western Australia (WA) a complementary model was adopted, with nursing support workers were added to the regulated nursing workforce, consisting of RNs and ENs (see **Figure 1** for further explanation of these roles as well as synonymous terms used in other countries). This implementation provided an opportunity to study differences in patient care and other activities where nursing support workers had been introduced, and to compare these activities in similar wards where these workers were not introduced. The aims of this study were to describe which tasks nursing support staff undertake, and to determine differences between the work undertaken by licensed/regulated nurses on units which have nursing support workers and those on units which do not.

Background

The nursing support worker role was initially introduced to alleviate nursing shortages. Unlike RNs, who must hold an undergraduate degree, nursing support workers are only required to undertake a few weeks of theoretical learning followed by clinical practice, enabling them to enter the workforce at a much faster rate than RNs. Using nursing support workers to relieve RNs of some unskilled tasks should allow them to focus on tasks requiring more skill and knowledge. The role of the nursing support worker is mainly to make beds, assist with eating and bathing, monitor and record blood glucose levels, temperature, pulse, respiration and weight, perform simple dressings and transport patients (Cavendish, 2013). Over time increased patient care demands have blurred the boundaries between many nursing roles (Spilsbury et al. 2011, Duffield et al. 2011). Although not formally trained and licensed to do so, nursing support workers are taking up responsibilities originally the domain of regulated nurses (Spilsbury and Meyer 2004, Department of Health UK 2004, Kessler et al. 2012, Adrian 2009).

Current literature describes several ways in which complementary (as opposed to substitutive) nursing support workers are incorporated into nursing teams. Nursing support workers have commonly been used in hourly 'rounding' of patients. During these rounds patients' needs and requests can be addressed (e.g. repositioning, hygiene, nourishment, checking equipment is working) (Shepard 2013) and relevant care requirements can be reported to the RN (Gardner et al. 2009). Hourly rounding has been linked to decreased use of the call bell for reasons such as pain management, reporting equipment alarms and bathroom assistance (Tzeng 2010, Tzeng and Yin 2010). Regular check-ups on patients can reduce adverse events (Mitchell et al. 2014). For example, patients are less likely to get out of bed for toilet needs after receiving sedative medication if they are able to predict when assistance will be available (Mitchell et al. 2014). Many of the tasks performed in the course of patient rounding constitute direct care.

Another common way that nursing support workers are utilised is called 'specialling' – one-to-one observations (or close attention) of patients deemed high risk (e.g. dementia, dehydration, falls risk) (Dick et al. 2009) and those exhibiting behaviours that challenge the provision of nursing care (e.g. risk of violence or suicide (Bowers and Park 2001)). Early research indicates that these tasks were often delegated to less experienced or untrained staff (Reid and Long 1993). While 'specialling' can provide relief to unit staff, there is limited research on whether it improves patient outcomes (Dick et al. 2009, Wilkes et al. 2010). Many of the tasks performed as part of the 'specialling' role also constitute direct care.

Nursing support workers are also incorporated through individual task assignment (Potter et al. 2010). Task assignment, or delegation of tasks, could be established as an ongoing role (where nursing support workers are usually responsible for collecting patient trays, for example) or on a task-by-task basis. In this way, regulated nurses may delegate certain types of tasks so that they may focus their attention on tasks that are not suitable for nursing support workers. Literature describing the types of tasks that regulated nurses delegate is sparse. There is some evidence that in times of shortages or increased workload, nursing support workers may temporarily perform tasks beyond their role (Spilsbury and Meyer 2004, Orne et al. 1998) . Such tasks include ECGs, monitoring blood glucose levels, taking blood and dressing wounds, administering medications without supervision, instructing nursing students and newly qualified nurses, inserting IV drips and plastering (McKenna et al. 2004, Spilsbury and Meyer 2005, Hancock et al. 2005, Cavendish 2013). As nursing support workers are not trained or licensed to perform such tasks, patient safety could be compromised (McKenna et al. 2004). Others have noted that adding nursing support workers to the workforce in the US has resulted in a reduction in time that nurses spend at the bedside (Bostrom and Zimmerman 1993, Spilsbury and Meyer 2005), suggesting that nurses may be delegating direct care tasks and spending more of their time on indirect care tasks. However, no conclusive evidence of this exists for Australian acute care hospitals.

THE STUDY

This paper seeks to describe the tasks nursing support staff undertake, and to explore differences between the work of regulated nurses on units with and those without nursing support workers, addressing these questions:

1. Which tasks comprised the greatest proportion of nursing support workers' time, and how does this compare to those undertaken by licensed/regulated nurses?
2. Were direct or indirect care tasks more likely to be conducted by licensed/regulated nurses on units to which nursing support workers had been added or on units to which they had not?

Design

An observational work sampling study was undertaken in Perth, WA across three public acute care hospitals (Duffield et al. 2016). The study was conducted between March and October 2013. Work sampling is a well-established technique that has been used extensively (Walker et al. 2007) to capture work activities performed by nurses (Pelletier and Duffield 2003). The most reliable work sampling method for data collection involves the use of an independently trained observer who records activities performed by nurses using a validated data collection tool in a manner described as random, intermittent and instantaneous (Urden and Roode 1997).

Participants

Data were collected from ten sampled units: six in one large teaching hospital and four in two small non-teaching hospitals. Nurses on the units were observed in randomly assigned two hour blocks occurring Monday through Friday between the hours of 7am and 7pm over a two-week period per unit. Night shift was excluded from the study. This is an acknowledged limitation of the study.

All nursing staff working on the participating units during the observation periods were invited to participate in the study, with most consenting to being observed (n=452). Nurses who did not provide written consent were excluded from the study. Sampled nurses included those with primarily direct care roles: registered nurses (RNs), enrolled nurses (ENs), and assistants in nursing (AINs)(Bureau of Labor Statistics 2014, McKenna et al. 2004, Department of Health WA 2014c, Department of Health WA 2014b). Also included were nurses in leadership positions who retained a clinical role, although with a lower and more varied level of clinical activity (Department of Health WA 2014a), for example, nursing unit managers (NUMs), staff development nurses (SDNs) and clinical nurse specialists (CNSs) (Department of Health WA 2014a) (**Figure 1**).

Figure 1. Nurse category definitions

- **AIN:** unlicensed/non-regulated support worker who is supervised by RNs and ENs. AINs assist with basic nursing care and other tasks (e.g. bed making, transporting patients, mobilising, feeding, bathing, toileting, monitoring, dressings) (Bureau of Labor Statistics, 2014; McKenna, Hasson, & Keeney, 2004). Referred to by a variety of terms including nursing support workers, health care assistants (HCAs) and unlicensed assistive personnel (UAP).
- **EN:** possesses a diploma of enrolled nursing and works under the supervision of a RN, providing basic nursing care within their scope of practice (Department of Health WA, 2014c). Similar to licensed practical nurse (LPN) or licensed vocational nurse (LVN) in North America.
- **RN:** possesses a Bachelor of Nursing or Bachelor of Science (Nursing). Responsibilities range from direct patient care, coordination of care delivery, health promotion, research and education (Department of Health WA, 2014b).
- **Unit Leadership (NUMs, SDNs, CNSs):** these are nursing leadership roles and positions. Responsibilities encompass staff development, consultancy, leadership and management of all clinical nursing staff, ensuring standards of clinical nursing practice, quality patient care delivery, and adequate human/material resources within budget (Department of Health WA, 2014a).

Instrument

The work sampling data collection used in this study (**Figure 2**) comprises predetermined categories that captured nursing tasks performed over a specified time frame (Prescott et al. 1991). The tool consists of 25 activities within four categories: direct care (ten items), indirect care (eight items), unit-related (six items) and personal tasks (one item). Pelletier *et al.* (2002) describe the specific activities within each category. Using this tool, one activity was recorded for each ten-minute time slot. If a nurse conducted more than one activity during the ten-minutes, data collectors recorded the task that took the nurse to the patients' bedside. That is, one of the 25 categories was logged for each ten-minute period.

Data Collection Procedure

Data were collected by registered nurses who undertook several days training for this study. They recorded the activities nurses performed using the Work Sampling Tool described above (Urden and Roode 1997, Pelletier et al. 2002) using electronic tablets to collect and store the data, which were then uploaded to a secure server. Inter-rater reliability was performed every 24-36 hours of data collection. This was assessed through independent collection of data by two data collectors on one ward for a two-hour period. Agreement between collectors of at least 80% was required for collection to proceed, with repetition of the procedure undertaken if agreement was lower than the threshold. Scheduling of individual data collectors was rotated to ensure this procedure was performed regularly between all eight collectors. A minimum of 120 hours of nurse work time per unit was sought, determined in previous research to provide sufficient observations for analysis (Blay et al. 2014, Wise and Duffield 2003).

Figure 2. Work sampling activity categories

Direct Care	Indirect Care	Unit-Related	Personal
- Admission & Assessment - Hygiene - Patient Mobility - Medication & IV Administration - Procedures - Specimen Collection & Testing - Nutrition & Elimination - Transporting Patient - Assisting with Procedures - Patient & Family Interaction	- Verbal Report & Handover - Communication & Information - Room or Equipment Setup & Cleaning - Medication & IV Preparation - Progress Notes/Discharge Notes - Computer – Data Entry & Retrieval - Co-Ordination of Care: Care Planning & Clinical Pathways - Co-Ordination of Care: Rounds & Team Meetings	- Teaching & In-Service - Supplies, Check, Re-Stock - Errands, Off-Unit - Meetings & Administration - Clerical - Environmental Cleaning	Personal

Unit Classification

Nurse staffing requirements in WA are based on a ward's demand for patient care, with each nursing unit classified into one of seven categories (A to G) (Australian Industrial Relations Commission 2002). These categories were determined using patient complexity, intervention levels, the presence of high dependency beds, the emergency/elective patient mix and patient turnover. Different ward categories are allocated different staffing levels measured as nursing hours per patient day (NHPPD). For example, category A wards, with the highest staffing allocation at 7.5 NHPPD, include high dependency and step-down units, tertiary hospital paediatric units, other units with patients of high complexity, and mental health units with patients at high risk of self-harm or aggression. In contrast,

category D wards have lower staffing at 5 NHPPD and include acute rehabilitation and secondary maternity units (Twigg et al. 2011, Twigg and Duffield 2009). In the present study, this categorisation, hereafter referred to as 'unit classification', provides a proxy measurement of average patient volume and acuity on the ward.

Ethical considerations
Ethics approval was obtained from the Human Research Ethics Committees at two universities and three hospitals.

Data analysis
The unit of analysis for all analyses was a single activity during a ten-minute time slot (referred to hereafter as the observed time or observed activity). Initial analyses described the proportion of total observed time engaged in each of the 25 activities for AINs and RNs/ENs, identifying the most frequently performed tasks and differences between regulated and unregulated workers. Two logistic regression models were developed, one with direct care as the dependent variable, and one with indirect care. These models assessed the likelihood of direct and indirect care for RNs/ENs and Unit Leadership nurses, relative to AINs, using the full sample (n=81,594). Predictors were entered as dummy variables to indicate RN/EN staff, Unit Leadership staff, and whether the unit was categorised as AIN or non-AIN. Two additional dummy variables for unit classification served as covariates, with cluster adjustment of standard errors at the unit-day level. The second stage of analysis developed two additional logistic regression models to assess the likelihood of direct and indirect care for RNs/ENs only (n=72,630) across AIN and non-AIN units. These models again used direct care and indirect care as the dependent variables, but controlled only for unit AIN status and unit classification. A final analysis graphically presented the percentage difference in the proportion of RN/EN time spent in each of the 25 activities, between AIN units and non-AIN units. SPSS Version 21 (IBM 2012) was used for description of data and SAS Version 9.2 was used for regression analyses (SAS Institute Inc. 2010).

RESULTS
The study participants average age was 38.5 (12.5) years, with 93% of the sample female. A total of 81,594 observed activities (equivalent to 13,599 hours of nursing activities) from 452 nurses were collected during the study period; 35,424 (43.4%) observations on units without nursing support workers and 46,170 (56.6%) observations on units with AINs. Across all nursing staff types and all units, nearly half of nurse activities (44.9%) were classified as indirect care, approximately one-third (36.5%) were classified as direct care, about 7% were classified and unit-related and the rest (11%) classified as personal tasks. Among the 25 activities, the most frequent activities were team meetings and rounds, followed by personal activities and admission/assessment (data not shown). The tasks with the biggest proportional differences between AIN and non-AIN units were hygiene care, patient mobility, and nutrition/elimination – all are direct care tasks and all happened with greater frequency on AIN units.

AIN tasks relative to other nursing staff
Among the 81,594 observed activities, 5,778 (6.8%) were observations of AINs. Predominantly, activities performed by AINs involved direct and indirect care. AINs spent the majority (56.8%) of their observed time in direct care (data not shown); with the highest frequency of these being Admission and Assessment activities (15.6%). One quarter (25%) of AINs' observed time was spent in

indirect care; of these, Room or Equipment Setup and Cleaning activities were conducted most often (15.9%). Unit-Related tasks (4.4%) and Personal Time (13.4%) comprised smaller proportions of AINs' observable time. The tasks undertaken most often by AINs were Admission and Assessment, Personal, Room or Equipment Setup and Cleaning, Patient and Family Interaction, Nutrition and Elimination and Hygiene (see **Figure 3**).

Figure 3. Proportion of time spent on activities by AINs compared with RNs/ENs.
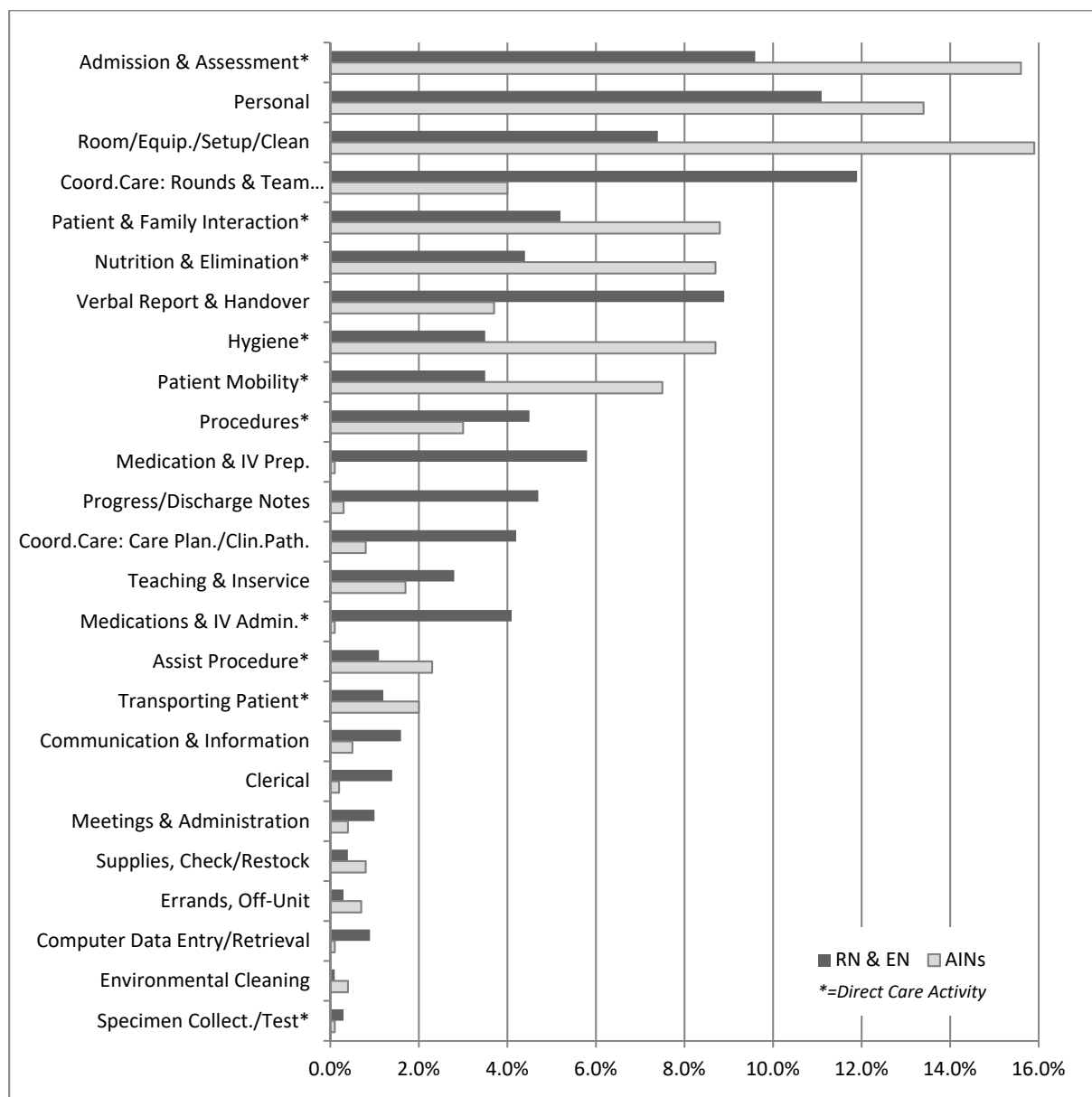
Registered nurses/enrolled nurses working on AIN units spent less time on tasks which took up the majority of AIN observed time. Compared with AINs, RNs/ENs on these units spent greater proportions of time on Coordination of Care (subcategories of indirect care), Verbal Report and Handover, Procedures, Medication and IV Preparation & Administration, Progress and Discharge

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Notes, Teaching and In-Service, and several other tasks that typically fall under the RN/EN scope of practice (See **Figure 3**). Unit leadership nurses spent about 40% of their time coordinating care in rounds and team meetings and other meeting and administration duties (data not shown).

Two logistic regressions were conducted incorporating data from all nursing staff, first with direct tasks as the dependent variable, and second with indirect tasks as the dependent variable (see **Table 1**, upper panel). Controlling for unit classification (NHPPD category), across both unit types (AIN and non-AIN), the odds of doing any direct care task were about 50% lower for RNs/ENs compared with AINs, and about 90% lower for unit leadership nurses compared with AINs. The odds of doing indirect care tasks were 2.46 times as high for RNs/ENs than for AINs and 2.16 times as high for unit leadership nurses than for AINs.

Table 1. Adjusted† odds ratios of conducting direct and indirect care.

	Direct care‡	Indirect care‡
All nursing staff (n=81,594)		
AIN unit (ref=non-AIN unit)	1.144*	0.902*
RN/ENs (ref=AINs)	0.497*	2.460*
NUM (ref=AINs)	0.103*	2.160*
RN/ENs only (n=72,630)		
AIN unit (ref=non-AIN unit)	1.140*	0.903*

*Significant at alpha=0.05 confidence level.
†Adjusted for unit classification (nursing hours per patient day based on patient acuity and volume).
‡Standard errors are cluster adjusted at the unit-day level (136 clusters).
Abbreviations: AIN, assistants in nursing; RN, registered nurse; EN, enrolled nurse; NUM, nursing unit manager.

RNs/ENs on AIN Units versus RNs/ENs on Non-AIN Units
Controlling for unit classifications, RNs/ENs on AIN units were more likely to conduct direct care and less likely to conduct indirect care compared with non-AIN units (see **Table 1**, lower panel). This is despite the fact that overall, RNs/ENs were less likely to perform direct care compared with AINs.

Among the ten direct care activities, six were conducted by RNs/ENs for a higher proportion of observed time on AIN units compared to non-AIN units, although the differences were small (between 0.2 and 2.4 percentage points); the remaining four were conducted for a lower proportion of observed time on AIN units compared with non-AIN units (between -0.5 and -1.1 percentage points). Among the eight indirect care activities, all but two were conducted by RNs/ENs for a lower proportion of observed times on AIN units compared with non-AIN units, and both differences are less than 1 percentage point. Among the six unit-related activities, only one was conducted by RNs/ENs for a lower proportion of observed time on AIN units compared with non-AIN units. A lower proportion of time was spent by RNs/ENs on personal care on AIN units compared with non-AIN units (see **Figure 4**).

Figure 4. Percentage change in the proportion of RN/EN activity, between AIN and non-AIN units.
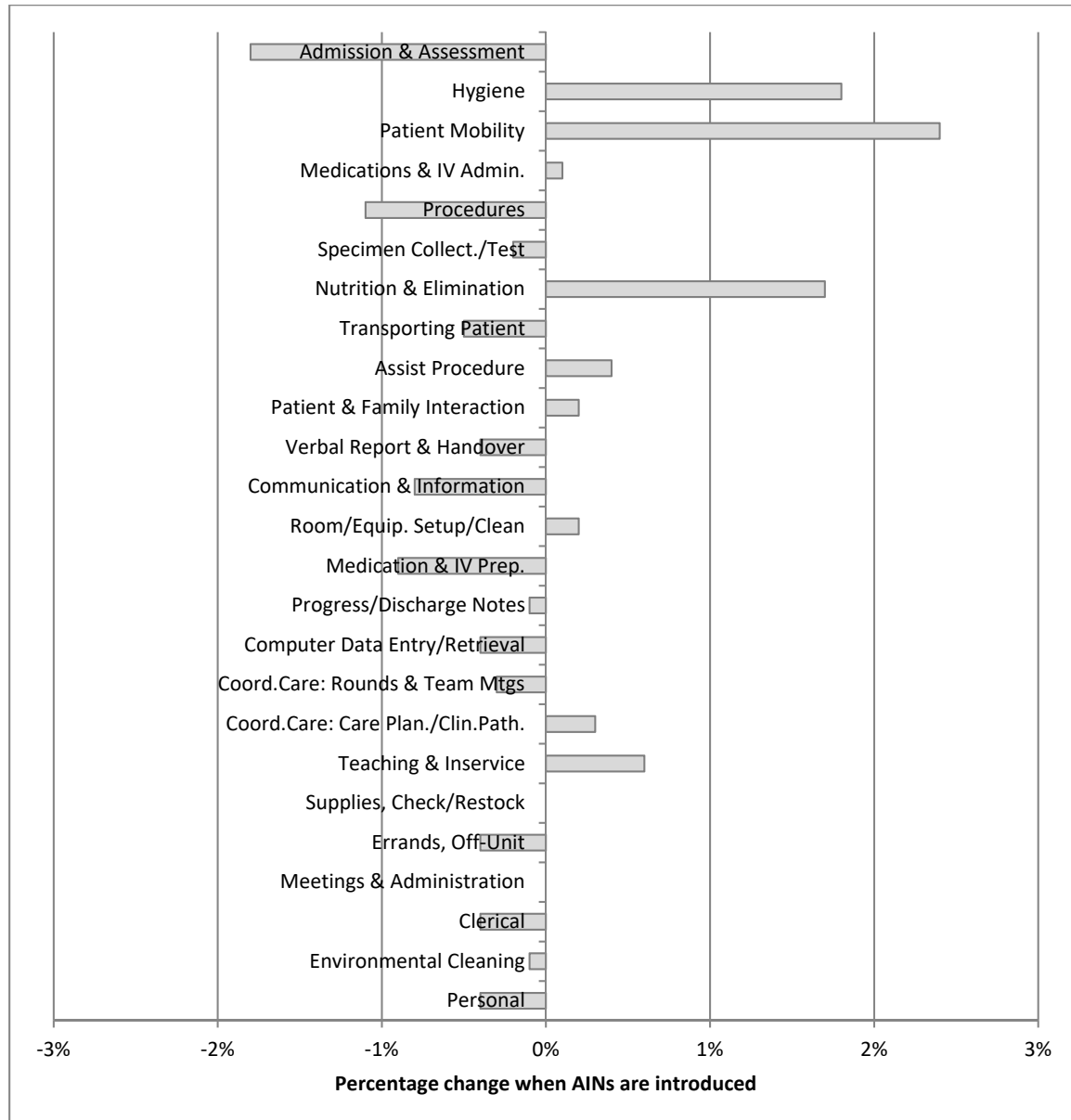
DISCUSSION

This work sampling study conducted in six WA hospitals reported how AINs and other nursing staff spent their work time, and examined how RN/EN tasks differed between units with AIN support added and those without AIN support added. Compared to RNs/ENs, AINs spent a greater proportion of their time engaged in direct care tasks and a lower proportion of their time engaged in indirect care tasks. This suggests that AINs play a visible role in ensuring that patients' immediate care needs are met. Across the unit types, RNs/ENs on AIN units were more likely than RNs/ENs on non-AIN units to conduct direct tasks than indirect tasks. Overall, after controlling for unit classifications, more time was spent on direct care by all nursing staff on AIN units.

More than two-thirds of the activities AINs completed can be described by six categories: Room or Equipment Setup and Cleaning, Admission and Assessment, Personal Time, Patient and Family

Interactions, Hygiene and Nutrition and Elimination. AINs therefore spend the largest portion of their time undertaking housekeeping tasks to keep patients' rooms tidy and prepared for patient stays. This seems an appropriate use of AIN resources, as RNs and ENs can be more advantageously employed doing tasks that require higher level clinical skills and expertise. On the other hand, AINs were observed having more personal time (time on breaks or off the unit) than regulated staff, which may be indicative of nursing leadership's failure to delegate tasks to AINs, leaving AINs with more 'free' time.

It was considered likely that the introduction of AINs would permit the delegation of appropriate direct and indirect care tasks, freeing RNs and ENs to undertake necessary indirect care tasks, and direct care tasks for which AINs were not trained. The findings are not entirely consistent with these expectations. RNs/ENs do spend higher proportions of their time on those direct care tasks for which AINs are not trained. However, among the ten direct care tasks observed here, some are inappropriate for AINs to undertake (procedures, medication and assessment) as they are out of their usual scope of practice (Bureau of Labor Statistics 2014, Duffield et al. 2014); posing a potential risk to patient safety (McKenna et al. 2004, Spilsbury et al. 2011). This suggests the need for more effective delegation and integration with the nursing team. Indeed, a systematic review of the literature emphasises the requirement for effective delegation and integration (Munn et al. 2013), while others note the necessity for effective training in this regard, for AINs and regulated staff alike (Jenkins and Joyner 2013, Mueller and Vogelsmeier 2013).

Further, examination of the specific tasks undertaken by RNs/ENs on units with AINs shows that the direct care tasks undertaken by RNs/ENs were not the more advanced tasks that may have been expected, but were tasks that would be suited to AINs such as hygiene, mobility and nutrition. One potential explanation is that both AINs and RNs/ENs could be observed conducting the same direct care activities, i.e. RNs/ENs may be duplicating some efforts of AINs. That is, as a result of their more advanced training and experience, supervising RNs/ENs may check the work of AINs because they are uncertain of the quality of work (Munn et al. 2013), or perhaps because they are unfamiliar with working in a supervisory manner. Alternatively, AINs may ask their supervising RN/EN for assistance in direct care tasks and vice versa, or may conduct separate aspects of the same task. For example, assistance lifting a patient, or completing distinct tasks associated with admission or assessment. The data provide some support for this notion, since RNs/ENs on AIN units appear more likely than those on non-AIN units to undertake tasks that AINs spend a high proportion of their time undertaking.

Another explanation is that the AIN units organised their staff using a model of care that involves more direct care. For example, teams that use nurse rounding could lead to a greater proportion of time being spent on direct care. Including AINs in rounding could result in a substantial proportion of AINs' work consisting of direct care. Also, there were informal reports that specialling by AINs, involving a high amount of direct care, is a common occurrence on these units. However, standardised definitions of different ways units can use AIN support have not been disseminated through the Australian health care system and reliable data are not available on a per shift basis. Dissemination of standardised model of care definitions and regular collection of this information would enable future studies to control for this.

Other factors that may impact here include the choice of units and the addition of patient care hours. Firstly, it is feasible that AINs were added to units because they had a greater unmet need for direct care compared with non-AIN units. This could be due to higher patient acuity, higher patient volume or fewer nursing staff available. Hiring AINs who can work alongside regulated nurses, who may already be providing more direct patient care than nurses on non-AIN units, can help units meet patient care goals that might otherwise be unachievable. Controlling for unit classifications, which are based on patient acuity and staffing requirements may control for some, but probably not all of these differences between units. It may also be that more direct care tasks were undertaken by RNs/ENs on AIN units simply due to the increase in total tasks undertaken, thus adding value to patient care. This is an additive model, and therefore a greater number of care hours are added to the ward. In a substitution model, where AINs replace RNs/ENs, there may be a similar proportion of time spent on each activity between AIN and non-AIN units.

Possible explanations aside, the finding that a greater proportion of direct care was undertaken appears, ostensibly, to be positive. However, this study focused on tasks. Future work should incorporate outcome measures and careful assessment of the model of care in order to provide an indication of the appropriateness or desirability of this care. For example, previous work suggests positive outcomes in regard to patient rounding (Mitchell et al. 2014) while there is limited research in regard to specialling (Wilkes et al. 2010, Dick et al. 2009).

Alternative approaches to the measurement of nursing productivity have also been proposed. That is, this study grouped tasks into 4 categories, while other researchers have advocated measuring nursing care productivity by focusing on 'value-adding' activities; these are characterised as being essential and directly benefiting patients, and including direct care, indirect care, and patient documentation (Upenieks et al. 2008, Upenieks et al. 2007, Antinaho et al. 2015). These value-adding activities contrast with other necessary care which has no immediate benefit to patients and non-value-adding work, which costs nurse time but have no long- or short-term patient care benefits. Unit related tasks exemplify the category of necessary work, while personal time exemplify non-value-adding work. From this perspective, it appears that the AINs in this study spent most of their time adding value to their units. There is evidence that the integration of a sufficient number of AINs to a ward (>5% of staff) decreases the number of tasks not completed (Roche et al. 2016),

Limitations
The findings from this study should be interpreted with the following caveats in mind. First, the study does not incorporate temporal changes. It is not possible to say how task proportions would differ had the study looked at the same units before and after adding AINs. Future work should incorporate this component into its study design. Second, as alluded to in the paragraphs above, the study does not control for all possible differences between the units in patient, workforce, or hospital characteristics. The unit staffing category was used as a proxy for the nature of the patients within a given unit. However this is a fairly broad measure, which looks at differences in units on average over a period of time, and there will be variation within a unit and, perhaps, across units. This may not account for all differences in units at the time of data collection. For example, patients may have been transferred to units with AINs because there was a greater provision of direct care on those units. This is an unknown that could only be addressed with detailed collection of patient characteristics beyond the scope of this study. Still, the objective and detailed nature of the work

sampling data collected for this study provide an illuminating view of which tasks AINs undertook on the sampled wards.

CONCLUSION

This study provided a unique look at how AINs contribute to their nursing teams when they supplement rather than replace nursing staff. Using objective work sampling data, it was determined that direct patient care tasks were most frequently undertaken by AINs in a sample of medical and surgical units in WA. Evidence was also found that nursing teams supplemented with AINs tended to be observed providing more direct care overall compared with nursing teams without AINs, and that both AINs and regulated nursing staff (RNs and ENs) contributed to this difference. Specifically, this study found that RNs/ENs on units with AINs were observed providing more direct patient care than RNs/ENs on units without AINs, suggesting that AINs may not 'ease' the direct care workload of the RNs/ENs that they are intended to help. Integration of AINs is influenced by the model of care, and the effectiveness of integration and delegation. However, in the current climate of nurse shortages, this may be a suitable solution for wards in which a high level of direct care is required.

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