National Aged Care Staffing and Skills Mix Project Report 2016

Meeting residents' care needs: A study of the requirement for nursing and personal care staff

Australian Nursing & Midwifery Federation
Flinders University
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Foreword

Lee Thomas,
ANMF Federal Secretary
and Project Sponsor

Australians are living longer and they are enjoying good health for an increasing number of those extra years. But as we live longer, the need for formal aged care services has increased too.

Over the past two decades, the number of Residential Aged Care places nearly doubled from 134,810 in 1995 to 263,788 in 2014. The increasing aged population will continue to present us with a number of challenges – perhaps most critically the need to provide a skilled aged care workforce.

Over the same two decades, there have been numerous Productivity Reports and Senate Inquiries which have consistently recommended there is a need to establish a method of determining safe staffing levels and skills mix in the aged care sector.

Despite these recommendations, there has been a monumental failure of successive governments to establish and legislate evidence based staffing levels and skills mix hat provide a minimum safe standard of quality care to vulnerable older Australians.

The current Aged Care Act 1997 indicates the numbers of care staff should be adequate to meet the assessed care needs – however, it provides no parameters on what the volume or skill mix of workers must be based on to safely meet the needs and care requirements of residents.

A growing body of national and international research and evidence clearly demonstrates that inadequate levels of qualified nursing staff leads to an increase in negative outcomes for those in their care, which results in increased costs. In the acute setting, the implementation of safe mandated minimum staffing has been shown to prevent adverse incidents and outcomes, reduce mortality and prevent readmissions thereby cutting health care costs. It is widely agreed that the same improvements could be achieved in the aged care sector – but this is reliant on appropriate number and mix of skilled and experienced staff – which includes RNs, ENs, and assistants in nursing/PCWs.

In the acute sector, two Australian states currently have legislated staffing levels and skills mix; and other states have mandated staffing levels (nurse to patient ratio or nursing/hours per patient day), ensuring transparency and are enforceable by industrial instruments. However, there has been little focus on the impact of nurse and personal care staffing and mix in aged care, with the exception of small scale studies.

Recognising the apparent gap in evidence based staffing and skill mix research for aged care sector, the ANMF Federal Executive funded and commissioned Stage 2 of the National Aged Care Staffing and Skills Mix Research. The established evidence-based tools will inform staffing and skills mix requirement in the Aged Care Industry.

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Executive Summary

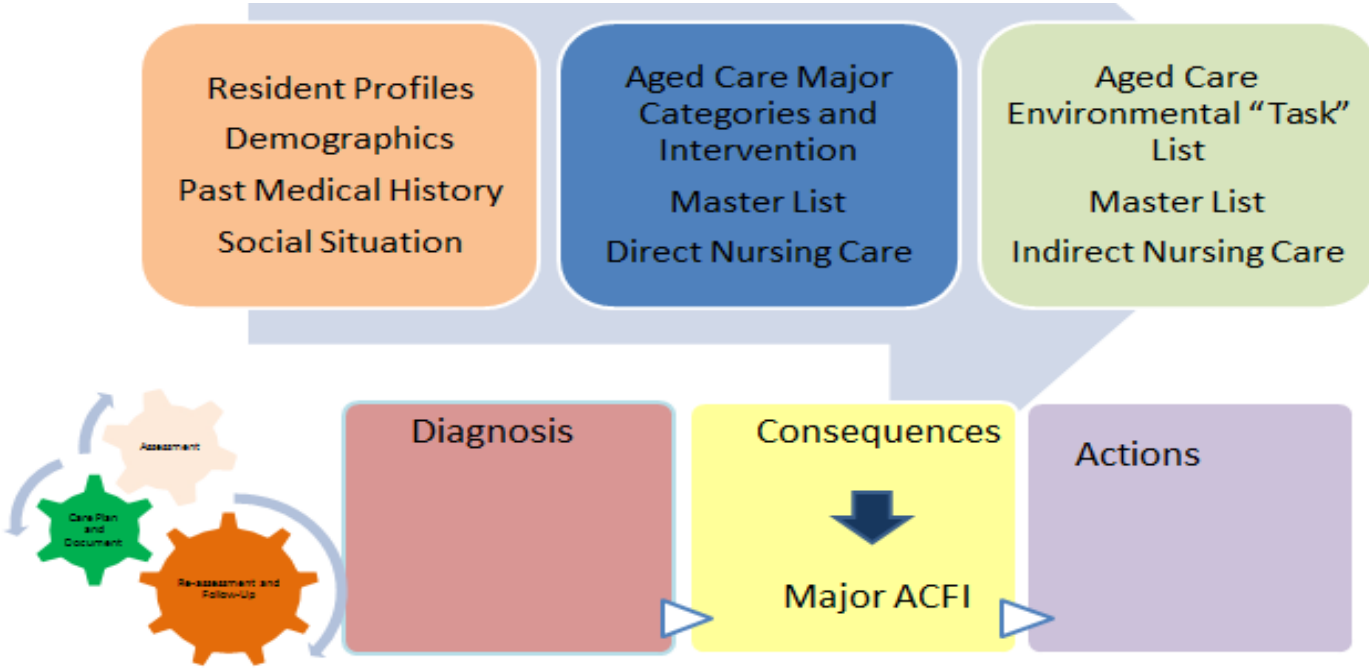
1. Introduction

This study was undertaken in response to findings by the Productivity Commission (2011a) that aged care sector organisations were experiencing difficulties in attracting and retaining a workforce due to lack of competitive wages, limited or poor educational opportunities, lack of opportunities for career development, poor management of Residential Aged Care facilities, and excessive regulation of scope of practice (Productivity Commission 2011b: 347).

The recommendations of the Productivity Commission were largely limited to addressing education and training opportunities. Strategies for dealing with workplace conditions and the retention of aged care workers identified in the report have not yet been systematically addressed. There is evidence that Residential Aged Care in Australia is facing issues arising from reduced staffing levels, fewer licensed nursing staff, and increased resident acuity (Allard 2014; Chenoweth et al., 2014; Gao et al., 2014; Henderson et al., 2016a; King et al., 2013). Recent budget decisions, along with the implementation of consumer-directed care from 2017 onward,s are likely to further reduce the funds available under the Aged Care Funding Instrument (Ansell, Cox & Cartwright 2016).

This report addresses the issue of reduced staffing levels and skills mix in Residential Aged Care, identified by the Productivity Commission report (2011a) and reported by the National Institute of Labour Studies (King et al., 2013). This is the second stage of a two-part study that has collected evidence relating to the need for a staffing methodology that considers both staffing levels and skills mix for Residential Aged Care.

The data components of the methodology which underpins this study are represented in the diagram below:



These are combined to form the following methodology for determining staffing levels:

Assessment and reassessment of <u>each</u> resident **+** direct nursing and personal care time ***per*** intervention ***per*** resident **x** frequency ***per*** shift **+** indirect nursing and personal care time ***per*** intervention ***per*** resident **x** frequency ***per*** shift **=** total resident nursing and personal care time ***per*** day.

Data collection for the second stage of the study involved three methods:

1. Verification of six typical resident profiles that were developed in Stage One of the project. These profiles are based on a methodology for staffing aged care which determined the percentage of nursing and personal care (skills mix) time needed for each resident profile based on the interventions to be completed over a 24 hour period, and the time taken to complete those interventions inclusive of time for indirect and environmental tasks. These resident profiles were presented in seven national focus groups across the country to determine the validity of the interventions and timings.
2. Administration and analysis of a **MISSCARE** survey modified for use with staff in Residential Aged Care. This survey collected information from 3,206 participants about the interventions they believed were being missed and the reasons why these interventions were missed.
3. A third evaluative component was a Delphi survey undertaken with 102 invited experts (residential site managers) about changes to the resident profile in Residential Aged Care and the associated impact on staffing and skills mix. It also sought agreement on the principles, but not timings, underpinning the methodology used in the focus groups.

2. Findings

The findings support the need for action to improve staffing levels and skills mix in Residential Aged Care, following the application and evaluation of the staffing methodology in this report.

Evidence supporting the staffing methodology: impact of staffing level

1. The findings from the Bentley aged care survey found that residents received 2.84 hours of care/day from nurses, care workers, and therapy staff (Allard 2016). This compares with 2.5 hours for residents with the lowest assessed nursing and personal care needs and 5 hours for residents with the highest assessed nursing and personal care needs using the staffing methodology developed as part of Stage One and trialled in this evaluative study.
2. Resident direct nursing and personal care needs have been validated with 0.5 indirect care hours added to all of the resident profiles following **National Focus Group** consultations and a review of the **MISSCARE survey data**.
3. Only 8.2% of respondents to the **MISSCARE survey** indicated that staffing was always adequate.
4. The **MISSCARE survey** found that all nursing services and personal care interventions were missed at least some of the time.
5. Inadequate staff numbers was the most commonly identified reason for missed care.
6. The types and frequencies of missed care were consistent across 24 hours; i.e., staff shift did not influence the frequency or types of missed care in Residential Aged Care.
7. The reported number of residents cared for on the last shift worked by the respondent was associated with incidents of missed care (e.g., higher resident numbers are associated with more missed care).
8. Staff:resident ratios are highest in government-owned facilities, higher in private-for-profit, and lowest in not-for-profit facilities.
9. Factors that were reported as adding to the time needed to deliver care were administrative load; communication needs of residents and their families; inadequate skills mix; size of facility and access to resources; and working with special needs groups (people with dementia, Culturally and Linguistically Diverse (CALD) background, and people receiving palliative care).

Evidence supporting the need for a staffing methodology: impact of skills mix

1. Applying the Residential and Aged Care desktop modelling calculation (Stage One) for 200 residents resulted in an average of 4.30 Resident and Personal Care Hours Per Day (RCHPD), and a skills mix requirement of RN 30%, EN 20%, and PCWs 50%, based on the twenty-four nursing and personal care assessment requirements of residents.
2. Participants in the **Focus groups** and **Delphi survey** indicated that Residential Aged Care facilities are admitting a greater volume of residents with more complex needs who have shorter lengths of stay than previously.
3. Participants in the **Focus groups** associated an inadequate skills mix comprising a low ratio of RNs to PCWs with poor reporting and delayed management of emerging resident health issues.
4. Participants in the **Focus groups** stated that the administrative load undertaken by RNs limited their ability to provide direct nursing care.
5. Findings from the **MISSCARE survey** show that RNs identify more missed care related to Activities of Daily Living (ADLs) and complex health care than ENs and PCWs. This finding reflects the views expressed in the **Focus groups.**
6. The **MISSCARE survey** found that fixed staffing were associated with more missed care and that staff working in facilities using fixed

staff: resident **ratios** were significantly less likely to report missed care. Where staff were able to request extra staff when needed, less care was missed. The interventions which are least frequently missed are: 'providing stoma care', 'maintaining nasogastric or PEG tubes', 'suctioning airways', measuring and monitoring blood glucose levels', and 'maintaining IV or subcutaneous sites'; However, when these occur, it is at the expense of other complex health care interventions that RNs undertake.

7. A minimum of 80% consensus was achieved through the **Delphi survey** on the need for RNs to assess and reassess residents in Residential Aged Care facilities.
8. Consensus was also achieved on the need for all aspects of the methodology during the **Delphi survey.**

Recommendations on the basis of findings

1. That a staffing methodology be adopted for Residential Aged Care Facilities (RACFs).
2. That a methodology for staffing RACFs needs to incorporate the time taken for both direct and indirect nursing, and personal care tasks and assessment of residents; it also needs to reflect the level of care required by residents.
3. That the average of 4.30 (RCHPD) or 4 hours and eighteen minutes of care per day, with a skills mix requirement of RN 30%, EN 20% and Personal Care Worker 50% is the evidence based minimum care requirement and skills mix to ensure safe residential and restorative care.

CHAPTER 1
Establishing an Evidence-Based Methodology for Staffing and Skills Mix in Residential Aged Care

1.1 Introduction

This study reports on an Australian Nursing and Midwifery Federation (ANMF) funded project aimed at providing an evidence-based methodology for staffing and skills mix in Residential Aged Care. The goal of the study was to evaluate a methodology designed as part of a previous study (referred to as Stage One and reported in Chapter 2), using three validating methods: focus groups, a MISSCARE survey modified for the Residential Aged Care sector, and a Delphi survey with experts to confirm the need for a staffing methodology that took account of resident acuity and staff skills mix.

The report provides stakeholders with evidence of the need for a methodology that informs staffing allocation and skills mix, linked to a range of resident profile/types and the skill levels of staff. A methodology of the type proposed in this report will assist in providing flexible models of care, and estimates of care costs to be passed on to the pricing authority.

The organisation of this evaluation study is outlined below. This chapter includes a literature review on key issues dealing with staff:resident ratios in Residential Aged Care in Australia and internationally. Chapter 2 outlines the design of the evidence-based aged care resident complexity profiles with indicative interventions, timings, and frequency of interventions over a 24 hour period. The methods used to conduct the focus groups,

the MISSCARE survey, and the Delphi survey are also included in this chapter. Chapters 3, 4 and 5 provide the findings of the focus group interviews, the Residential Aged Care MISSCARE survey, and the Delphi exercise respectively. Chapter 6 summarises the findings and applies the evidence drawn from the research methods to validate the proposed methodology for staffing and skills mix in Residential Aged Care.

The study was conducted in two parts. Part One outlines the development of the complexity profiles (*Total Residential Aged and Restorative Care Staffing and Skills Mix Model*©). We report the process in detail in the methodology chapter as it has not been published elsewhere. This work was conducted under the auspices of the ANMF. The second part of this report outlines the evaluation process used to verify the methodology used in devising the *Total Residential Aged and Restorative Care Staffing and Skills Mix Model*©. This occurred between June 2015 and June 2016 and was conducted by a team of researchers from Flinders University and the University of South Australia with expertise in aged care/nurse staffing research working closely with, but independently of, the ANMF team. While the overarching research design was determined in consultation with the ANMF, all three data gathering methods used to evaluate the complexity profiles were refined and conducted by the university research teams operating at arm's length from the ANMF. Ethics approval was gained from both universities for all three components of the evaluation study.

The evaluation arm of the study included a three-step process:

1. The conduct of seven focus groups, primarily with Nurses (RNs) [N=29], to verify the resident profiles, and to ascertain how representative the profiles were for acuity, required care, timings, and skills mix. The focus groups provided qualitative triangulation of the resident complexity profiles;

2. Over 3,000 RNs, ENs, and PCWs) from the aged care sector completed the missed care survey. This survey was an adaptation of the Kalisch MISSCARE survey (2009) and drew on the Aged Care Funding Instrument (ACFI) to align it with Residential Aged Care. It was designed by the university team, and the process of analysis remained confidential to the team. The MISSCARE survey was conducted to establish if, in the view of nurses and PCWs, care was being missed;

3. A Delphi exercise was conducted with Residential Aged Care managers for their views on the factors which impact on workload within aged care, as well as to gain agreement about the building blocks underpinning the development of a methodology for staffing a

Following this process, a draft of the report was sent out for peer review and a final version produced in response to the reviewers' comments.

1.2 Background to the Study: Literature Review

This study was designed to evaluate a methodology established to ensure safe staffing levels in aged care, based upon the care needs of residents and the time taken to perform care interventions. This study is in direct response to issues raised by the Productivity Commission (2011a) about attracting and retaining a workforce for the aged care sector when government funding is restricted. The Productivity Commission sought to reform aged care delivery in light of increasing demand for aged care associated with the ageing of the population, the burden of chronic illness,

and increasing expectations about service choice and support for independent living. Underpinning the review was the need to expand the aged care workforce at a time when the ageing of the workforce has resulted in fewer people providing care (King et al., 2013) and low wages which make working in aged care unattractive (Productivity Commission 2011a). The terms of reference required the Productivity Commission to:

- explore regulatory and funding options which were sustainable and allowed for alternate revenue sources to ensure continued access to aged care services;
- explore future workforce requirements for aged care;
- adjust regulatory mechanisms in aged care to promote continuity of care;
- examine the regulation of retirement living options to bring them in line with the rest of the aged care sector; and
- assess the fiscal implications of changes to aged care roles and responsibilities (Productivity Commission 2011a).

The key recommendations of the Productivity Commission included a removal of restrictions around the licensing of aged care beds; the re-establishment of the accommodation bond and introduction of savings and credit schemes to allow older people to pay the bond; a greater focus upon the reablement of residents; removal of the distinction between high and low care services; and a reduction in reporting requirements (Productivity Commission 2011a). Many of these changes were instituted in the Commonwealth Aged Care (Living Longer Living Better) Act 2013 (McCullagh 2014).

The chief findings of the Productivity Commission in relation to the aged care workforce addressed difficulties in attracting and retaining an aged care workforce in the light of increasing demand for services. Strategies for attracting and retaining an aged care workforce were identified as paying fair and competitive wages; improving access to education and training; development of a career structure and better management of aged care; extending the scope of practice; and reducing regulation. The Productivity Commission stated that the pricing of aged care should take into account the staffing levels and skills mix required to deliver quality Residential Aged Care (Productivity Commission 2011b: 347). This recommendation echoes concerns raised by the Productivity Commission in 1999 when establishing a national subsidy rate. At that time, they recommended that the government should subsidise aged care at a rate that would meet basic care standards and “reflect nursing wage rates and conditions applicable in the aged care sector” (Productivity Commission 1999: XVI). The primary difference between the two reports is the recommendation of the addition of a user pays system rather than relying solely upon government subsidies.

The recommendations of the Productivity Commission in relation to the aged care workforce were primarily focused on education and training for aged care. They recommended:

1. an expansion of education and training opportunities for aged care workers at all levels;
2. a greater focus on aged care in health professional education; and
3. a review of registered training organisations (RTOs) who provide vocational education and training (VET) for the aged care workforce to ensure that VET educators have contemporary skills; that students acquire the competen

needed; and that mechanisms for ongoing regulation of the sector are in place (Productivity Commission 2011a).

Strategies for addressing workplace conditions and the retention of aged care workers were not systematically addressed in the recommendations of the Commission.

There are currently no guidelines in relation to staffing or skills mix for Australian Residential Aged Care Facilities (RACFs). A report by Access Economics noted that "The current ACFI does not provide any guidance on the most appropriate nursing mix within a facility. This is problematic because residents assessed as needing the same level of care may require different types of nurses to administer that care (Access Economics 2009: 45). Further, the accreditation standards administered through the Australian Aged Care Quality Agency when data was collected only had two standards relating to staffing. Standard 1.2 required that the organisation comply with "all relevant legislation, regulatory requirements, professional standards and guidelines", while standard 1.6 stated that "there are appropriately skilled and qualified staff sufficient to ensure these services are delivered in accordance with these standards and the residential care service's philosophy and objectives" (AACQA, nd). Neither standard specifies the number or skills mix of staff required. This contrasts with other jurisdictions where quality is ensured through minimum staffing levels, albeit the establishment of minimum hours per resident day of care, or alternately, minimum levels of licensed nursing staff. In the US for example, federal staffing standards for certified aged care facilities require one RN for 8 consecutive hours for 7 days a week (e.g., DON) and a licensed staff member (RN, LVN, or LPN) for the remaining shifts. Likewise, all but one Canadian province require an RN to be on duty 24 hours per day (Harrington et al., 2012). In contrast, Australia has no mandatory requirements in relation to the composition of staffing outside of New South Wales, with Angus and Nay (2003) noting that the Act only requires facilities to provide 'adequate and appropriate' staffing.

1.3 Use of Residential Aged Care Facilities in Australia

As noted by the Productivity Commission (2011a & 2011b), demand for aged care services is increasing. In Australia, the ageing of the baby boomer population in conjunction with post-war migration is projected to lead to an increase in people over 65 from 14% in 2012 to around 19% of the population by 2031. This increase is accompanied by a doubling of the population of people aged 85 and over, who are the main consumers of Residential Aged Care facilities (ABS 2013). Demand for Residential Aged Care services is also increasing. The number of people using aged care services increased by 36% between 2002-03 and 2010-11 (AIHW 2015b). The Australian Institute of Health and Welfare (2015b) estimates that 62% of the population who died aged 65 years and over during 2010-11 were using either community or Residential Aged Care services at their time of death. The use of Residential Aged Care facilities is more difficult to gauge; however, it has been estimated that up to 7% of the population aged 65 and over used Residential Aged Care in 2010-11 with 5.6% being permanent residents. The use of Residential Aged Care is more common in the last year of life, with 54% of people aged 65 and over who died in 2010-11 having used Residential Aged Care within their last year of life (AIHW 2015b).

'In Australia, the ageing of the baby boomer population in conjunction with post-war migration is projected to lead to an increase in people over 65 from 14% in 2012 to around 19% of the population by 2031'

1.4 Dependence of Residents in Residential Aged Care Facilities in Australia

Increasing demand for Residential Aged Care has been accompanied by higher levels of resident dependence. A number of recent studies have identified an increase in workload in Residential Aged Care in Australia associated with increased resident acuity due to hospital avoidance strategies which result in earlier discharge from hospital and management of residents in-situ, but due also to later admission (Chenoweth et al., 2014; Gao et al., 2014; Henderson et al., 2016a). Chan et al. (2014) argued that admission of higher acuity residents is supported by the ACFI model which provides financial incentives for the admission of residents with higher needs, as facilities receive the most funding for residents who are incontinent, confused, and not ambulant. Movement towards the admission of high dependency residents is reflected in the proportion of residents who are rated as high across the three ACFI care domains of activities of daily living (ADLs), behaviour, and complex health care needs. In June 2012, these residents accounted for 18% of all residents. This number had risen to 27% by June 2015 (AIHW 2016a; 2016b). In the same period, the proportion of people with dementia had increased from 52.1% of the entire Residential Aged Care population to 59% (AIHW 2016b; 2016c).

Aged care residents often have multiple co-morbidities and complex care needs. Data on co-morbidities is not readily available from Residential Aged Care, but can be gained from hospital studies. Arendt et al. (2010), in a study of residents from Residential Aged Care admitted through emergency departments in six public hospitals in New South Wales, found that the majority were high acuity (triaged as category 1-3). Likewise, Dwyer et al. (2014), in a review of articles addressing hospital admissions from Residential Aged Care, found that residents transferred from a RACF had between 3.4 and 4.5 separate diagnoses. Hopgood et al. (2014) explored co-morbidities and medication use among 206 older people discharged from hospital to a RACF. The mean number of co-morbidities that this population experienced was 6 (±2.2), with residents taking a mean of 8.1 (±4.0) medications upon discharge to a RACF.

Residential Aged Care facilities are also increasingly providing end-of-life care. Broad et al. (2014), in a comparative review of location of death data from 45 countries, argued that population ageing in high-income countries has resulted in a higher proportion of older people dying in institutional care. In Australia, approximately one-third of people aged over 65 die in Residential Aged Care (Lane & Phillis 2015), often shortly after admission. Drawing on Australian Institute of Health and Welfare (AIHW) data, Parker and Clifton (2014) noted that 6.8% of admissions to RACFs in Australia die within 4 weeks and 17.8% within 6 months. Short-term admission for end-of-life care creates additional work demands which Residential Aged Care staff are poorly equipped to meet (Lane & Phillips, 2015). The recommendation for staffing hospices is 6.5 hours per patient day (Parker & Clifton 2015). While palliative care only accounts for part of the workload in Residential Aged Care, this number compares unfavourably with the staffing hours per resident day in RACFs in Australia outlined below.

1.5 Residential Aged Care Staffing in Australia

While demand for, and the dependence of, residents in RACFs in Australia is increasing, changes in the skills mix have resulted in employment of a greater proportion of unlicensed care workers. The 2012 National Aged Care Workforce Census and Survey conducted by the National Institute of Labour Studies (NILS) for the Federal government concluded that there were 147,086 workers in Residential Aged Care in Australia in 2012 providing direct care services, comprising 73% of the entire Residential Aged Care workforce. Of these, 7,649 provided allied health services with the remaining 139,437 provided nursing and personal care

services (King et al., 2013). This equates to 94,823 FTE positions in Residential Aged Care (ACSA 2014). Table 1.1 below shows the composition of the Residential Aged Care workforce providing direct care, with the majority being employed as personal care attendants (PCA/PCW/AiNs) (68.2%), with RNs comprising 14.9% of the workforce, and ENs 11.5% (King et al., 2013).

Table 1.1: Composition of the Residential Aged Care workforce providing direct care (30 March 2012)

Employees	Number	Percentage
RN (RN)	21,916	14.9
EN (EN)	16,915	11.5
Nurse practitioner (NP)	294	0.2
Personal care attendant (PCA) or Personal care worker	100,312	68.2
Allied health professional (AHP)	2,648	1.8
Allied health assistant (AHA)	5,001	3.4
Total	147,086	100%

Source: Based on data from the 2012 National Aged Care Workforce Census and Survey conducted by the National Institute of Labour Studies (NILS).

This is a change from 2003. Figure 1.1 demonstrates changes in the ratios of direct care workers reported in the 2003 and 2012 National Aged Care Workforce Census and Surveys. While the quality of these figures are dependent upon completion rates for both rounds of the survey, the data suggests a movement away from employment of registered nursing staff towards PCWs (Department of Social Services 2014; Richardson & Martin 2004). This trend is also reflected in the number of Full Time Equivalent (FTE) positions. King et al. (2013) identified a decline of 2,326 FTE RN positions in Australian RACFs between 2003 and 2012; and a growth of 21,726 FTE in employees providing personal care services.

'The data suggests a movement away from employment of registered nursing staff towards PCWs'

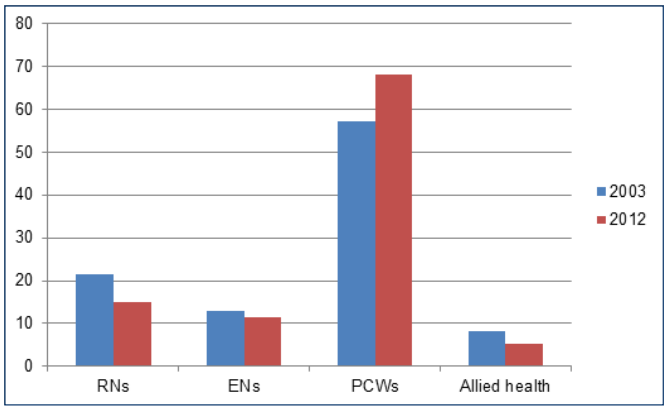


Figure 1.1: Comparison of direct care workforce by percentage reported in the 2003 and 2012 National Aged Care Workforce Census and Survey

Another means of determining staffing levels is through staffing hours/resident/day. It was estimated that residents in RACFs in Australia in 2015 received 39.8 hours of direct care/fortnight in which averages to 2.86 hours/resident/day (Allard 2016). This figure includes care provided by nurses, PCWs, and therapists, and is less than the recommended time allocations. For example, Zhang et al. (2006), in a literature review of

minimum staffing levels for Residential Aged Care, recommended from 4.55 to 4.85 hours/resident/day, which is almost double the current Australian estimates. Both staffing levels and skills mix have implications for care outcomes. Research suggests that the amount of RN time to deliver care is directly related to improved care outcomes in Residential Aged Care (Zhang et al., 2006). A number of observational studies (Paquay et al., 2007; Munyisia et al., 2011; McCloskey et al., 2015) have highlighted the role of the RN in caring for higher acuity residents, performing complex tasks, and in co-ordinating care. Given the level of co-morbidities and the dependence of residents in RACFs, the demand for these tasks is likely to increase rather than decrease.

1.6 Relationship between Staffing and Care Delivery

There are many studies which explore the impact of staffing levels on the delivery of care in aged care. The quality of service delivery in aged care is often studied using a framework developed by Donabedian which explores three interrelated aspects of quality: structure, process, and outcomes (Dellefield 2000, 2015; Havig et al., 2011). Structure refers to organisational and systemic characteristics and includes staffing levels, skills mix, facility size and ownership, and resident acuity. Process measures identify what is done with residents and may include interventions to improve care, while outcome measures explore the end results of care and may involve objective measures such as mortality rates, or alternately, perceptual measures such as, resident satisfaction (Dellefield 2000, 2015; Havig et al., 2011). A further distinction can be made between quality of care and quality of life outcomes. Quality of care outcomes relate to clinical outcomes and the safety of care delivery while quality of life has been defined by the World Health Organization (WHO) as being concerned with “an individual’s perception of his or her position in life in the context of culture and value systems where they live and in relation to their goals, expectations, standards and concerns” (Havig et al., 2011; Van Malderen et al., 2013). Van Malderen et al. (2013) associate quality of life with meaningful leisure activities and resident control over aspects of the care delivered.

Research exploring the relationship between staffing and quality of care largely focuses on objective outcome measures. For the most part, performance is determined on the basis of the incidence of complications that are viewed as being amenable to nursing care (nurse sensitive indicators) or, in the US, on the basis of deficiency citations arising from aspects of care which do not meet Health Care Financing Administration standards upon audit (Needleman et al., 2002; Shin & Bae 2012). RACFs in Australia have been audited through the Australian Aged Care Quality Agency. The accreditation standards used were reviewed by Nakrem et al. (2009) for use as a proxy for nurse sensitive indicators and were found to have face validity but insufficient rigour for use in research. As such, there are a limited number of large-scale research studies on care outcomes in RACFs in Australia. Staffing levels for the purpose of this review are determined on the basis of total staffing numbers, or alternately, on the basis of nursing hours per resident per day.

The evidence generally demonstrates a positive relationship between staffing numbers and care outcomes. Spilsbury et al. (2011), in a review of the literature, found that total staffing levels were associated with a reduction in the reporting of total care deficiencies, quality of life, and quality of care deficiencies, but that evidence for improvement on specific nursing indicators was mixed. They argued that the measurement of total staffing levels does not account for the range of activities performed, the quality of RN input, and

the number of hours of direct care performed. Likewise, Shin and Bae (2012) found a relationship between total nurse staffing and reported care deficiencies, while Dutton et al. (2008) associated total hours per resident day with reduced fall rates. Conversely, Backhaus et al. (2014), in a review of the literature, found only one article which identified a relationship between total staffing and clinical outcomes, while Havig et al. (2011) found that total staffing levels had no impact on the quality of care as defined by residents, staff, or using observational methods.

The impact of staffing on care outcomes has also been found through perceptual outcomes in studies exploring care which is missed or delayed and the factors which contribute to this. Three studies were identified which explored missed care in aged care. Zuniga et al. (2015) found that aged care staff gave priority to activities of daily living such as eating, drinking, elimination, and mobilisation over documentation and rehabilitation, with the social needs of residents often being overlooked. Staffing levels were associated with missed care, with participants who reported good staffing levels also reporting less missed care. Similar results were obtained by Henderson et al. (2016) in a study of missed care in RACFs in three Australian states. They found that unscheduled tasks such as answering call bells and taking residents to the toilet were most likely to be missed, with staffing numbers identified as the primary reason for missed care. Knopp-Shiota et al. (2015) explored missed care in Residential Aged Care through a survey of Canadian health care aides. They identified deficits in social and rehabilitative care, with the tasks most commonly missed being, in the following order, talking to patients, walking with patients, nail care, mouth care, and toileting. The impact of staffing levels was not explored in this study.

- Total staffing levels are related to both quality of care and the quality of life of residents
- Poor staffing contributes to missed care
- The care that is most likely to be missed is rehabilitative and social care

1.7 Skills Mix

More commonly, studies addressing the impact of staffing in aged care focus on issues of skills mix and the impact of staff ratios on care outcomes. A number of observational studies (Paquay et al., 2007; Munyisia et al., 2011; McCloskey et al., 2015) have explored the role of the RN in aged care. Paquay et al. (2007) divided tasks into primary care tasks (e.g., hygiene, positioning, transfers); logistic tasks (e.g., making beds, preparing meals); communication tasks (e.g., talking to doctors and family); practical nursing tasks (e.g., wound care, medications, observations); supportive tasks (e.g., activities, patient education, counselling); and administrative tasks (e.g., documentation). RNs were found to spend significantly more time on practical nursing tasks, communication tasks, and administrative tasks than other members of staff. They also spent significantly more time with residents with higher dependency or dementia than did unlicensed staff. In an Australian study, Munyisia et al. (2011) divided tasks into direct care (e.g., all activities performed in the presence of a resident or relative); medication administration; communication activities (sharing information, phone calls, discussions with allied health); documentation activities; indirect care activities (not related to residents; e.g., stocking, ordering supplies); personal activities; moving between tasks and other activities. This study made allowance for the performance of more than one task at the same time. The three tasks most commonly identified as being performed by RNs working in high care

areas were communication (48.4%), medication management (18.1%), and documentation (17.7%). A third study by McCloskey et al. (2015) divided tasks into direct care (e.g., assessment, hygiene, feeding, medications); indirect care (e.g., documentation and communication with other health professionals); non-value added activities (e.g., looking for equipment, restocking); and other activities. They found that RNs on average spent 29.4% of their time on direct care, 42.8% on indirect care, and 14.7% on non-value added activities on day shifts. On evening shifts, RNs performed less indirect care activities (38.4%), more direct care activities (35.2%), and spent 15.9% of time on non-value added activities. The authors argued that these ratios reflect the RNs role in planning and evaluating care, with the time spent on direct care reflecting the complexity of resident care.

'RNs were found to spend significantly more time on practical nursing tasks, communication tasks, and administrative tasks than other members of staff'

There are also a number of studies which have explored the impact of RN staffing ratios upon resident outcomes. The outcomes of these studies are not conclusive, but are generally positive. Mueller and Karon (2003) argued that nursing performance in long-term care can best be measured by resident falls, pressure ulcers, satisfaction with care, satisfaction with education, and satisfaction with pain management. Backhaus et al. (2014) found that RN staffing was positively associated with decreases in pressure ulcers, infections including Urinary Tract Infections (UTIs), complaints of pain, and rates of hospitalisation, but was negatively associated with incontinence and decline in ADLs. Similarly, Dellafield et al. (2015) associated high levels of RN staffing with fewer pressure ulcers, lower restraint use, decreased hospitalisation and mortality rates, fewer UTIs, and less deficiency citations. Horn et al. (2005) explored the impact of RN time per resident day upon care outcomes, and found a significant relationship between increasing RN time and avoiding the development of pressure ulcers, deterioration in ADLs, rates of hospitalisation, and use of nutritional supplements. Mueller et al. (2016) associated fewer RNs with the greater likelihood of 'failure to rescue' due to limited time for assessment and timely interventions by RNs; an issue, they argue is becoming more likely with earlier discharge from hospitals to RACFs. In contrast, Spilsbury et al. (2011) found that while RN staffing levels were positively associated with improved administrative outcomes through reduction of deficiency citations, this data was mixed for a number of clinical outcomes, including quality of care, mortality, incontinence, weight loss and malnutrition, hospitalisation, pressure ulcers, restraint use, mental status, and catheter use. Likewise, Havig et al. (2011) found no impact of RN ratio on quality of care as defined by residents, staff, or through observational methods.

- *Studies exploring roles in aged care have found that RNs spend time on complex care, communication, medication management and documentation.*
- *RN ratios are related to better outcomes in relation to nurse sensitive indicators, including reduced UTIs, pressure ulcers, hospitalisation and mortality rates.*

There is less research on the impact of EN (EN) (and equivalent) staffing levels of care outcomes. Corazzini et al. (2013) explored the relationship between licensed practical nurses' (LPN) scope of

practice in relation to assessment, care planning, delegation, and supervision, as outlined in state-based Nurse Practice Acts in the US and care outcomes. They found that states/jurisdictions in which LPNs conducted focused assessments had higher incidents of restraint use, and that, when the LPN role involved data collection, residents were reported to experience higher levels of moderate to severe pain. Conversely, in states where LPNs are prohibited from performing assessments, residents had higher catheter use. Other studies explored the relationship between EN and LPN numbers (as measured by FTE, numbers, or hours of resident care) and care outcomes. The results from these studies are less conclusive than those associated with RN staffing, with EN/LPN staffing levels more likely to be associated with poor outcomes. In a review of the literature exploring studies which associate LPN/EN staffing with 37 care outcomes, Spilsbury et al. (2011), found that LPN/EN staffing levels had no impact for 28 outcomes. Mixed results were found for 6 outcomes (pressure ulcers, composite outcomes, ADL function, mortality, weight loss, malnutrition and catheterisation). In a review of the more recent literature, Shin and Bae (2012) identified a positive relationship between LPN staffing and improved pressure ulcers, activity, feeding assistance, incontinence, eating patterns, exercise, pain management, and restraint use outcomes. Likewise, Backhaus et al. (2014) found a positive relationship between LPN/EN staffing levels and decreased pressure ulcers and fewer reports of pain.

- *Studies exploring the impact of EN staffing on care outcomes have mixed results*

A final group of studies explored the impact of unlicensed care worker (PCWs, assistants in nursing (AiNs), certified nursing assistants) staffing levels on care outcomes. Improved staffing levels for unlicensed care workers were found to be positively associated with process outcomes, such as less use of restraints and fewer incidents of hospitalisations (Backhaus 2014), and better outcomes in relation to quality of care, quality of life, and resident satisfaction (Spilsbury et al., 2011). Hyer et al. (2011) found, for example, that hours per resident day provided by unlicensed staff was significantly related to fewer quality of care deficiency citations and approached significance for total deficiency score, while hours per resident day provided by licensed staff (RNs, LPNs) had no relationship with either deficiency outcome. In contrast, Havig et al. (2011) found that the ratio of unlicensed staff (compared with licensed staff) was inversely related to quality of care as defined by relatives and through field observations. The differences in the findings may reflect the different staffing measures used in these studies, as the use of numbers of staff or hours per resident day are calculated without reference to other staff, while staffing ratios are relational with higher unlicensed staff ratios implying fewer licensed staff. The results for the impact of staffing levels of unlicensed staff on clinical outcomes are less conclusive. Higher staffing rates by unlicensed staff have been associated with fewer infections and pressure ulcers, fewer fractures, and fewer complaints of pain, but are not associated with other clinical outcomes (Backhaus et al., 2014; Spilsbury et al., 2011).

- *Improved care work staffing levels are associated with improved quality of care and quality of life as well as increased resident satisfaction unless these changes come at the expense of fewer RNs and ENs, in which case, the results are inconclusive*

1.8 Purpose of this Study

This study provides an evidence base for a methodology that informs staffing levels and skills mix for aged care. The findings will be used to provide the Aged Care Financing Authority (ACFA) with an evidence-based staffing/skills mix in order to inform future staffing levels and skills mix in Aged Care. Chapter 2 provides an overview of the methodology used in this evaluation study. It includes a comprehensive description of the development of the staffing and skill mix methodology as well as the three data gathering approaches used to test its reliability.

‘They found that RNs on average spent 29.4% of their time on direct care, 42.8% on indirect care, and 14.7% on non-value added activities on day shifts.’

CHAPTER 2
Study Method

2.1 Introduction

This study adopted a mixed-methods approach consisting of four stages to allow for the development of the staffing methodology, and evaluation of the principles underlying the methodology. The methodology was developed by the ANMF, while the evaluation component of the study was conducted by the University research team who are also responsible for reporting the findings.

The data presented here includes an account of the development of the methodology and the evaluation.

These are:

- Development of an evidence-based aged care complexity profile with indicative interventions, timings, and frequency over a 24 hour period. This is the *Total Residential Aged and Restorative Care Staffing and Skills Mix Model*©;
- Testing of the timings associated with resident profiles through focus groups across Australia with nurses working in Residential Aged Care;
- Administration of the MISSCARE survey reworked for the Residential Aged Care context to ascertain what care interventions are currently missed;
- A Delphi survey to confirm the need for, and structure of, a staffing methodology.

Each of these methods will be discussed below.

2.2 Establishment of Evidence-Based Aged Care Resident Complexity Profiles with Indicative Interventions, Timings, and Frequency of Interventions Over a 24 Hour Period

The *Total Residential Aged and Restorative Care Staffing and Skills Mix Model©* was created, designed, and developed to address the critical gaps that currently exist in evidencing residential aged and restorative care needs, and the staffing and skills mix required in Australia. Outlined below is the step-by-step process which led to the establishment of the evidence-based aged care resident complexity profiles, and the staffing and skills mix requirements over a 24 hour representative period.

Total Residential Aged and Restorative Care Staffing and Skills Mix Model©

The *Total Resident Aged and Restorative Staffing and Skills Mix©* is a matrix model that has been informed by international and national nurse staffing, skills mix, and workload models, and developed in consultation with clinical nurse leads in South Australia. The *Total Resident Aged and Restorative Staffing and Skills Mix©* is made up of three elements that have been identified as impacting on nursing and personal carers' work.

- **Direct Nursing and Personal Care** is the provision of nursing care to a resident which involves all aspects of the health care of a resident, including assessments, re-assessments, activities of daily living, treatments, counselling, self-care, education, complex care, management and administration of medication, and documentation. Personal care is the provision of the activities of daily living and management, including personal hygiene, grooming, dressing, and assistance with mobility, meals, and fluids.
- **Indirect Nursing and Personal Care** is the care that nurses and personal carers undertake that is not directly related to the resident, but has a relationship to the care provided to the resident, such as GP consultations, case conferencing and restocking of equipment.
- **Resident Environmental Care** includes the activities that nurses and carers undertake to ensure a safe environment, such as staff allocation, shift-to-shift handovers, occupational health and safety activities and the checking of emergency equipment.

There are a number of assumptions that underpin the model:

- Variation does exist between different aged and restorative care resident types, as ageing is a unique experience
- Variation does exist between experience, expertise, and the skills of nurses and carers;
- Variation does exist between models of care and support models; and
- Variation does exist between care environments and settings

2.3 Methodology: Building the Residential Aged and Restorative Care Profile

Establishment of the Aged and Restorative Care Subject Matter Experts and National Aged Care Expert Group

The following three groups were established, as follows:

1. The National Aged Care Expert Group's role was to provide oversight, consultation, advice, and support for Stage One of the study. Membership comprised of nominated representatives from the aged care sector, the university sector, and from a range of professional and industrial bodies.

2. The Aged and Restorative Care Subject Matter Expert Group's role was to utilise their expert knowledge, skills, and experience in aged and restorative care to review the assessments, care plans, intervention lists, timings, statistical modelling, and to assign minimum skills mix requirements for assessments, interventions, and desktop modelling. This group was comprised of senior experienced nurses working in the aged care, and the acute and rehabilitative care sectors.

3. The Timings Working Group's role was to develop the approach, models, methodology, processes, and tools for Stage One of the study. This group's membership comprised experts in health statistics; project management; nursing informatics; acute, rehabilitative, and aged care nursing; data management; data collection; data analysis; and desktop modelling.

The above three groups were operational throughout Stage One of the study and worked in consultation and collaboration with key stakeholders.

Establishing the Population and Sample Size for the 'Typical' Resident Aged Care Profile

In 2015, the Australian Institute of Health and Welfare indicated that 172,828 people were living permanently in Residential Aged Care (AIHW 2015a). A high proportion (61%) of these people were aged 85 years and over, with 6,400 people (4%) aged under 65 years and 570 (0.3%) aged 50 years or younger. Data from the Commonwealth Department of Health shows that 17,678 people lived in South Australian Residential Aged Care facilities in 2015. Two-thirds (68%) of people in permanent Residential Aged Care at 30 June 2015 were women. On average, women live longer than men; for example, a woman aged 65 years has a life expectancy of 22.1 years, compared with 19.2 years for men of the same age. Women in permanent Residential Aged Care were more likely to be widowed (62% compared to 24% of men), and less likely to be currently married (23% compared to 45% of men) (AIHW 2015a). Aboriginal and Torres Strait Islanders represent only 1% of people living in permanent Residential Aged Care in Australia with a substantially younger age profile than non-Indigenous people. The majority of people (90%) living permanently in Residential Aged Care speak English at home, with people born in Italy and Greece representing the largest proportion of the remaining 10%. Further, the majority of people born overseas in permanent Residential Aged Care were born in Europe (76%), followed by Asia (10%) and Oceania (4%) (AIHW 2015a).

The Department of Veterans' Affairs reported that 21,000 people with a DVA health care card living in permanent resident aged care are female (AIHW 2015a). The majority of people living in Residential Aged Care facilities are in the metropolitan areas (69%) with the remainder living in rural, remote, and peri-urban outskirts between urban and rural areas (AIHW 2015a).

Residential Aged Care Profile Sampling

Two hundred and twenty-five de-identified resident aged care profiles (inclusive of assessments, resident care plans, and ACFI Domain scores) were randomly sourced from South Australian residential care facilities in the public, private, and not-for-profit aged and residential care sectors Representing the age, gender, cultural, and linguistic characteristics of people living permanently in Australian Residential Aged Care facilities. The sampling was limited to South Australia because of the availability of the data sets, funding, and timeframes. Excluded from the sample were people living permanently in Residential Aged Care facilities aged less than 65 years, and Aboriginal and Torres Strait Islander people because of the lower representation of these cohorts. These exclusions resulted in two hundred de-identified resident profiles for inclusion in stage one of the study.

Establishing the ACFI 'Common' Groupings

The de-identified aged care resident profiles detailed their relevant past social and medical history, assessments, nursing and personal care plans, and ACFI Domain scores, and were verified by the sites as a 'true' representation of the 'actual nursing and personal care' requirements provided to each of the residents in the preceding four week period. To establish the ACFI 'common' groupings based on ACFI scores, the resident's individual ACFI Domain Scores for Activities of Daily Living (ADL), Behaviour (BEH), and Complex Health Care (CHC) were analysed. The results showed that 20 common groups, as detailed below, had ACFI Domain Scores ranging from High-High-High (22.5%) to Low-Low-Low (2.5%) (see Table 2.1) on following page.

Table 2.1: Twenty common ACFI groups with domain scores from High-High-High to Low-Low-Low

ACFI Score Matrix No.	Activities of Daily Living (ADL)	Behaviour (BEH)	Complex Health Care (CHC)	No. of Residents ACFI Scores	% of Total ACFI Scores
1	High	High	High	45	22.50%
2	High	Medium	Medium	10	5.00%
3	High	Medium	Low	10	5.00%
4	High	High	Medium	15	7.50%
5	High	Medium	High	5	2.50%
6	High	High	Nil	5	2.50%
7	Medium	High	High	5	2.50%
8	Medium	Medium	Medium	15	7.50%
9	Medium	Medium	Low	5	2.50%
10	Medium	High	Medium	15	7.50%
11	Medium	High	Low	15	7.50%
12	Medium	Low	High	5	2.50%
13	Medium	High	High	5	2.50%
14	Low	High	High	5	2.50%
15	Low	Low	Medium	10	5.00%
16	Low	Low	High	10	5.00%
17	Low	Nil	High	5	2.50%
18	Low	High	Low	5	2.50%
19	Low	High	Medium	5	2.50%
20	Low	Low	Low	5	2.50%
Total				200	100.00%

Establishing the Aged Care Resident and Restorative Care Profiles, Nursing Assessments, and Nursing and Personal Care Interventions

The de-identified care plans provided the source information for the resident profiles, characteristics, common conditions, assessments, and the direct nursing and personal care interventions. The nursing and personal care intervention (direct and indirect) lists were mapped to the Major ACFI Domains, Categories, and Accreditation Standards. For example, *Activities of Daily Living – Intervention of Showering with minimal assistance* was mapped to ACFI 3 Personal Hygiene, Accreditation Standards 2 Health and Personal Care, and Standard 3 Care Recipient Lifestyle. Assessment of the resident's direct and indirect nursing and personal care needs led to the identification and selection of all the interventions that were able to be observed and timed, as well as the allocation of the minimum skills level.

Through the analysis and review of the individual resident care plans, it was apparent that the resident's physical, nutritional, medication, and specialised care (i.e., wound management) needs were described and detailed. However, there was little or no evidence of rehabilitation, or restorative health interventions and/or activities being provided or recorded for a population with a chronic disease profile. These findings were confirmed by the National Aged Care Expert Group and the Aged and Restorative Care Subject Matter Expert Group.

Approach to Determining the Nursing and Personal Care Skills mix

Determining the 'right' mix of RNs, ENs, and PCWs was critical to the development of the third element of the 'Total Resident Aged and Restorative Staffing and Skills Mix Model'. A review of the international literature describes a number of approaches on how to determine the skills mix in health care, such as task analysis, activity analysis/activity sampling, daily diary, casemix/patient dependency, zero-based re-profiling, and professional judgement (Buchan & May 2000). Using the 'Professional Judgement' Model, the Timings Working Group, in consultation with the Aged and Restorative Care Subject Matter Experts and National Aged Care Expert Group, assigned the minimum skills level required, i.e., RN, EN, or PCW, to the nursing and personal care direct and indirect interventions required by each resident. The benefit of using the Professional Judgement Model is that it uses a consultative process to determine the 'right' mix for the 'right' intervention through consensus.

Establishing the Aged Care Resident and Restorative Care Environment Resident Care Environment Surveys

The Resident Care Environment is the fourth element of the *Total Resident Aged and Restorative Staffing and Skills Mix Model* and recognises the relationship between resources, skills mix and/or nursing education, work environment, and patient/resident outcomes, and is supported by a number of national and international research studies (for example Aiken, Sochalski & Lake 1997; Leiter & Laschinger, 2006; O'Brien-Pallas, et al., 2001; Tourangeau, et al., 2007).

The resident care environment acknowledges a number of aspects within the unit/ward/house context and environment. To establish an overview of the resident and restorative care environment, an organisation-wide survey was developed to capture the residential aged and restorative care facility profiles. The information gathered included the different types of facilities, their size, geography, layout, and the model of care; specific types of resident care environments including secure dementia, cultural, and linguistic; and access to restorative and lifestyle programs and allied health residential supports. Other clinical support services such as in-reach Palliative Care, Diabetes, Continence, and Behavioural Specialists, administrative and other services, were also captured.

Daily routine activities and tasks undertaken by RNs, ENs, and PCWs/PCAs/AINs, such as counting of Drugs of Dependence (DDAs), shift-to-shift handovers, and meal list checking were captured to inform the environmental profile.

The collated survey results provided the source information for the indirect nursing and personal care and residential care environment.

The indirect nursing and personal activities and tasks listed the items for 'timing', such as 'handovers' and 'counting of DDAs' that had been sourced from the care environment surveys. The following table provides a snapshot of the composite list of the environmental indirect resident care activities that were captured in the observation, timing, and motion study:

Table 2.2: Composite List of the Environmental Indirect Resident Care Activities

Major Category	Facility Environment
Communication and Liaison	Answering and Responding to Call Bells
Communication and Liaison	Clinical Handover
Communication and Liaison	DDA / Drug Checks
Communication and Liaison	Security Checks
Communication and Liaison	GP Consultation, re: Resident Condition
Pharmacy	Counting of DDA's
Equipment, Linen, and Stock Management	Restocking Linen
Communication and Liaison	Answering Call Bells

Summary

The collated individual resident profiles, ACFI Domain Scores, nursing assessments, nursing and personal care interventions and activities, and the care environment survey results provided the evidence and building blocks for the development of the model.

2.4 Resident Aged and Restorative Care Matrix Model – Timing Studies Methodology

The third step in developing the model required the establishment of a statistically sound and robust time and motion study of the nursing and personal care indirect and direct assessments, interventions, and environmental factors.

Developing the Observational Timing and Motion Model

The SA Health - 'Flinders Medical Centre - Nursing Works' Observation, Time and Motion Model' underpinned the timings study. Senior RNs in acute, rehabilitation, and aged care with a minimum of five years' experience were recruited, educated, trained, and skilled in how to:

- Conduct and undertake the timings study;
- Engage with staff and residents;
- Undertake the observations;
- Time (stop watch); and
- Record (hh:mm:ss:) the direct and indirect nursing and personal care interventions.

The Timings Working Group developed standardised forms, tools, and processes to ensure consistent capture of the direct and indirect nursing and personal care assessments, interventions, and activities data as well as the resident characteristics (such as level of co-operation, infectious status, bariatric, cognitive status).

Composite lists of nursing and personal care interventions sourced from the de-identified resident care assessments and care plans were grouped into major ACFI categories with each assessment or intervention given a primary category, a unique individual identifier, an intervention descriptor, and an assigned minimum skill level.

The following table provides a snapshot of the composite list of the observation, timing, and motion database.

Table 2.3: Sample from Observation, Timing and Motion Database

Major Category - mapped best fit to ACFI	Primary Category	Unique #	Intervention Descriptor	Assigned Minimum Skills Mix
ACFI 3 Personal Hygiene	Activities of Daily Living	ADL - 4	Pressure care	PCW/ PCA/ AiNs
ACFI 3 Personal Hygiene	Activities of Daily Living	ADL - 5	Shave resident	PCW/ PCA/ AiNs
ACFI 3 Personal Hygiene	Activities of Daily Living	ADL - 6	Shower - minimal assistance (1 person)	PCW/ PCA/ AiNs
ACFI 3 Personal Hygiene	Activities of Daily Living	ADL - 7	Shower - moderate assistance (2 persons)	PCW/ PCA/ AiNs
ACFI 12 Diagnosis Assessment - Assessment	Assessment	ASS - 3	Admission - Assess Activities of Daily Living Needs	RN
ACFI 12 Diagnosis Assessment - Assessment	Assessment	ASS - 6	Admission - resident admission history and assessment	RN
ACFI 12 Diagnosis Assessment - Assessment	Assessment	ASS - 26	Falls Risk - assessment	RN
ACFI 12 Complex Care - Care Planning and Documentation	Documentation	DOC - 2	Care plan - formulated	RN
ACFI 12 Complex Care - Care Planning and Documentation	Documentation	DOC - 4	Casenote - resident entry	PCW/ PCA/ AiNs
ACFI 5 Continence	Elimination	ELM - 10	Toileting - minimal assistance with toileting (1 person)	PCW/ PCA/ AiNs
ACFI 11 Medication - Administration - DDA	Medication	MED - 2	DDA - Oral Administration	RN
ACFI 11 Medication - Oral	Medication	MED - 15	Oral medication ≤ 6 medications administration	EN
ACFI 1 Nutrition	Nutrition	NUT - 2	Meals - complete feed	PCW/ PCA/ AiNs
ACFI 12 Complex Care	Observation	OBS - 1	Assess - blood glucose level	EN
ACFI 12 Complex Care - Procedure	Procedure	PRO - 12	Wound Care - wound reviewed, dressing changed	EN

Conducting the Observation, Timing, and Motion Study

Over a six month period, a series of 'Timings Studies' were conducted in over 250 individual wards/units/resident areas across South Australian public hospitals, rehabilitation centres, and Commonwealth and state-funded residential aged care facilities, thus ensuring a diverse range of settings and care contexts in accordance with the agreed methodology, tools, and processes. A minimum of 20 timings (representative sample) of each assessment, intervention, or activity was captured across diverse settings with all levels of populations and all groups of staffing and skills mix. This data was collected by the trained senior RN timers. Data integrity checks were conducted by the trained senior RN timers, and the data and project officers. All data discrepancies were investigated prior to being entered into the access timings database. Ongoing auditing and accuracy integrity checks were conducted independently by the health statistician. Sampling sizes were checked to ensure statistical validity, while variations between different areas, resident/patient types, nurses and carers, and 'outlier' timings were investigated and subsequently excluded from the study. In total, 1,927 nursing and personal care interventions were timed, and over 110,000 individually validated timings were analysed, to provide the basis for the statistical modelling by the health statistician.

The Timings Working Group in consultation with the Aged and Restorative Care Subject Matter Expert Group and key stakeholders developed and tested the following four statistical observation, timing, and motion models:

1. SA State Average Model
2. Ward/Unit/Resident Area Type 1 (e.g., Speciality) Average Model
3. Ward/Unit/Resident Area Type 2 (e.g., adult, country, mental health, rehabilitation, aged care) Average Model
4. Hospital/Residential Site Average Model

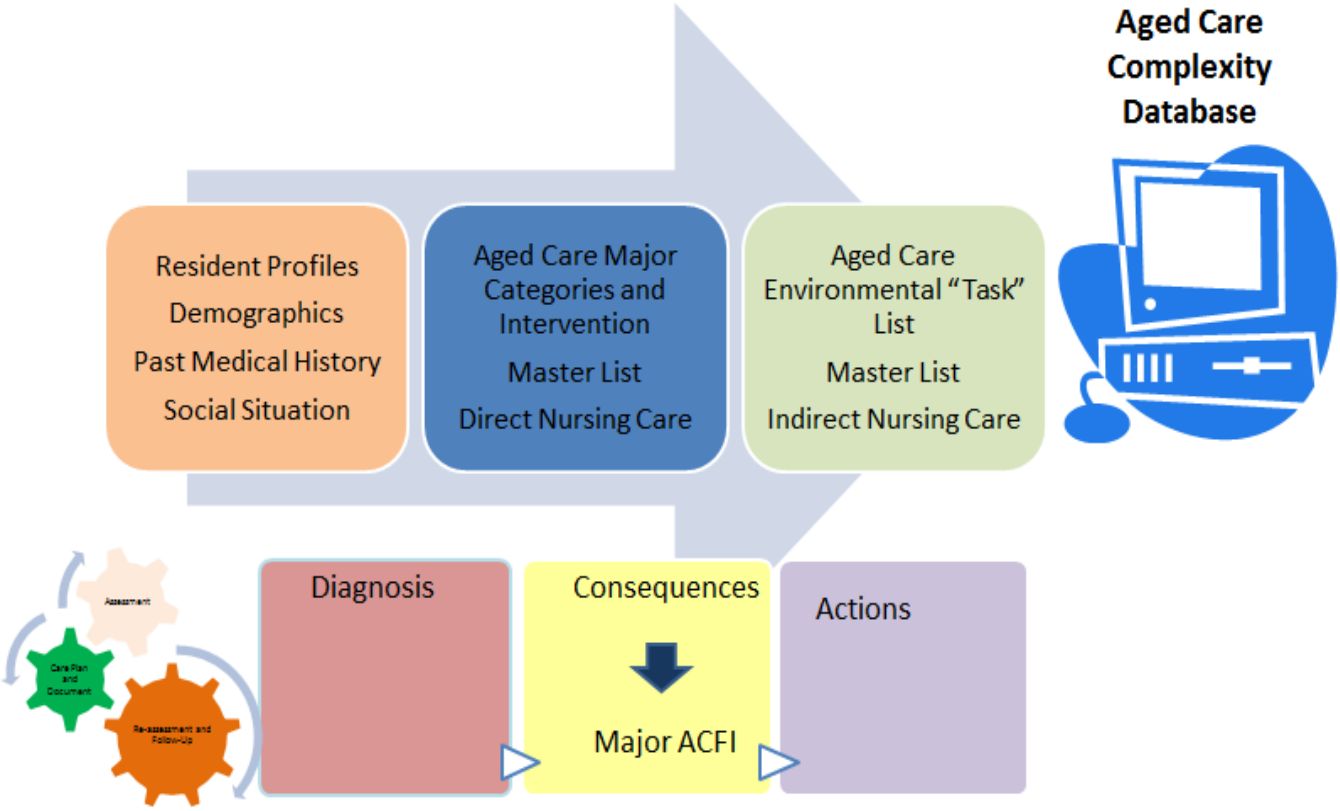
The outputs from each of the four statistical models were applied to the timings database. The Timings Working Group reviewed each of the statistical models, the timings database, and their outputs. The outcome of the review showed that the SA State Average Model, with the largest sample size, was the most stable and the least volatile in comparison with the other three models. The consensus of the Timings Working Group and the Aged and Restorative Care Subject Matter Expert Group was that the SA State Average Model was the most statistically sound, providing the evidence and individual values (average time hh:mm:ss) for all assessments, and nursing and personal care interventions or activities for the purposes of the study.

Staffing Methodology Resource Calculation

The Timing Working Group established the definition and resource calculation methodology and formulae for the model, as follows:

The *Total Resident (Nursing and Personal) Care Hours Per Day* were calculated on a shift-by-shift basis and totalled for the 24 hour period as the:

- Assessment and reassessment of each resident, plus
- Direct nursing and personal care time per intervention per resident times by frequency per shift, plus
- Indirect nursing and personal care time per intervention times by frequency



The fourth step was to bring all the elements of the *Total Residential Aged and Restorative Care Staffing and Skills Mix Model*© together to test if evidence-based aged care resident complexity profiles could be established. This was done in two-parts:

Firstly, the Resident Aged and Restorative Care Matrix Database was created with de-identified resident data such as name, and relevant social, physical, religious, and medical histories, co-morbidities, nursing assessments, and social and family supports. The observation, timing, and motion database was imported and linked to the Resident Aged and Restorative Care Matrix Database. A care planning tool was designed and developed within the database to enable the capture and modelling of the required resident, nursing, and personal care requirements on a shift-by-shift basis for a 24 hour period. The agreed staffing methodology resource calculation was configured, checked, and validated to ensure the accuracy of the outputs.

The SA Health Resource and Skills Mix Calculation Model provided the basis for the next part of the process with a desktop modelling exercise that included the following data elements:

- 200 de-identified resident profiles, nursing assessments, and care plans with interventions and frequency for a 24 hour period;
- Facility profiles;
- Aged Care Major Categories, individual interventions, and validated timings for direct and indirect nursing, and personal and environmental care interventions and activities, including frequency and minimum skill sets required;
- Observation, timing, and motion database; and the
- Staffing Methodology Resource Calculation.

Residents were randomly assigned to a number of 'aged care houses', with the de-identified resident and assessment profiles and formulated care plans

being created and modelled to show individual resident nursing and personal care needs over a 24 hour period.

The individual modelled care plans enabled the resource calculation to inform the nursing and personal care needs for the total population (200 residents).

External validation of the desktop modelling

To ensure that the resident profiles, care plans, and outputs were representative of the aged and restorative care needs for a 24 hour period, the desktop modelling outputs were reviewed and validated independently by Aged and Restorative Care Subject Matter Experts and subsequently by the National Aged Care Expert Group.

2.5 Discussion

Six common groupings emerged from the desktop modelling of the 200 care plans, with a 30 minute difference between each group. Subsequently, the 6 common groupings were mapped to the 20

ACFI Common Groupings established in Step 1 of the study, to examine whether a clear relationship exists between the ACFI Domain Scores and the calculated resource requirements, as shown in the table below.

Table 2.4: Twenty common ACFI groups with domain scores from High-High-High to Low-Low-Low and resident profiles

ACFI Score Matrix No.	Activities of Daily Living (ADL)	Behaviour (BEH)	Complex Health Care (CHC)	No. of Residents ACFI Scores	% of Total ACFI Scores	Resident Profile Common Grouping	Resident Nursing and Personal Care Hours Per Day (RCHPD)
1	High	High	High	45	22.50%	6	5
4	High	High	Medium	15	7.50%	6	5
7	Medium	High	High	5	2.50%	6	5
6	High	High	Nil	5	2.50%	6	5
5	High	Medium	High	5	2.50%	6	5
2	High	Medium	Medium	10	5.00%	5	5
13	Medium	High	High	5	2.50%	5	4.5
10	Medium	High	Medium	15	7.50%	5	4.5
14	Low	High	High	5	2.50%	5	4.5
3	High	Medium	Low	10	5.00%	4	4.5
8	Medium	Medium	Medium	15	7.50%	4	4
11	Medium	High	Low	15	7.50%	4	4
9	Medium	Medium	Low	5	2.50%	4	4
12	Medium	Low	High	5	2.50%	3	3.5
19	Low	High	Medium	5	2.50%	3	3.5
18	Low	High	Low	5	2.50%	3	3.5
16	Low	Low	High	10	5.00%	2	3
15	Low	Low	Medium	10	5.00%	2	3
17	Low	Nil	High	5	2.50%	1	2.5
20	Low	Low	Low	5	2.50%	1	2.5
Total				200	100.00%		

Table 2.5: Stage 2 - Step 1 Study - Initial Residential Care Profiles with Resident (Nursing and Personal Care) Hours Per Day

			Skills Mix		
Resident Profile	RCHPD	Total Residential and Personal Care Hours Per Day	RN (Min)	EN (Min)	PCW/AiN (min)
1	2.5	150	45	30	75
2	3	180	54	36	90
3	3.5	210	63	42	105
4	4	240	72	48	120
5	4.5	270	81	54	135
6	5	300	90	60	150

The National Aged Expert and the Aged and Restorative Care Subject Matter Expert Groups reviewed the Desktop Modelling, and the care plans and outputs, including the resource and skills mix calculations. Consensus was reached by the two expert groups, stakeholders, and the research team on the profiles, and the grouped nursing and personal care hour intervals were deemed to be true representations of the delivered care requirements. This outcome informed the basis for the six typical residential profiles for the National Focus Group consultation.

Unlike the acute care setting, in the Residential Aged Care setting, there is no clear definition of nursing/personal carer skills mix or the minimum skill level requirement. The *Aged Care Act 1997* and the *Aged Care Accreditation Standards* stipulate the principles of adequate care based on the assessed resident needs, but the Act remains silent on regulated and unregulated staffing and skills mix requirements to meet the needs of older Australians living in residential care facilities.

Currently, the aged care industry receives funding based on the national average of 2.8 RCHPD (Brown 2015), with 3.18 hours (based on staff hours worked) for residents with the 'highest' care needs with only 22 minutes of RN care per 24 hours; and for residents with 'lower' care needs receiving 1.76 hours with just six minutes of RN care over three shifts (ANMF 2016: 12). The Bentleys National Aged Care Survey (2015) that provides the national average care hours per resident/per fortnight for all facilities reported the total care staff hours per resident/per day were calculated at 2.86 hours, equating to 57 minutes of care per resident/per shift. This is for residents with high nursing and personal care needs, co-morbidities, complex medication, and health and behaviour management requirements (Bentley 2015).

In South Australia, the public sector is the largest provider of Residential Aged Care services in the state with an agreed average of 3.2 hours per residents per day (SA Health 2015). South Australian aged care residents living in private, not-for profit aged care organisations receive between 2.8 and 3.2 hours of nursing and personal care per day. In Western Australia, Tasmania, and Northern Territory, aged care residents receive 4.0 hours per day for patients awaiting aged care placement or aged care; and in Victoria, a ratio model of 1 nurse to 7 aged care residents plus in charge on the early shift; 1 nurse to 8 aged care residents plus in charge on the late shift; and 1 nurse to 15 aged care residents for a night shift applies. In New South Wales, most of the aged care sector is operated by for-profit and charitable organisations which do not have any mandated minimum staffing levels or skills mix.

It is apparent that the Aged Care Financial Performance Survey published by Stewart Brown (2015) and the Bentleys National Aged Care Survey (2015) benchmark and report existing staffing levels and mix, but do not represent an evaluation of the demand for care associated with those numbers.

The *Total Residential Aged and Restorative Care Staffing and Skills Mix Model©* enabled the establishment of evidence-based aged care resident complexity profiles, as well as staffing and skills mix profiles. The next step was the validation of the profiles and the staffing resource requirements by the National Focus Group and the Delphi study.

2.6 Evaluating the Resident Aged and Restorative Care Matrix Model and Methodology

Once the methodology had been developed, there was a requirement to evaluate the timings to determine whether or not there was agreement within the industry for this approach. To achieve this outcome, three data gathering methods were instituted: seven focus groups to qualitatively evaluate the timings, the MISSCARE survey to determine if care interventions were currently being missed, and a Delphi survey to measure agreement for a staffing methodology. The processes and rationale for all three methods are outlined below and represent Stage 2 of this study.

2.7 National Focus Groups

The first component of the evaluation of the methodology was the conduct of National focus groups with Residential Aged Care staff to validate the accuracy of the profiles, nursing services and personal care interventions, and the timings. While the methodology and timings were developed as part of a rigorous time and motion exercise, there is always the possibility that experienced nurses and PCWs will reveal tasks, or environmental issues, not accommodated in studies that are limited to time and task exercises. Hence, the primary aim of the focus groups was to capture possible tasks not identified in the observation, time, and motion study that informed the desktop modelling calculations of the care matrix, as well as the omitted activities. Allowing nurses to flesh out the 'time and motion' analysis takes account of the realities of care in context, but also assisted in triangulating the findings. The advantage of using focus groups to gain this sort of information is that the group dynamics ensure that participants confirm (or not) the views of other participants. Group dynamics play an important role in focus group data collection, particularly if the participants share a similar culture enabling comparison of experiences and views (Kitzinger 1994). The focus groups for this study concentrated on the presentation of eight resident profiles, each with different timings, with discussion being centered on the validity of the nursing services, personal care interventions, and associated timings required for a resident with each profile.

Recruitment

The participants were recruited through an expression of interest to participate in the focus groups on the ANMF national project website. The website was an open access site which was not restricted to ANMF members. Potential participants were asked demographic questions about their role, qualifications, workplace characteristics (e.g., location, size and ownership status of facility, type of residents), and their specific role within the organisation. Employer names were not collected. The university research team then identified potential focus group participants on the basis of the sampling strategy outlined below. These nurses were contacted by the research team via email with an information sheet to ascertain their ongoing

interest and availability to attend a focus group.

It was the intention of the research team to use a purposeful sampling strategy of maximum variation heterogeneity to recruit nurses for the focus groups; however, all volunteers were accepted into the study. RNs (RNs) were recruited as the *RN standards for practice* (NMBA 2016) identify this group as being more likely to have the knowledge, understanding, and experience of care planning to provide comprehensive feedback about the typical resident profiles. The participants were purposefully sought from a range of facilities within the public and private sector and from metropolitan and rural and remote settings. In total, seven focus groups were conducted with one in South Australia, two in Victoria, two in New South Wales, one in Queensland, and a national teleconference with participants from rural and remote regions. A total of 29 RNs, 1 EN, and 2 Assistants in Nursing/ PCWs from a range of RACFs participated in the focus group discussions.

The participant profiles are outlined in Table 2.4 below.

Table 2.6: Description of focus group participants

Role	Location	RACF	Other
RN	South Australia	195 bed facility	In charge of the afternoon shift, Supervises 9 ENs/RNs
RN	South Australia	100 bed facility	Manages own floor and oversees 4 other floors supervised by ENs
RN	South Australia	83 bed not-for-profit facility	Works as CN, 2 ENs and 1 RN on morning and late shifts
RN	South Australia	90 bed facility	Works as CN and educator 1 RN and 3 ENs in morning and 1 RN and 1 EN in afternoon
RN	South Australia	60 bed facility	1 RN and 2 ENs on morning and late shifts
RN	South Australia	126 bed facility	4 ENs morning and afternoon shift, 1 at night
RN	South Australia	101 bed facility	In charge on weekends 2 sides 1 RN and 1 EN for each side on day shifts, 1 RN on nights
RN	Victoria	Relieving work	Previously worked in 90 bed facility
RN	Victoria	120 bed facility	Education component to role
RN	Victoria	120 bed facility	In charge, Relieving work at a second facility
RN	Victoria	95 bed facility	2 RNs and 2 ENs in morning and 1 RN and 2 ENs on late shift
RN	Victoria	120 bed facility high and low care	1 RN for 65 beds in high care on days
RN	Victoria	60 bed government facility	RNs and ENs employed only 2 RNs and 6 ENs on days
RN	Victoria	Smaller facility	Previous experience in remote aged care
RN	Victoria regional	Government-owned facility	
Clinical Nurse Educator	Victoria	Works across many facilities	Lack of RNs to provide student supervision
EN	Victoria	118 beds (63 low care)	
RN	Victoria Rural	Public Sector 45 beds MPS	1 RN and 5 ENs
RN	New South Wales	120 bed facility High and low care	1 RN and 2 carers in high care
Instructional Designer	New South Wales		Education for aged care staff. Previously an RN in aged care
RN	New South Wales	Works across 17 facilities	Palliative care clinical-based consultant. Management and education about end of life care
RN	New South Wales regional	100 bed facility High and low care	Works in high care. 1 RN to manage high and low care on nights
RN	New South Wales		Specialist consultant nurse (mental health)
Assistant in Nursing	Queensland	69 bed facility High care	2 RNs on morning and late shifts
RN	Queensland	72 bed facility	2 RNs on morning and late shifts
RN	Queensland	400 resident retirement village	Care manager
RN	Queensland	Private facility	
RN	Queensland regional	170 bed facility High and low care	3 RNs on mornings
RN	Tasmania rural	52 bed facility |(2 medical beds)	1 RN on late and night shift, No ENs employed
RN	Northern Territory remote	Approx. 35 beds High and low care	Service for Indigenous residents, 1 RN and care workers
Assistant in Nursing	New South Wales	120 bed facility	
RN	New South Wales	Independent living service (NSW and ACT)	Clinical governance role

Focus Group Schedule

The focus groups commenced with an outline of the project and an invitation to participants to introduce themselves, briefly describe their workplace, the number of residents, and the typical staffing profile for a shift. Participants were then introduced to the typical resident profiles. These had been developed in the first stage of this study as outlined above using the aged care complexity database. Eight profiles in all were presented during the focus groups; however, the findings presented in Chapter 3 focus on the six most commonly presented profiles as these received the most extensive feedback.

The participants were guided through a discussion of each profile that explored (Appendix A):

1. the percentage of residents in their facility that matched the profile;
2. whether the interventions in the profile were typical for a resident in their facility who matched the profile;
3. if not, what the differences were; and
4. whether the total number of care hours per resident day allocated to each profile was adequate.

Analysis

The focus group data were analysed by the university research team using qualitative content analysis, also referred to as qualitative descriptive analysis (Sandelowski 2000). This approach is ideal for analysis when "… straight description of phenomena is desired … [and] … is especially useful for researchers wanting to know the who, what and where of events" (Sandelowski 2000: 339). The key to this form of qualitative analysis is that researchers do not move too far from, or into, their data. In relation to this research, qualitative description resulted in a comprehensive summary of responses to each of the resident profiles in the everyday language of the participants. As noted by Maxwell (1992, cited in Sandelowski 2000: 335):

> "Researchers conducting such studies seek descriptive validity, or an accurate accounting of events that most people (including researchers and participants) observing the same event would agree is accurate, and interpretive validity, or an accurate accounting of the meanings participants attributed to those events that those participants would agree is accurate".

Drawing on the above, the analytical framework was as follows:

1. Initial reading of each transcript by two researchers to gain a sense of the whole.
2. The two researchers then re-read each transcript, statement by statement to identify the recurring descriptive statements of agreement/disagreement/justification of responses for each profile in relation to each of the following:
    - Percentage of residents who matched each profile
    - Whether care/interventions carried out for this type of resident in the participants' facilities corresponded with the profile
    - What the differences were, and the justification for this
    - Whether the total resident care hours per day for the profile reflected resident care hours per day for this type of resident in the participants' organisations over a 24 hour period.

The NVivo Qualitative Analysis Program was used to facilitate the data coding and efficient retrieval of the coded data to inform the analytic process. The findings were presented to the team for group discussion and confirmation.

2.8 MISSCARE Survey

The MISSCARE survey was used in the absence of datasets which demonstrate care outcomes in Residential Aged Care. It is not an independent audit or an evaluation of nurse sensitive outcomes. The MISSCARE survey was used to collect data on the relationship between staffing numbers, skills mix, and other factors on perceived capacity to deliver care. This information was used to determine whether the current staffing numbers were adequate to perform the care interventions outlined in the six profiles. It was completed by Registered and Enrolled Nurses and PCWs and is presented as evidence that both nurses and PCWs have identified that a number of care tasks are currently missed.

Developing the Survey

The MISSCARE survey was originally developed by Kalisch and Williams (2009), based on earlier qualitative work conducted by Kalisch (2006) to identify nursing care that is missed in acute care settings and the reasons why it is missed. Kalisch et al. (2009: 1510) defined missed care as "required patient care that is omitted (either in part or in whole) or delayed" and acknowledges that it is a response to "multiple demands and inadequate resources". The original MISSCARE survey included three components: demographic and workplace data; missed nursing care; and questions identifying the impact of events that impact on the capacity to deliver care. These events are associated with three antecedents: 1) the labour resources available to provide patient care; 2) access to the material resources needed to provide patient care; and 3) relationship and communication factors which have an impact on the capacity to deliver care (Kalisch et al., 2009; Kalisch & Williams 2009). The MISSCARE survey was used in this study to explore the types and extent to which nurses and PCWs perceive that specific care tasks are missed in Residential Aged Care and to determine the reasons why they are missed. These data were used to confirm if current staffing and the skills mix are insufficient to meet all care needs and to determine other factors which contribute to missed care in Residential Aged Care.

The MISSCARE survey was redeveloped for this project drawing upon the processes outlined by Kalisch (2006; 2014) in the development of the MISSCARE and Patient MISSCARE instruments (Kalisch 2014). This included a preliminary drawing up of possible missed care tasks based on the literature, the conduct of focus groups to verify and capture the missed tasks, and the trialling of the survey before distribution of the final version. For this study, a search of the literature was undertaken for factors which have an impact on the quality of care in Residential Aged Care for nursing and care worker roles. In addition, data from previous MISSCARE surveys of Australian nurses (Blackman et al., 2015; Verrall et al., 2015; Willis et al., 2015) was re-analysed using multivariate analysis to identify the reasons given for missed care by nurses working in aged care. The review of the literature, along with the re-analysis of the data, informed the demographic questions and those relating to factors having an impact on missed care in aged care. A preliminary list of possible nursing and care tasks that could be missed was created from the tasks included in the Aged Care Funding Instrument (ACFI) in the first instance, which was supplemented by information from the UK Royal College of Nursing Assessment Toolkit (2004) to identify assessment tasks undertaken by RNs in aged care. Additions were made to this list

by members of the research team based on their experience of aged care and knowledge of the resident complexity profiles that were used as the basis for discussion in the focus groups.

The draft survey was then subjected to expert review by members of the National Aged Care Expert Group supporting this project. Written feedback from members of the advisory group highlighted two central issues relating to survey length and the accessibility of the wording for Residential Aged Care staff from Culturally and Linguistically Diverse (CALD) backgrounds. The first issue was addressed by asking the research team to review the survey for any questions that could be removed. To address the issue of accessibility for CALD aged care staff, the survey was reviewed by a language expert with expertise in teaching international students who suggested simplifying the sentence structure and using more accessible language. These issues were also to be put to a focus group of staff working in aged care. However, due to insufficient numbers, this process was replaced by asking CALD PCWs to individually review the survey and provide advice on the suitability of the wording/terminology for aged care and the readability of the questions. This resulted in the removal of questions that were viewed as repetitive and the rewording of other questions to increase clarity.

The final survey comprised 68 questions of which 28 were related to demographic and workplace factors, 37 to care tasks that may be missed, and 2 to reasons for the missed care. The first of these two questions required the respondents to rank the importance of the impact of the 27 factors on missed care in aged care, while the second question invited the respondents to provide any additional comments they had about missed care in their workplace. The survey was offered online via *Survey Monkey*® between 15th December 2015 and 5th February 2016 (Appendix B).

Recruitment

Promotion of the survey occurred through the ANMF branches. An email was sent to all eligible people who expressed an interest in the study in the first instance inviting them to complete the online survey. The survey was also promoted to ANMF members via federal and local branch websites and social media by way of invitation to access the link to the university Survey Monkey site for missed care. This invitation was posted on the publicly available national safestaffinginagedcare.com website hosted by the ANMF. The survey was completed by 3,206 aged care employees working in a range of roles from management to care work.

Analysis

The survey data was analysed using frequencies and cross-tabulations to describe the data in the first instance, with a Rasch analysis used to determine which tasks were most likely to be missed and the relative importance placed upon the factors which had an impact on missed care. Multivariate analysis was then conducted using all variables to determine which personal and organisational factors contributed to missed care. Responses to the final question inviting further comments on missed care in RACF were analysed using qualitative content analysis (Mayring 2014). Qualitative content analysis involves thematic coding using systematic rules and subsequent quantification to determine the importance and generalisability of the themes (Mayring 2014). In this case, the data was read for statements addressing the causes and impacts of missed care. Each response was allocated one or more descriptors which were then collated to determine the dominant themes.

2.9 Delphi Survey

The third component of this project involved the administration of a Delphi survey. A Delphi survey is a structured, indirect interaction method that employs a sequence of rounds to collect data about a topic/issue until consensus is reached by a panel of experts (Hasson, Keeney & McKenna 2000; Laustsen & Brahe 2015). The purpose of the survey for this study was to confirm factors that have an impact on workloads within Residential Aged Care as well as to achieve a consensus about the building blocks underpinning the staffing methodology. The Delphi survey was conducted online via *Survey Monkey*®. The survey comprised 20 descriptive statements with members of the panel of experts being asked to indicate the level of agreement with each statement and to provide comments about each statement.

Participants – Panel of Experts

A panel of experts from Residential Aged Care services in Australia were invited to participate in the Delphi study. An expert is 'a person who is very knowledgeable about or skillful in a particular area' (Soanes & Stevenson 2005: 610) and they must have experience/proficiency in relation to the topic of enquiry (Moseley & Mead 2001; Powell 2003). In this study, the expert panel comprised Residential Aged Care site managers or their nominees who, through legislation (*Aged Care Act* 1997), are identified as key personnel responsible for the delivery of nursing services and day-to-day operations at a residential site. The role of a residential site manager is to ensure that the staffing and skills mix of a facility delivers quality of care outcomes to meet residents' needs and to do so by ensuring that the financial management of the facility is within the allocated budget. The Australian Institute of Health and Welfare (AIHW 2015c) stated that as of 30th June 2015, there were 2,681 Residential Aged Care facilities providing care in Australia, with each required to have a residential site manager. A purposeful sample of a targeted group rather than randomisation was used.

Recruitment

Residential site managers of all residential aged facilities in Australia were invited to participate in, or nominate a staff member who was suitable to be a participant on the panel of experts. There is no specific rule that clearly states the optimum size of a panel of experts, although Murphy, Black, Lamping, et al. (1998) considered that the more respondents there are, the better. A larger number of respondents increases the trustworthiness of a combined opinion and, given that the participants are nominated due to their expertise, this increases the possibility of content validity.

A letter of invitation with an information sheet explaining the study was posted to the publicly available address of all residential care facilities in Australia. It was difficult to determine the number of respondents for the survey, but the research team sought to secure responses from residential site managers, or their nominees, from the diversity of types of facilities and locations. The letter explained the purpose of the Delphi survey to ensure that the potential participants understood the possible time commitment (up to three rounds) required and to obtain demographic information about the residential care facility and the 'expert' to ensure that the panel covered the different types of approved providers (not-for-profit/for-profit, government, different sizes, metropolitan, rural, and remote locations) in Australia. The letter also provided a link to the online survey. The respondents were required to make their email address known to receive the results of each round via email correspondence and to include the link to complete the next survey. Further rounds of the Delphi study depended upon the levels of consensus achieved in the earlier rounds.

Delphi Study Analysis

The first round of the survey was completed by 102 participants. As the data is both quantitative and qualitative, the appropriate analysis for each type of data was undertaken. The purpose of the quantitative analysis was to determine the level of consensus with each statement. The literature is limited as to what a suitable level of consensus should be, so in this study, the consensus level was set at 80% of members whose responses fell within the two categories of agree and completely agree on a Likert scale. This percentage reflects the most frequently chosen percentage response in the related literature. Quantitative analysis of the data from the first round revealed that a consensus of 80% and more was achieved on all statements; hence, no further rounds were conducted.

2.10 Conclusion

Chapters 3 through to 5 provide the details of the focus group discussion, and the MISSCARE and Delphi surveys respectively. The focus of these three data gathering exercises was to validate the residential care profiles, to identify if and which care interventions were being missed, and to gain approval for the need for a staff-resident

CHAPTER 3
Focus Group Findings

3.1 Introduction

A series of seven focus groups was conducted across the country to determine the validity of interventions and timings for six typical resident profiles, as detailed in Chapter 2. While the resident profiles were not real people, they were based on real-life examples. Focus group participants across all groups, in considering these resident profile examples, held similar views, and these overall findings will be presented followed by a detailed discussion of individual profiles.

3.2 Overall findings

Participants across all focus groups recommended that the baseline resident nursing and personal care hours per day for each of the six profiles be increased by half an hour per day on average due to the impact of indirect care services on the delivery of direct nursing care. Recurring issues that increased indirect care time included:

- Skills mix/staffing model
- Administrative load and communication needs of residents
- Geography of the facility and access to resources
- Special needs groups and related matters (people with dementia, CALD background, and residents requiring end of life care)

In addition, the participants were asked about models of care and the capacity to support healthy

ageing and reablement. Generally, reablement was not seen as part of current nursing practice, with respondents citing workload and the acuity of residents as preventing reablement strategies.

3.3 Skills Mix/Staffing Models

Within each focus group, many participants discussed what they considered to be inadequate skills mix in their Residential Aged Care Facility (RACF) and their view of the resultant impact on the quality of care for residents. The staffing models described by the participants varied, but there was often one RN to manage large numbers of care workers and residents, irrespective of the size and geographical layout of the facility. One participant from the Adelaide focus group described her work situation:

> *"I work in a 100 bed facility, in charge the same situation all afternoons, we have 1, 2, 3, 4 ENs that I need to oversee; I have my own floor to look after as well and medications to do. And so I've got to do all the DDAs. They are prescribed that we have to have 2 people to do insulins. So, I'm all over 5 floors as well as looking after my own floor as well as staffing, taking outside phone calls, etc., etc., it's become very untenable actually and quite dangerous I feel".*

One of the consequences of having limited RNs identified by the participants was that they were reliant on less qualified staff – carers – to report emerging issues with residents. This may be problematic if insufficient time is allowed for change of shift reporting or handovers. One participant from the morning focus group in Melbourne reported:

> *"Some of the facilities are cutting out the PCW handover time – even no handover technically. Just come and go, but the thing is, you don't have enough time reporting to the nurse – no matter EN or RN".*

It may also be problematic if the knowledge and skill set of care workers is insufficient to recognise emerging issues and to manage the complexity of having many residents. Some participants identified workload as leading to a task orientation among care workers which may compromise care. Another participant from the morning focus group in Melbourne stated that:

> *"The falls because they are in a rush – in a hurry because – the tasks that's why that happens".*

The employment of care workers from culturally and linguistically diverse (CALD) backgrounds may contribute to poorer communication with residents, with some residents refusing to be cared for by some staff. One participant from the Adelaide focus group discussed difficulties in allocating staff when this occurred:

> *"There's also an issue with a lot of the carers we have now are male or from other countries and this often comes into it, where females will refuse to be cared for by a male. … This can cause a lot of problems when that's all the staff you have and well you have to shuffle staff around".*

In other instances, tasks that might be undertaken by RNs in other settings were performed by ENs and care workers. One participant from the Brisbane focus group identified a tension between policy, law, and registration competencies with regard to the administration of DDA medications:

> *"Yes it's policy – the legality under the Queensland policy says, and I've gone through this, that we are allowed to give them the keys – they [medication endorsed ENs] had the keys – they had the keys to the DDAs*

and they can write it out and give it out if they are medication endorsed and it really in fact a RN doesn't truly by law need to have anyone check it out with her".

Tensions between policy and law contributed to concerns about being held legally accountable if a medication error occurred.

Administrative Load and Communicative Needs of Residents

The administrative load undertaken by RNs limited their ability to provide direct nursing care. This issue was particularly evident after hours and on weekends when other staff, such as reception and diversional therapists, worked reduced hours or not at all. A participant from the afternoon focus group in Melbourne, when asked about the time required to provide nursing and personal care, stated that:

"It's actually geography and in the resourcing and set up with your diversional therapists, whether you've got admin support, whether you've got whatever, service does impact on it and that's what you find there's such a diverse mix … so, I think all of that impacts on the workloads and is significant".

The need to provide emotional support and the promotion of social interaction for residents was also a recurring theme, with participants indicating that this was not sufficiently reflected in the timings and resident care hours per day. The participants from the Adelaide focus group commented on increasing family expectations. One nurse stated that, for example:

"Baby boomer children my, my age children, have got great expectations of how, what care they want for their families these days".

Additional time with family members was needed upon admission when adult children, the spouse, or relatives were relinquishing their responsibility for family members, but also at the end of life. The responsibility for providing this support fell largely on the RNs. A nurse from the Sydney morning focus group noted that additional RN time is required for families of residents receiving end of life care. She stated:

"Now obviously because she's [the resident is not really engaging. It's more - that's with the family the support and counselling time".

Geographical Location and Access to Resources

Many participants said that they were responsible for care delivery in more than one geographically dispersed site, or had to cover care for residents in facilities widely spread out over one level or on multiple floors. One consequence of geographical dispersion is remote decision-making, in which the RN is required to make decisions about care without seeing the resident. A participant in the Adelaide focus group described disciplinary action arising from their refusal to provide pain relief at a distance:

"The night duty RN said, "Well no … I can't do that because I can't assess, I can't remotely assess the resident". How can I say whether she needs an Endone?".

A second consequence is the time spent in travelling between floors and/or in fetching equipment. A participant who worked on night duty described the impact of the time spent travelling around the facility:

"I'd be down one end of the building with somebody who's dying on the bottom floor and then they'd say this lady needed to go to the loo on the top floor at the other end of the building … it's quite a few minutes before I can get to her and that's, and I don't think they account for the travelling time".

Lack of appropriate resourcing to provide optimum care was a recurring theme across the focus groups. This included discussion about

inappropriate chairs, and the lack of availability of imprest/stock items and pharmaceuticals. The focus group participants argued that time chasing missing equipment needed to be factored into environmental or indirect timings.

Residents with Special Needs

A final theme related to resident groups that were identified as requiring additional time. Among these groups are people with dementia from culturally and linguistically diverse backgrounds who often lose their second language skills as their dementia progresses, leading to the use of alternate communication strategies requiring additional time. An RN from the morning focus groups in Sydney pointed out that:

> *"When they're agitated, sometimes it's hard to communicate, even with a picture book."*

Another group of residents requiring additional care were those receiving end-of-life care. The participants identified a need to differentiate between palliative care and end-of-life care, with appropriate recognition of the associated care required to be delivered by nurses. It was noted that Residential Aged Care facilities were increasingly receiving short-term admissions of residents requiring end-of-life care without the staffing to meet the care needs of these residents. This is discussed in greater depth in Norma's profile below.

Reablement and Healthy Ageing

The focus groups also asked nurses what time and activities focused on healthy ageing and reablement. Healthy Ageing is defined as 'the process of developing and maintaining the functional ability that enables well-being in older age' (WHO 2015: 28). This is a separate concept from that of reablement. The Productivity Commission report (2011c: XIV) defined reablement as: "Intensive and generally time-limited programs aimed at restoring function. Services provided as part of a reablement approach can include physiotherapy, psychosocial and other education programs, environmental modification and linkages to social activities". Restorative and reablement approaches focus on what needs to happen for an older person who has an issue/problem following an injury or illness. Providing services that focus on healthy ageing such as ensuring continuing functional ability for an older person differs from providing restorative care following an illness or injury. However, both ways of thinking and services are needed.

Reablement and healthy ageing were not generally viewed as occurring in aged care, and where they did occur, it was often viewed as the responsibility of other professions rather than of nurses. A participant from the Brisbane focus group noted that her facility was addressing healthy ageing through:

> *"An exercise physiologist coming in and looking at the diets and menus … but we are only in the very early stages because we're looking at more preventative and through the exercise … preventing falls".*

More commonly, the participants identified reasons as to why reablement and healthy ageing were not occurring, with both workload and the acuity of residents identified as barriers.

Underpinning much of the discussion in the focus groups was a tension between the care that can be given and the care that participants would like to give. This was particularly evident in relation to the reablement and social aspects of care. The participants argued that current workloads promote a task orientated- rather than a person-oriented model of care. One participant from the Melbourne morning focus group decried the lack of time for

social care noting the focus on tasks rather than on comprehensive care:

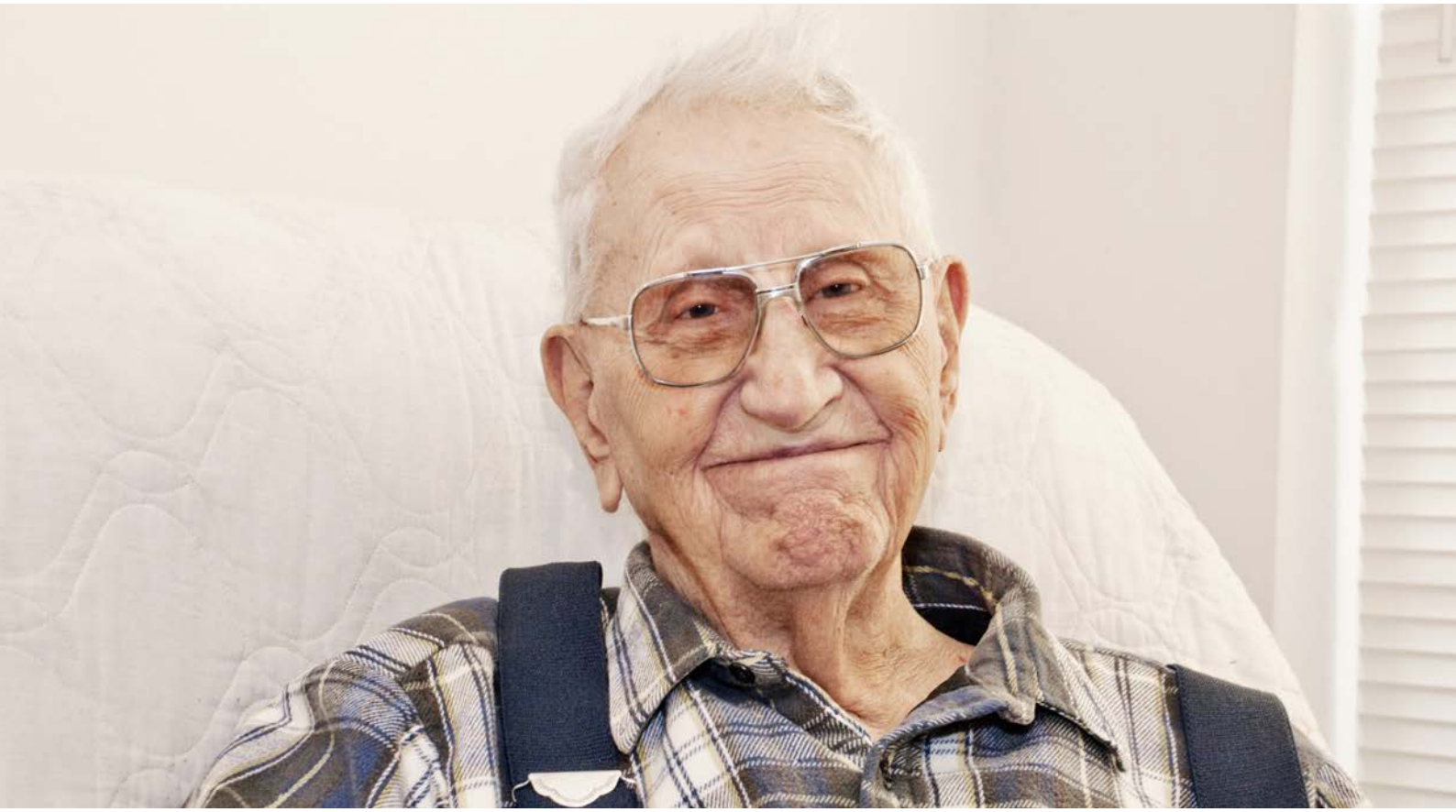
> *If you are going to work in a nursing home, you don't want to just have task, task, task, but it is all task, task, task …*

The focus group participants suggested that a task-orientation is promoted by the manner in which the work is organised for care workers. An Assistant in Nursing described being given a list of residents with the tasks outlined at the commencement of the shift. When asked what was provided by way of handover, she stated that she received a:

> *"Resident list and the task is there; this is for the two people shower".*

A second concern was the increasing acuity of the residents. It was noted that Residential Aged Care increasingly provides hospice and end-of-life care. Changing acuity in aged care has been exacerbated by the removal of distinctions between high- and low-care and the establishment of accommodation bonds which have the potential to delay admission (Henderson et al., 2016b).

CHAPTER 4
Six Typical Resident Profiles



4.1 Introduction

The following section presents six profiles discussed as part of the focus groups and provides feedback on the tasks that were considered to be required for optimal nursing care.

The six typical resident profiles are based on a methodology for staffing aged care which determined the percentage of nursing and personal care (skills mix) time needed for each resident profile based on the interventions to be completed over a 24 hour period, and the time taken to complete those interventions inclusive of time for indirect and environmental tasks

The resident profiles include the following demographic information:

- Profile Description
- Social History
- Family Support
- Significant Medical History
- Alerts/Allergies

Profiles also include the evidenced based Resident Care Hours Per Day (RCHPD), which are based on care intervention findings and freqency of interventions.

Resident Profile 1: Voula

Evidenced Based: 2.5 RCHPD

Focus Group Moderation: 3.0 RCHPD

Profile description

Voula is 83 years of age, widowed, and speaks and understands Greek (native) and English.

Prior to admission, Voula lived alone at home with a community aged care package, but had required admission to a Greek residential care facility (dementia specific setting).

Social History: Voula was born in Greece and migrated to Australia in her early teens.

Family Support: Voula has a supportive family who visit on weekends and on special occasions.

Significant Medical History: Dementia, hypertension (well controlled on medications), and osteoarthritis (regular pain management and therapy).

Alerts/Allergies: Nil.

Resident Profile 1: Care Needs

Care category	Deconditioned – restorative focus
Cognition Psychosocial	Alert, some confusion (needs re-orientation and re-direction) – language barrier – reverting to native language at times. 'Sun downer'. Wanders at night (variable).
Nutrition	Generally good. Needs assistance with setting up for meals due to arthritic hands.
Hydration	Offer and encourage fluids – prefers black coffee.
Activities of Daily Living	Shower one assist Walks without aids
Elimination Bladder and Bowels	Continent most of the time – needs assistance with toileting Has regular aperient for constipation
Skin Health	Intact but fragile, bruises easily
Falls History	Nil
Pain Management	Requires regular analgesia + prn
Medication	Daily regular medications + prn

Resident Profile 1: Care Provided Across Shifts

AM:	PM:	NIGHT:
Shower - minimal assistance	Diversional activities supervised	Sleep patterns observed
Oral hygiene, including dental care	Meals set-up	Fluids - assist and/or provide
Toileting - minimal assistance	Fluids - assist and/or provide	Toileting - minimal assistance
Oral medication ≤ 6 medications	Pain assess +/- scale	Reassured and supported
Meals set-up	Pain - oral analgesia administered	
Fluids - assist and/or provide	Pain - assess analgesia effect	
	Toileting - minimal assistance	

Resident Profile 1: Evidence Based Resident and Personal Care Hours Per Day

Total Time (minutes) Direct + Indirect Care Time	RCHPD (hours)
150.00	2.50

Q1. The percentage of residents in facility matching profile

While some participants indicated that their facilities had residents with a similar profile to Voula, (ranging from 10-50% of their resident population), the general view across all the focus groups was that older people with a similar profile would not be admitted to a RACF and were more likely to remain in the community supported by care packages, only receiving respite care in a RACF. An exception may be when a spouse is admitted, in which case the partner may also be admitted.

Q2. Are the interventions typical?

Participants who indicated that their facilities included residents with a similar profile to Voula, identified additional interventions and staffing requirements as a consequence of Voula's ethnicity and the diagnosis of dementia, suggesting that these factors would have an impact on the time required to provide her care.

Participants noted that there were few ethnic-specific RACFs in Australia; hence, the majority of residents similar to Voula's profile would be located in RACFs that did not have a specific Culturally and Linguistically Diverse (CALD) focus. Where this is the case, additional time would be required for communication and management of behaviours associated with dementia. Participants whose facilities included residents with this profile suggested that the interventions and associated timings did not reflect the nursing and personal care required to appropriately manage a similar resident. This was particularly evident on the evening and night shifts.

Care interventions that participants considered to be missing from Voula's profile are displayed in Box 3.1.

Q3. Resident Care Hours Per Day (RCHPD)

The majority view across all the focus groups was that a person who was actually a resident with this type of profile would require more than 2.5 hours of care per 24 hour period, as indicated in the discussion of the interventions. Across all focus groups and interviews, estimates of the time required ranged from 2.5 to 4 hours. Variations included: 2.5, 3.5, 3, 3.5, and 4 hours with the general view that the profile baseline should be a minimum of 3 hours per 24 hour period for each resident.

Box 3.1: Care interventions missing from Voula's profile:

- Managing 'sundowning' which would typically occur with residents with dementia requiring significant input to prevent further escalation of behaviour.
- Time needed to direct, re-direct, and re-orient the resident who would, because they are mobile, often wander and enter other residents' rooms, causing stress and anxiety to these other people.
- Participants stressed that interventions, such as toileting for a resident with a similar profile on night shift, were not 'simply toileting'. For example, after toileting, there would be significant time spent by the nurse or care worker settling a resident who may become agitated along with others who may have been disturbed. Care could include making and administering hot drinks and undertaking other settling activities to calm one or more residents.
- It was also pointed out that while it was positive that a resident similar to the profile of Voula had an interested and concerned family, this often increased demands on the nursing staff, and in particular the RN, to provide information about their family member.

Resident Profile 2: Gwen

Evidenced Based: 3.0 RCHPD

Focus Group Moderation: 3.5 RCHPD

Profile description:

Gwen is 87 years of age, a widow, and speaks and understands English.

Prior to admission, Gwen had moved in with her daughter following increasing hospitalisation due to recurrent cardiac episodes and exacerbation of a respiratory condition. Gwen has a long-standing history of depression.

Social History: Gwen was born in England and migrated to Australia in her early twenties.

Family Support: Gwen has a supportive daughter who visits on weekends. No other relatives.

Significant Medical History: Atrial fibrillation (well-controlled on digoxin) and asthma (inhaler with spacer), depression.

Alerts/Allergies: Nil.

Resident Profile 2: Care Needs

Care category	Assessment
General	When asthma exacerbated – shortness of breath and distressed Deaf – wears hearing aids
Cognition /Psychosocial	Alert, anxious and withdrawn at times
Nutrition	Generally good – Needs assistance with setting up for meals
Hydration	Offer and encourage fluids – prefers tea, milk, and sweetener
Activities of Daily Living	Shower - one assist (breathless and safety) Walks with frame (re-confirm need for) for short distances (tires easily)
Elimination Bladder and Bowels	Continent most of the time
Skin Health	Intact – very dry
Falls History	Nil
Pain Management	Requires regular analgesia (in oral medications) and prn

Resident Profile 2: Care Provided Across Shifts

AM:	PM:	NIGHT:
Shower - minimal assistance	Toileting - minimal assistance	Sleep patterns observed
Denture hygiene	Meals supervision	Reposition in bed or chair
Supply/fit hearing aid	Fluids - assist and/or provide	Toileting - minimal assistance
Toileting - minimal assistance	Oral medication ≤ 6 medications	Inhaled - nebuliser
Oral medication ≤ 6 medications	Inhaled - nebuliser	
Inhaled - nebuliser	Resident support for depression provided	
Meals supervision		
Fluids - assist and/or provide		

Resident Profile 2: Evidence Based Resident and Personal Care Hours Per Day

Total Time (minutes) Direct + Indirect Care Time	RCHPD (hours)
180.00	3.00

Q1. The percentage of residents in facility matching profile

While some participants indicated their facilities had residents with a profile similar to Gwen, it was a relatively low percentage of the overall resident population in those facilities, with one participant suggesting that people with this profile would account for 10% of their population.

Q2. Are the interventions typical?

Participants who indicated that their facilities included residents with a similar profile, discussed the impact of Gwen's comorbidities, particularly her depression and asthma on the time required for care. Participants whose facilities included residents with this profile suggested that the interventions and associated timings did not, in general, reflect the nursing care required to appropriately manage this type of resident, with additional time required across all three shifts for the encouragement of social engagement and the management of depression, particularly during the night shift. Other issues that the participants suggested were not sufficiently accounted for in

the profile included the need for additional regular assessment to prevent shortness of breath and exacerbation of asthma, monitoring of pain, and evaluation of mental health status. These care activities were seen as necessary additional timings for every shift for residents with this type of profile.

Care interventions that participants considered to be missing from Gwen's profile are displayed in Box 3.2.

Participants noted that not all staff have the knowledge to understand the complexity of this type of resident profile. For example, a resident's breathlessness can be exacerbated if a worker rushes the showering or toileting to meet completion requirements. The participants indicated that a preventive focus on care was very important with these types of residents and that the timings should allow for this.

Q3. Resident Care Hours Per Day (RCHPD)

Participants in all focus groups indicated that a resident with this type of profile would require more than 3 hours of care per 24 hour period. Across all focus groups and interviews, estimates of the time required ranged from 3 to 5 hours of care. Variations included: 3.5, 3, 4, 4, 3.5, 4, 4, 3, and 5 hours, with the general view that the profile baseline should be a minimum of 3.5 hours per 24 hour period for each resident.

Box 3.2: Care interventions missing from Gwen's profile:

- Residents with depression often experience sleeplessness and anxiety at night and require additional emotional support.
- Showering, toileting, and other activities of daily living would take longer to prevent shortness of breath and to maintain continence and hygiene.
- One-on-one communication to provide ongoing emotional support and encouragement to socialise to prevent exacerbation of depression and to encourage appropriate nutritional intake.
- Time taken to settle a resident at night after toileting who may, once awake, suffer from sleeplessness and anxiety related to their depression and possible shortness of breath related to their asthma. This could include making and administering hot drinks, undertaking other settling activities to calm the resident, and the possible administration of nebulisers.
- Additional time would be required earlier in the admission to reassure families and to settle the resident.

Resident Profile 3: George

Evidenced Based: 3.5 RCHPD

Focus Group Moderation: 4.0 RCHPD

Profile description

George is 84 years of age, married (wife living with son), native language Italian – English as a secondary language.

Prior to admission, George lived with his wife until hospitalisation with a stroke – Right CVA (thrombolysis), rehabilitation (extension), residual weakness in left leg, has short attention span and is impulsive, speech unclear at times.

Social History: George was born in Italy and migrated to Australia at the age of 42.

Family Support: George's wife visits every second day (lives close by).

Significant Medical History: Right CVA, Hypertension, Behaviour – Agitation, TIAs, Back Pain (musculoskeletal)

Alerts/Allergies: Penicillin.

Resident Profile 3: Care Needs

Care category	Assessment
General	Maintaining health and reassurance – behaviour support
Cognition /Psychosocial	Alert, agitated at times – needs reassurance and support
Nutrition	Special soft diet – partial assist
Hydration	Offer and encourage fluids – supervise and assist
Activities of Daily Living	Shower two assist Walks with tripod
Elimination Bladder and Bowels	Variable continence/incontinence
Skin Health	
Falls History	Nil recent – risk of falls
Pain management	Requires regular analgesia (oral and DDA patch + prn)
Medication	Daily regular medication and prn

Resident Profile 3: Care Provided Across Shifts

AM:	PM:	NIGHT:
Shower - minimal assistance	Toileting - minimal assistance	Sleep patterns observed
Shave resident	Toileting - pad check and change	Toileting - minimal assistance
Oral hygiene and denture care	Meals partial assistance	Toileting - pad check and change
Toileting - minimal assistance	Fluids - assist and/or provide	Fluids - assist and/or provide
Toileting - pad check and change	Oral medication ≤ 6 medications	Distress management and treatment
Oral medication ≤ 6 medications	Distress management and treatment	
DDA patch		
Meals partial assistance		
Distress management and treatment		
Fluids - assist and/or provide		

Resident Profile 3: Evidence Based Resident and Personal Care Hours Per Day

Total Time (minutes) Direct + Indirect Care Time	RCHPD (hours)
210.00	3.50

Q1. The percentage of residents matching the profile

The participants indicated that all their facilities had residents with a similar profile to George, and these residents made up a large percentage of the overall resident population in those facilities.

Q2. Are the interventions typical?

Participants who indicated that their facilities included residents with a similar profile to George discussed the implications on timings and staffing for the required interventions as a consequence of his behavioural issues. Overall, the participants suggested that interventions to manage the

behaviour of a resident with this profile were not sufficiently accounted for across all three shifts. The participants indicated that residents with this profile were considered to be particularly *'unpredictable'* in terms of their behaviour, and managing the resident's distress, agitation, and/or aggression constituted a large component of the nursing care time. The participants indicated that managing care for George required a skill set beyond that of a PCW because of the potential for, and mitigation against, aggressive and/or agitated behaviours usually related to difficulties with communication as a consequence of his diagnosis.

Care interventions that participants considered to be missing from George's profile are displayed in Box 3.3.

Q3. Resident Care Hours Per Day (RCHPD)

The majority view across all the focus groups was that a resident with this profile would require more than 3.5 hours of care per 24 hour period, as indicated in the discussion of interventions that would be required. Across all focus groups and interviews, estimates of the time required ranged from 4 to 4.5 hours of care. Variations included: 4, 4, 3.5, 4, 4.5, 4, and 4.5 hours, with the general view that the profile baseline should be a minimum of 4 hours per 24 hour period for each resident.

Box 3.3: Care interventions missing from George's profile

- Supervision of fluids to prevent choking
- Assessment and management of skin tears and falls as a consequence of the behavioural issues identified
- Repositioning overnight
- Time for management of the reactions of other residents when he becomes distressed and agitated
- Assessment of pain management
- Participants also noted that while George was in a CALD-specific environment, this was not the case for many residents with a similar profile in Australia and that this would impact on the timings

Resident Profile 4: Walter

Evidenced Based: 4.0 RCHPD

Focus Group Moderation: 4.5 RCHPD

Profile Description

Walter is 82 years of age, married with wife living at home, born in Australia.

Prior to admission, Walter lived with his wife supported by an aged care community package. Walter's dementia has progressed with behaviour, falls, incontinence, and wandering - his care needs could not be met at home and he was admitted to a residential care facility (dementia-specific setting).

Social History: Walter is a war veteran, married for 50 years, has two adult children and four grandchildren.

Family Support: Walter's wife is elderly, visits weekly with siblings and extended family.

Significant Medical History: Walter has diabetes type 2 (oral hypoglycaemics now on daily s/c insulin - stable), osteoarthritis, and hypertension.

Alerts/Allergies: Aspirin.

Resident Profile 4: Care Needs

Care category	Assessment
General	Maintaining health, safety, reorientation, and reassurance – behaviour support
Cognition /Psychosocial	Needs re-orientation, anxious++
Nutrition	Diabetic diet – partial assist and supervise
Hydration	Offer and encourage fluids – supervise and assist
Activities of Daily Living	Shower moderate assist (difficult at times) Has frame – needs reminder to use
Elimination Bladder and Bowels	Variable incontinent – regular toileting+
Skin Health	Intact but at risk
Falls history	Nil recent falls but has hip protectors as a preventative measure
Pain management	Requires regular oral analgesia
Medication	Daily regular medications + prn + daily s/c insulin
Diabetes management	Diabetic diet, BD BGL checks

Resident Profile 4: Care provided Across Shifts

AM:	PM:	NIGHT:
Shower - minimal assistance	Toileting - minimal assistance	Sleep patterns observed
Shave resident	Toileting - pad check and change	Toileting - minimal assistance
Oral hygiene and denture care	Meals partial assistance	Toileting - pad check and change
Toileting - minimal assistance	Fluids - assist and/or provide	Fluids - assist and/or provide
Toileting - pad check and change	Oral medication ≤ 6 medications	Distress management and treatment
Oral medication ≤ 6 medications	Agitation behaviour management	Reposition resident in bed or chair
Subcutaneous medication	Diversional activities supervised	
Meals partial assistance	Assess blood glucose level	
Agitation behaviour management		
Fluids - assist and/or provide		
Hip protectors applied and maintained		
Assess blood glucose level		

Resident Profile 4: Evidence Based Resident and Personal Care Hours Per Day

Total Time (minutes) Direct + Indirect Care Time	RCHPD (Hours)
240.00	4.00

Q1. The percentage of residents matching profile

The participants indicated that their facilities all had residents with a profile similar to Walter. These residents make up a significant percentage of the overall resident population in those facilities, ranging from 10%, to one respondent who argued that Walter's profile was reflective of '*50% of the men'* in the RACF where she worked.

Q2. Are the interventions typical?

Participants who indicated that their facilities included residents with a similar profile discussed the implications on timings and staffing as a consequence of the interventions required to manage his mental health issues. They noted a lack of sufficient recognition of mental health interventions for older people, specifically veterans, as war neuroses often emerged as these residents aged, making their care and management particularly demanding of nursing time. While residents with such a profile would routinely have a mini-mental state examination (MMSE) to determine their cognitive state because of their dementia, it was suggested that additional assessment by an RN was required to identify other problems such as a diagnosis of Post-Traumatic Stress Disorder (PTSD) and associated care implications. Time demands are exacerbated by the lack of expertise in, and challenges of, dealing with mental health issues with insufficient staff with the requisite knowledge and skill to recognise and manage residents with mental health problems.

Care interventions that participants considered to be missing from Walter's profile are displayed in Box 3.4.

While participants indicated that the interventions as presented for the profile were adequate, the profile did not capture the interventions required to manage mental health issues as described above, and therefore, further time for behaviour management should be added.

Q3. Resident Care Hours Per Day (RCHPD)

The majority view across all the focus groups was that a resident with this profile would require more than 4 hours of care per 24 hour period, as indicated in the discussion of the interventions that would be required. Across all focus groups and interviews, estimates of the time required ranged from 4.5 to 5 hours of care. Variations included 4, 4.5, and 5 hours, with the general view that the profile baseline should be a minimum of 4 hours per 24 hour period for each resident, with additional time likely to be needed for behaviour management bringing it to 4.5 hours.

Box 3.4: Care interventions missing from Walter's profile:

- Assessment of mental state
- Additional time for behaviour management and settling at night
- Potential for wandering at night which will require further time to prevent him disturbing other residents and settling

Resident Profile 5: Sarah

Evidenced Based: 4.5 RCHPD

Focus Group Moderation: 5.0 RCHPD

Profile Description

Sarah is 82 years of age, a widow, and born in Scotland.

Prior to admission, Sarah lived with her family. Sarah had a major fall at home – Right NOF – conservative management (not able to bear weight). Sarah has dementia (10 year history), wandered at home, and has a recent history of increasing falls prior to her major fall.

Social History: Sarah was a school teacher, married for 40 years, has four adult children and ten grandchildren.

Family Support: Sarah's family is very supportive and visits 2-3 times per week.

Significant Medical History: Sarah has rheumatoid arthritis (30 year history), renal impairment, anaemia, reflux Oesophagitis, bilateral knee replacements, and fractured right neck of femur + Redo (10 years ago).

Alerts/Allergies: Morphine.

Resident Profile 5: Care Needs

Care category	Assessment
General	Maintaining health, safety, reorientation, and reassurance – behaviour support
Cognition /Psychosocial	Needs re-orientation and re-orientation. Sundowner
Nutrition	Normal partial assist and supervise (arthritis)
Hydration	Offer and encourage fluids – supervise and assist
Activities of Daily Living	Shower maximum assist + lifter Needs regular repositioning in chair and bed
Elimination Bladder and Bowels	Variable continence, needs aperients (constipation and immobility)
Skin Health	Intact – at risk – closely assess and monitor
Falls history	Nil recent falls, but has hip protectors as a preventative measure
Pain management	Has had falls 2 months ago – nil recent falls – has hip protectors (preventative measures)
Medication	Requires regular analgesia (oral + DDA)

Resident Profile 5: Care Provided Across Shifts

AM:	PM:	NIGHT:
Shower - moderate assistance (2 people)	Meals set up	Sleep pattern observed
Oral hygiene and denture care	Meals supervise	Toileting - moderate assistance
Transfer maximum assistance (3 people) with lifting machine	Oral medication ≤ 6 medications	Toileting - pad check and change
Meals set up	Fluids - assist and/or provide	Fluids - assist and/or provide
Meals supervise	Transfer maximum assistance (3 people) with lifting machine	Reposition resident in bed or chair
Oral medication ≤ 6 medications	Toileting - minimal assistance	Pressure area care
DDA patch	Toileting - pad check and change	
Toileting - minimal assistance	Diversional activities supervised	
Toileting - pad check and change	Reposition resident in bed or chair	
Fluids assist and/or provide		
Pressure area care		

Resident Profile 5: Evidence Based Resident and Personal Care Hours Per Day

Total Time (minutes) Direct + Indirect Care Time	RCHPD (hours)
270.00	4.50

Q1. Percentage of residents matching profile

All the participants indicated that their facilities had residents with a profile similar to Sarah, ranging from one facility with all residents having a similar profile, another with 50% of residents with the profile, and the majority indicating residents with this profile made up a low percentage of the overall resident population in those facilities (5 or 6 residents).

Q2. Are the interventions typical?

Participants discussed the implications on timings and staffing as a consequence of the interventions required to manage Sarah's comorbidities; in particular, her rheumatoid arthritis and associated knee replacements, dementia, obesity, and variable continence. They suggested that the interventions and associated timings did not reflect the care required to appropriately manage a similar resident, with additional time required across all shifts. As with other profiles where the resident has dementia, the participants stressed that interventions related to continence management on the night shift were not 'simply toileting'. For example, after toileting, there would be significant time spent by the nurse settling a resident who may, once awake, suffer from sleeplessness and anxiety related to their dementia. This could include making and administering hot drinks and undertaking other settling activities to calm the resident, as well as the possible administration of fluids. A resident with this profile may also be experiencing pain. Assessment, pain and symptom management, and dealing with dementia-related issues were seen as requiring significant input from the RN, who the participants considered had the knowledge and skill to manage these care activities.

It was again noted that staff with minimal education, such as PCWs, could not be expected to have the knowledge to understand the complexity of this type of resident profile, and may risk rushing showers or toileting, focusing on the completion of tasks which increased the risk of falls. It was also noted that where nurses did not have dementia-specific training, their response to residents was often reactive leading to an escalation of resident behaviour and increasing care requirements.

Care interventions that participants considered to be missing from Norma's profile are displayed in Box 3.5.

Q3. Resident Care Hours Per Day (RCHPD)

The majority view across all the focus groups was that a resident with this profile would require more than 4.5 hours of care per 24 hour period, as indicated in the discussion of the interventions. Across all focus groups and interviews, estimates of the time required ranged from 5 to 6.5 hours of care. Variations included: 4.5, 5, 5.5, 6, and 6.5 hours, with additional time required for the number of staff required for transfers, toileting, and showering. The general view was that the profile baseline should therefore be a minimum of 5 hours per 24 hour period.

Box 3.5: Care interventions missing from Sarah's profile

- Assessment of pain and provision of additional pain relief
- Range of movement exercise to maintain mobility of joints
- Regular 2 hourly repositioning when in bed and at night
- Time spent in settling the resident after toileting at night Management of the confusion associated with dementia

Resident Profile 6: Norma

Evidenced Based: 5.0 RCHPD

Focus Group Moderation: 6.0 RCHPD - End Stage Palliative Care

Profile description: Norma is 85 years of age and married (husband lives at home).

Prior to admission, Norma lived with her husband.

Norma has end stage breast cancer (metastases). Norma's condition has significantly deteriorated over the past six weeks. Admitted from hospital for palliative and end-of-life care.

Social History: Norma was a RN, has been married to Albert for 55 years, has three adult children and five grandchildren.

Family Support: Norma's family and friends are very supportive and stay with her most of the day and night.

Significant Medical History: Norma has had bilateral mastectomies, chemotherapy, and radiotherapy. Breast cancer (recurrent) and hypertension. Has pressure sore right buttock.

Alerts/Allergies: Morphine.

Resident Profile 6: Care Needs

Care category	Assessment
General	Palliative, debilitated, cachexia
Cognition /Psychosocial	Delirium
Nutrition	Small sips of fluids/food. S/C fluids 24/7
Hydration	Offer as assessed and tolerated
Activities of Daily Living	Sponge in bed, pressure care, repositioning
Elimination Bladder and Bowels	Incontinent
Skin Health	Pressure Ulcer – wound management and care
Falls history	Nil – risk due to delirium – family with Norma 24/7
Pain management	s/c DDA analgesia (Graseby - 1/24 pump)
Medication	Subcutaneous prn

Resident Profile 6: Care Provided Across Shifts

AM:	PM:	NIGHT:
Sponge in bed	Pressure area care	Pressure area care
Oral hygiene and denture care	DDA subcutaneous	DDA subcutaneous
DDA subcutaneous	Pain assess +/- scale	Pain assess +/- scale
Pain assess +/- scale	Pain assess analgesia effect	Pain assess analgesia effect
Pain assess analgesia effect	IV/SC fluids maintained	IV/SC fluids maintained
IV/SC fluids maintained	Counselling and support provided	Counselling and support provided
Spiritual comfort	Toileting - pad check and change	Toileting - pad check and change
Wound dressing attended	Reposition resident in bed or chair	Reposition resident in bed or chair
Pressure care attended	Oral medication ≤ 6 medications	Oral medication ≤ 6 medications
Toileting - continence pad check and change	Fluids assistance and/or provide	Fluids assistance and/or provide
Assess family and social support		
Fluids assistance and/or provide		

Resident Profile 6: Evidence Based Resident and Personal Care Hours Per Day

Total Time (minutes) Direct + Indirect Care Time	RCHPD (hours)
300.00	5.00

Q1. Percentage of residents matching the profile

All participants indicated that their facilities had residents with a similar profile to Norma requiring end-of-life palliative care. While the percentage varied, it was normal to have a number of residents with this profile at any one time. All participants indicated that there was an increase in admissions of older people from the community and/or the acute care sector for end-of-life palliative care.

Q2. Are the interventions typical?

Participants who indicated that their facilities included residents with a similar profile discussed the implications for timings and staffing as a

consequence of the complexity of holistic care required for caring for a resident requiring end-of-life care. It was noted that palliative care within Residential Aged Care required the same resources and level of care as in the acute sector and that the timings should reflect this. The participants also stressed the importance of RN assessment and management of residents with this profile to ensure that all required nursing and personal care was given, emphasising the complexity of nursing required for the delivery of quality end-of-life palliative care. While the RN may not deliver specific aspects of personal care, they needed to closely supervise PCWs/Assistants in Nursing (AiNS) to ensure the required standard of personal care was given, even basic ADLs such as mouth care. Counselling the family was seen as requiring the knowledge and skill of an RN and was noted to be a particularly demanding, but important, aspect of end-of-life care. Participants also stressed the need to ensure that the residents did not die alone and were supported by a staff member at this time.

Care interventions that participants considered to be missing from Norma's profile are displayed in Box 3.6.

Q3. Resident Care Hours Per Day (RCHPD)

The majority view across all the focus groups was that a resident with this profile would require more than 4.5 hours of care per 24 hour period, as indicated in the discussion of the interventions that would be required, with the general view being that the profile baseline should be a minimum of 6 hours per 24 hour period. All participants held the view that the hours allocated to care for residents requiring palliative care should be the same as allocated for patients with this profile in the acute or hospice setting, as the care requirements are the same regardless of the care setting, that is 6.0 RCHPD palliative standards for care.

Box 3.6: Care tasks missing from Norma's profile:

- Counselling and emotional support for the family who were often present 24/7.
- Symptom management requiring pain assessment and pain management by the RN on a regular basis, ranging from half-hourly infusion checks to 1 to 2 hourly assessment of the resident's pain Care interventions that participants considered to be missing from Norma's profile are displayed in Box 3.6. status.
- Medication management and infusion of subcutaneous fluids required ongoing RN assessment and supervision, particularly in relation to the administration of DDAs.
- Comfort and hygiene care, and repositioning at least two hourly were described as essential, requiring a two person assist at all times.

4.2 Conclusion

Overall, there was consistency in the additional timings recommended by participants in the focus groups. While there was variation in the hours based on the specific resident profile, participants across all focus groups supported an additional half hour to be added to each profile. The additional timings were primarily centred around the 'real time' to perform a task given the resident's profile e.g., additional time taken to settle a resident with dementia at night-time who needed toileting, or additional time needed for dealing with the behaviour of a resident with dementia in the evening. Given the rigour underpinning the development of the Aged Residential and Restorative Care Conceptual Model, as outlined in Chapter 2, it is not surprising that the increase in timings was less than an hour.

CHAPTER 5
Results of the MISSCARE survey

5.1 Introduction

The survey was offered online for two months, closing on 5 February 2016 (accounting for staff annual leave) and was undertaken by 3,206 participants (see Appendix B for questions). As noted in Chapter 2, PCWs, as well as Registered and Enrolled Nurses responded to the survey. In this chapter, we refer to carers as PCWs, although we are aware that a variety of other terms are used across the sector. The key demographic characteristics of the respondents are summarised in Table 4.1 on the following page.

Table 4.1: Summary of Demographic Characteristics of the Respondents to the MISSCARE Survey

Demographics	N=3206
Gender	
Female	2916 (91.4%)
Male	273 (8.6%)
Age	
Under 25 years old	124 (3.9%)
25-34 years old	367 (11.5%)
35-44 years old	517 (16.2%)
45-54 years old	990 (31.1%)
55-64 years old	1030 (32.3%)
Over 64 years old	160 (5.0%)
Role	
RN/Division 1	1119 (34.9%)
Enrolled Nurse/Division 2	939 (29.3%)
Personal Care Worker/Assistant in Nursing	1092 (34.1%)
Nurse Practitioner	56 (1.7%)
Years of experience in current role	
0-12 months	166 (5.2%)
1-4 years	759 (23.8%)
5-9 years	782 (24.5%)
10-20 years	782 (24.5%)
Greater than 20 years	706 (22.1%)
Original nursing/PCW qualification from Australia	
Yes	2951 (92.7%)
No	232 (7.3%)

The majority of respondents (91.4%) were female, reflecting the composition of the nursing and caring workforce as a whole. The sample was skewed towards people aged 45 years and over who comprised 68.4% of the respondents. The age profile of the sample is similar, but slightly older, to the age profile of the aged care workforce as a whole, as identified in the national survey undertaken in 2012, which found that 59.9% of the aged care workforce were aged 45 years and older (King et al., 2013). The greater proportion of people 45 years and over may reflect the number of RNs in the sample. The median age range for all staff is 45-54 years of age; however, PCWs were found to be significantly younger than both ENs and RNs ($p \leq 0.001$), with 63.4% of PCWs being aged 45 years and older compared with 70.4% of RNs.

Of the respondents, 1,119 were employed as RNs/Division 1 nurses. This number comprises 5.1% of FTE aged care positions for RNs employed in aged care in Australia in 2012 (King et al., 2013). In total, 939 respondents were employed as Enrolled/Division 2 nurses (5.6% of the FTE EN workforce in 2012) and 1,092 as PCWs/AiNs (1.1% of the FTE PCW workforce in 2012). In addition, the survey was undertaken by 56 Nurse Practitioners (19%). The sample is evenly spread across categories in relation to years of experience. When comparisons are examined across organisation type, no difference is found in the level of experience of employees in rural and metropolitan services; however, employees in larger sites and in private-for-profit services have significantly fewer years of experience since qualifying than employees

working at other sites ($p \leq 0.001$). King et al. (2013) identified a trend towards the employment of people from culturally and linguistically diverse (CALD) backgrounds. They found that 35% of people providing direct care in Residential Aged Care in 2012 were born overseas. While this question was not asked in this study, two questions in this survey indirectly addressed the country of origin of the respondents: one asking where their initial nursing or career qualifications were obtained, and a second asking whether English was the respondents' first language. Answers to both questions suggest that people from Culturally and Linguistically Diverse (CALD) backgrounds are under-represented in the results presented here. Of the respondents, 92.7% received their initial aged care qualification in Australia. A similar proportion indicated that English was their first language (97.4%), while 240 respondents indicated that they spoke a language other than English. The most commonly spoken languages suggest that the majority of CALD respondents were from China, the Philippines, or India, with Chinese/Cantonese/Mandarin, Tagalog/Filipino, and Hindi and Punjabi all identified as commonly spoken languages. Shona, a Bantu language and German were also common languages.

Figure 4.1 below shows the jurisdiction/State or Territory where the respondents come from. This data shows that over one-third of responses were received from Victorian nurses and PCWs. Table 4.2 compares the proportion of the aged care workforce by State and Territory in 2012 with this sample. From this data, it can be seen that Victorian, Queensland, South Australian, and Tasmanian nurses are over-represented, while nurses and PCWs from New South Wales and Western Australia are under-represented. This has implications for the findings, as Victoria has a higher private-for-profit and government ownership of Residential Aged Care facilities.

Figure 4.1: State and Territory of respondents

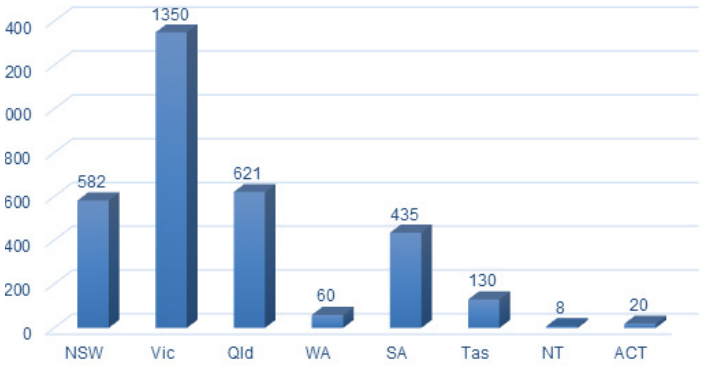


Table 4.2: Comparison of Aged Care Workforce by State from the 2012 National Survey and the MISSCARE Survey (per cent)

State/Territory	Direct care employees 2012	Our sample
ACT	1.0	0.6
NSW	31.0	18.4
Victoria	27.8	42.4
Queensland	17.7	19.7
SA	10.4	12.5
WA	8.6	1.9
Tasmania	3.2	4.1
NT	0.3	0.3

Table 4.3 summarises the characteristics of the workplaces of the respondents to the MISSCARE survey. The majority of the respondents worked in facilities which offered both high and low care beds (92.4%), with a smaller group working in facilities which previously only provided low care beds (4.7%) or dementia care (2.9%). While data on employee numbers by ownership of facilities was not collected as part of the National Aged Care workforce survey in 2012, data on the allocation of aged care beds in 2012 found that the private-not-for-profit sector held 57% of beds, the private-for-profit sector 36%, and government 7% (Baldwin et al., 2015). These figures suggest that respondents from the private-for-profit and government sectors are over-represented in this sample. Baldwin et al. (2015) argued that there was a decline in smaller, government-owned, rural and remote aged care

services between 2003 and 2012. Rural residents are over-represented in this sample (24.0%), with 1,335 (41.6%) respondents indicating that they were from metropolitan regions. This compares with 65.6% of respondents who designated major cities as their location in the National Aged Care Survey (King et al., 2013).

Table 4.3: Characteristics of Workplaces of Respondents to the MISSCARE Survey

Characteristics	N=3206
Services offered	
High and low care	2963 (92.4%)
Previously low care only	151 (4.7%)
Dementia care	92 (2.9%)
Ownership	
Multi-Purpose Service (MPS)	84 (2.6%)
Private-not-for-profit	1322 (41.2%)
Private-for-profit	1163 (36.3%)
Government	426 (13.3%)
Location	
Metropolitan	1335 (41.6%)
Regional	1096 (33.3%)
Rural	770 (24.0%)
Remote	32 (1.0%)
Size	
1 to 20 beds	80 (2.5%)
21-60 beds	794 (24.8%)
61-100 beds	1098 (34.2%)
101 or more beds	1093 (34.1%)

5.2 Staffing and Skills Mix

Figure 4.2 highlights staff perceptions of the adequacy of staffing in their facility. Of the staff surveyed, only 8.2% believed that staffing was always adequate. Just under one-third of respondents identified staffing levels to be adequate 75% of the time (30.6%), while 27.2% of respondents viewed staffing as adequate 50% of the time. For 14.2% of the respondents, staffing levels were viewed as never adequate. Perceptions of staff adequacy varies via organisational type with respondents from private-for-profit and larger facilities reporting inadequate staffing more frequently ($p \leq 0.001$), and respondents from rural and remote services reporting fewer issues with staffing shortfalls ($p \leq 0.01$). This may reflect a lack of private-for-profit providers and the predominance of government and not-for-profit service delivery in a number of jurisdictions.

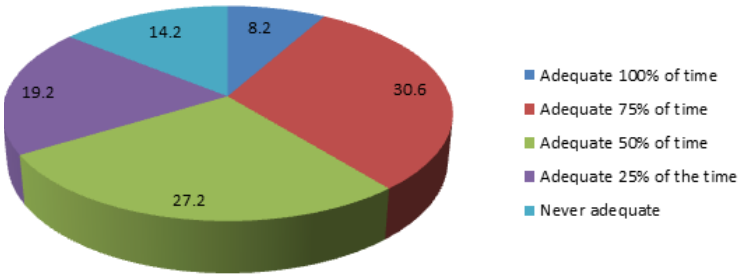


Figure 4.2: Perceptions of adequacy of staffing (n=2542)

The participants were also asked to indicate the maximum number of residents they were responsible for on their last shift. Answers varied from 0 to 900 reflecting the diversity of roles undertaken by the respondents. The mean number of residents managed by all respondents was 38.05 (±34.48), with RNs reporting higher ratios of 1 RN to 59.25 residents (±45.85) than enrolled nurses of 1 to 31.39 (± 24.05), and PCWs 1 to 24.19 (±15.73). Mean scores for Nurse Practitioners fell between those of RNs and Enrolled Nurses. This may reflect the specialist role performed by these nurses which may contribute to lower resident ratios than other RNs. See Table 4.4.

Table 4.4: Mean number of Residents Staff Member was Responsible for on the Last Shift they Worked by Role

Role	Mean	Number	Standard Deviation
RN	59.25	886	±45.85
Enrolled Nurse	31.39	834	±24.05
PCW/AiN	24.19	962	±15.73
Nurse Practitioner	40.72	32	±28.58
All staff	38.05	2714	±34.48

Table 4.5: Comparison of mean staff:resident ratios on last shift by facility ownership and role

Ownership	Role	Mean	Number	Standard Deviation
Government/MPS	RN/NP	32.62	140	28.357
	EN	18.26	198	13.704
	PCW	20.30	69	13.973
	Total	23.55	407	21.046
Private not-for-profit	RN/NP	66.38	402	54.322
	EN	36.04	310	19.870
	PCW	25.07	412	15.327
	Total	42.87	1124	39.690
Private-for-profit	RN/NP	61.94	310	36.261
	EN	36.01	272	31.084
	PCW	23.69	387	15.768
	Total	39.38	969	32.463

When compared across organisation, mean staff:resident ratios were highest in private not-for-profit organisations (1 to 42.87± 39.69) with employees in all roles reporting higher staff:resident ratios than their counterparts in private-for-profit at 1 to 39.38 (±32.46 across all roles), and government-owned and funded facilities at 1 to 23.55 (±21.04) (see Table 4.5).

Respondents were also asked to indicate whether there was an RN on duty and on-site during their last shift. The majority of respondents (n=2932, 91.5%) indicated that there was an RN on duty and on-site during their last shift. Respondents from smaller and rural facilities were significantly more likely to report that an RN was unavailable ($p \leq 0.001$), with respondents from private not-for-profit facilities reporting a small, but statistically significant, trend towards working without an RN ($p \leq 0.05$). It is not clear from the responses whether there were no RNs employed, or RNs were not available to respond as requested. As Table 4.5 indicates, the skills mix varies across the three modes of ownership with government facilities employing more nurses per resident than for-profits and not-for-profit owners.

A final set of questions addressed whether additional staff can be requested if the work area becomes busy, and if staff are provided when such a request is made. The majority of respondents indicated that they could not request additional staff (n=2462, 76.8%). Only 306 respondents (10.0%) indicated that extra staff were provided when requested. Respondents working in private-for-profit facilities were significantly more likely to report difficulties in both asking for, and receiving, extra staff when compared to both government and private-not-for-profit facilities ($p \leq 0.001$). Respondents from larger facilities identified greater difficulty in asking for additional staff ($p \leq 0.05$), but facility size did not have an impact on the likelihood of receiving additional staff.

Respondents were invited to comment on both questions. The responses suggested that extra staff were provided in some facilities when unexpected events occurred (i.e., falls, ambulance transfers, gastroenteritis), if residents with difficult behaviours needed extra monitoring, when admissions occurred, or if the unit was managing residents receiving end-of-life care. Often, the need for additional staff was managed by reorganising the roster to free up staff at peak times, offering extended shifts to RNs and ENs, or through short-term relieving from other areas.

5.3 Missed Care

Table 4.6 shows the mean scores and standard deviations for how frequently nurses and PCWs believed a task was missed. Data are presented across three domains of ADLs, Behaviour, and Complex Health Care. A score of 1 indicates that this task is never missed and a score of 5 that it is always missed.

Table 4.6: Mean and standard deviations for frequency of missed care tasks identified by nurses and carers in Residential Aged Care via domain

	Early shift	Late shift	Night shift
Behaviour			
Intervening when residents' behaviour is inappropriate or unwelcome	3.08 ±0.88	3.24 ±0.88	2.91 ±0.98
Intervening when residents say inappropriate or unwelcome things	2.88 ±0.89	3.01 ±0.90	2.80 ±0.96
Intervening when residents are physically agitated	2.52 ±0.96	2.61 ±0.98	2.36 ±0.99
Encouraging residents' social engagement	2.88 ±1.02	3.11 ±1.00	2.97 ±1.16
Encouraging residents' participation in decisions about their care	2.96 ±1.09	3.04 ±1.06	2.96 ±1.11
Interacting with residents when they have problems with communication	2.90 ±0.99	2.96 ±0.99	2.84 ±1.02
Identifying residents' underlying moods or social states	3.00 ±0.93	3.07 ±0.93	2.99 ±0.97
Maximising residents' dignity	2.33 ±0.98	2.35 ±0.99	2.35 ±0.98
Ensuring residents are not left alone when supervision is required	2.95 ±1.02	3.03 ±1.01	2.92 ±1.07
Supporting residents to maintain their interests	3.11 ±1.03	3.26 ±1.01	3.16 ±1.07
Providing residents with activities to improve their mental and physical functioning	3.06 ±1.03	3.33 ±1.00	3.28 ±1.09
Providing emotional support for residents' and/or family and friends	2.65 ±0.99	2.70 ±1.00	2.59 ±1.03
Activities of Daily Living			
Moving residents confined to bed or chair who cannot walk	2.72 ±1.03	2.77 ±1.03	2.60 ±1.06
Assisting residents with mobility	2.58 ±0.99	2.64 ±1.00	2.55 ±1.02

Assisting residents' toileting needs within 5 minutes of request	3.36 ±0.99	3.42 ±0.96	3.22 ±1.04
Preparing residents for meal times	2.22 ±0.90	2.25 ±0.01	2.11 ±0.94
Making sure residents are safe	2.43 ±0.93	2.52 ±0.96	2.42 ±0.97
Assisting with residents' hygiene	2.22 ±0.90	2.34 ±0.91	2.24 ±0.94
Assisting with residents' mouth care	2.97 ±1.05	3.06 ±1.03	2.88 ±1.08
Ensuring own hand hygiene	1.89 ±0.91	1.91 ±0.92	1.89 ±0.91
Assessing residents for healthy skin	2.55 ±0.95	2.61 ±0.96	2.58 ±0.98
Responding to call bells within 5 minutes	3.20 ±1.01	3.24 ±0.99	3.00 ±1.04
Complex Health Care			
Taking vital signs as ordered	2.34 ±0.92	2.38 ±0.93	2.30 ±0.94
Monitoring residents' food and fluid intake	2.49 ±0.96	2.52 ±0.96	2.42 ±0.05
Assessing and monitoring residents for presence of pain	2.78 ±0.96	2.83 ±0.97	2.79 ±0.99
Full documentation of all care	2.89 ±0.99	2.52 ±0.99	2.30 ±1.00
Providing wound care	2.31 ±0.89	2.39 ±0.90	2.32 ±0.94
Providing stoma care	1.88 ±0.82	1.91 ±0.84	1.92 ±0.86
Maintaining nasogastric or PEG tubes	1.78 ±0.81	1.79 ±0.82	1.80 ±0.84
Providing catheter care	2.06 ±0.91	2.09 ±0.92	2.02 ±0.90
Suctioning airways/tracheostomy care	1.73 ±0.82	1.75 ±0.83	1.74 ±0.85
Measuring and monitoring residents' blood glucose levels	1.79 ±0.79	1.80 ±0.80	1.78 ±0.80
Reassessing residents to see if their care needs have changed	2.70 ±0.99	2.74 ±0.99	2.66 ±1.01
Maintaining IV or subcutaneous sites	1.78 ±0.81	1.81 ±0.84	1.79 ±0.83
Ensuring PRN medication acts within 15 minutes	2.47 ±1.00	2.51 ±1.00	2.42 ±1.01
Giving medications within 30 minutes of scheduled time	2.84 ±1.11	2.82 ±1.09	2.55 ±1.05
Evaluating residents' responses to medication	2.68 ±1.03	2.71 ±1.03	2.62 ±1.03
Providing end-of-life care in line with residents' wishes	1.94 ±0.96	1.95 ±0.98	1.92 ±0.96

Table 4.6 demonstrates that, on average, all tasks were reported missed at least some of the time with many tasks being missed more frequently. The tasks that were reported as most frequently missed across all shifts were assisting residents with toileting needs within 5 minutes of request and answering the call bell within 5 minutes. This suggests that staff are not free to undertake these unscheduled, but essential, tasks. The activities which are least likely to be reported as frequently missed are some of the more complex care tasks undertaken by nurses, including providing stoma care, maintaining nasogastric or PEG tubes, suctioning airways, measuring and monitoring blood glucose levels, and maintaining IV or subcutaneous sites. Schubert et al. (2013) argues that nurses prioritise those tasks that have a direct impact on patient outcomes or which are ordered by the doctor. While doctors are not part of Residential Aged Care, their absence is double-edged. On the one hand, they do not make frequent requests that nurses must respond to and, on the other hand, they are not readily available when nurses need to consult them.

The frequency with which other complex care tasks occur, such as assessment, documentation, and evaluation of nursing care, suggests that these tasks may be given a lower priority when resources are stretched; this points to an inadequate skills mix and low staffing levels. Activities within the behavioural domain were most commonly reported as being missed, with support to maintain residents' interests, and providing activities to improve mental and physical function occurring most infrequently. This finding supports the evidence from the focus groups which identified limited time for reablement activities. Of the other activities of daily living, routine tasks such as hygiene and preparing residents for meal time are missed infrequently, while the tasks that are missed more frequently are assisting with mouth care and moving residents who cannot walk.

Table 4.7: Mean and Standard Deviations for Frequency of Missed Care Tasks in Residential Aged Care via role (RN/NP/EN/AiN/PCW)

	RN/NP	EN	AiN/ PCW
Behaviour			
Intervening when residents' behaviour is inappropriate or unwelcome	3.09 ± 0.88	3.05 ±0.86	3.09 ±0.91
Intervening when residents say inappropriate or unwelcome things	2.90 ±0.86	2.89 ±0.90	2.86 ±0.92
Intervening when residents are physically agitated	2.49 ±0.93	2.46 ±0.95	2.58 ±0.99
Encouraging residents' social engagement	2.88 ±0.99	2.86 ±1.02	2.90 ±1.05
Encouraging residents' participation in decisions about their care	2.95 ±1.04	2.91 ±1.07	2.99 ±1.15
Interacting with residents' when they have problems with communication	2.94 ±0.97	2.84 ±0.97	2.89 ±1.03
Identifying residents' underlying moods or social states	3.12 ±0.93	2.95 ±0.93	2.92[a] ±0.97
Maximising residents' dignity	2.41 ±0.93	2.20 ±0.95	2.34[a] ±1.04
Ensuring residents are not left alone when supervision is required	3.01 ±0.98	2.94 ±1.01	2.87 ±1.07[b]

Supporting residents to maintain their interests	3.12 ±0.97	3.09 ±1.03	3.12 ±1.08
Providing residents with activities to improve their mental and physical functioning	3.00 ±1.03	3.07 ±1.00	3.10 ±1.09
Providing emotional support for residents' and/or family and friends	2.66 ±0.99	2.56 ±1.00	2.70[b] ±1.03
Activities of Daily Living			
Moving residents confined to bed or chair who cannot walk	2.76 ±1.00	2.69 ±1.00	2.69 ±1.09
Assisting residents with mobility	2.67 ±0.97	2.55 ±0.98	2.50[c] ±1.02
Assisting residents' toileting needs within 5 minutes of request	3.43 ±0.95	3.33 ±0.94	3.32 ±1.06
Preparing residents for meal times	2.31 ±0.88	2.20 ±0.88	2.13[a] ±0.94
Making sure residents are safe	2.50 ±0.89	2.40 ±0.94	2.38 ±0.96[a]
Assisting with residents' hygiene	2.28 ±0.89	2.17 ±0.92	2.18 ±0.99[b]
Assisting with residents' mouth care	3.01 ±1.01	2.95 ±1.01	2.94 ±1.12
Ensuring own hand hygiene	2.02 ±0.92	1.84 ±0.87	1.79[a] ±0.91
Assessing residents for healthy skin	2.63 ±0.93	2.47 ±0.90	2.54 ±1.00[a]
Responding to call bells within 5 minutes	3.25 ±0.99	3.18 ±0.96	3.15 ±1.06
Complex Health Care			
Taking vital signs as ordered	2.47 ±0.92	2.24 ±0.87	2.27 ±0.96[a]
Monitoring residents' food and fluid intake	2.59 ±0.91	2.40 ±0.93	2.44 ±1.00a
Assessing and monitoring residents for presence of pain	2.80 ±0.94	2.71 ±0.95	2.83 ±1.00
Full documentation of all care	3.05 ±0.94	2.83 ±0.97	2.74 ±1.05a
Providing wound care	2.42 ±0.87	2.22 ±0.87	2.26 ±0.94a
Providing stoma care	1.96 ±0.80	1.79 ±0.76	1.85 ±0.86[c]
Maintaining nasogastric or PEG tubes	1.84 ±0.81	1.69 ±0.73	1.74 ±0.84[b]
Providing catheter care	2.17 ±0.90	1.95 ±0.80	2.01 ±0.94[a]
Suctioning airways/tracheostomy care	1.81 ±0.76	1.62 ±0.80	1.68 ±0.86[b]
Measuring and monitoring residents' blood glucose levels	1.87 ±0.76	1.70 ±0.77	1.76 ±0.82[a]
Reassessing residents to see if their care needs have changed	2.81 ±0.95	2.60 ±1.00	2.65 ±1.03[a]
Maintaining IV or subcutaneous sites	1.84 ±0.80	1.70 ±0.74	1.74 ±0.85[b]

Ensuring PRN medication acts within 15 minutes	2.48 ±0.95	2.35 ±0.97	2.58[a] ±1.08
Giving medications within 30 minutes of scheduled time	3.07 ±1.07	2.83 ±1.12	2.52 ±1.07[a]
Evaluating residents' responses to medication	2.83 ±0.99	2.58 ±1.01	2.58 ±1.07[a]
Providing end-of-life care in line with residents' wishes	2.01 ±0.94	1.85 ±0.91	1.94 ±1.02[a]

p ≤ 0.001; b. p ≤ 0.05; c. p ≤ 0.01

Table 4.7 above examines care tasks by role. This table demonstrates little difference in responses across the different roles in relation to the behavioural domain of care; however, PCWs recorded the least missed care in relation to 'recognition of underlying mood or emotional state' and 'ensuring residents are not left alone when supervision is required', reflecting perhaps lower resident allocations, greater time spent with residents, or perhaps lack of training to note these issues. ENs are significantly less likely to report missed care in relation to 'maximising residents' dignity' and 'providing emotional support for residents and/or family and friends'. Significant differences were found more frequently in the domains related to ADLs and complex health care. In all cases where significant results were obtained, RNs were more likely to report care as being missed, except in relation to 'ensuring prn medications act within 15 minutes'. In this case, PCWs reported missed care more frequently.

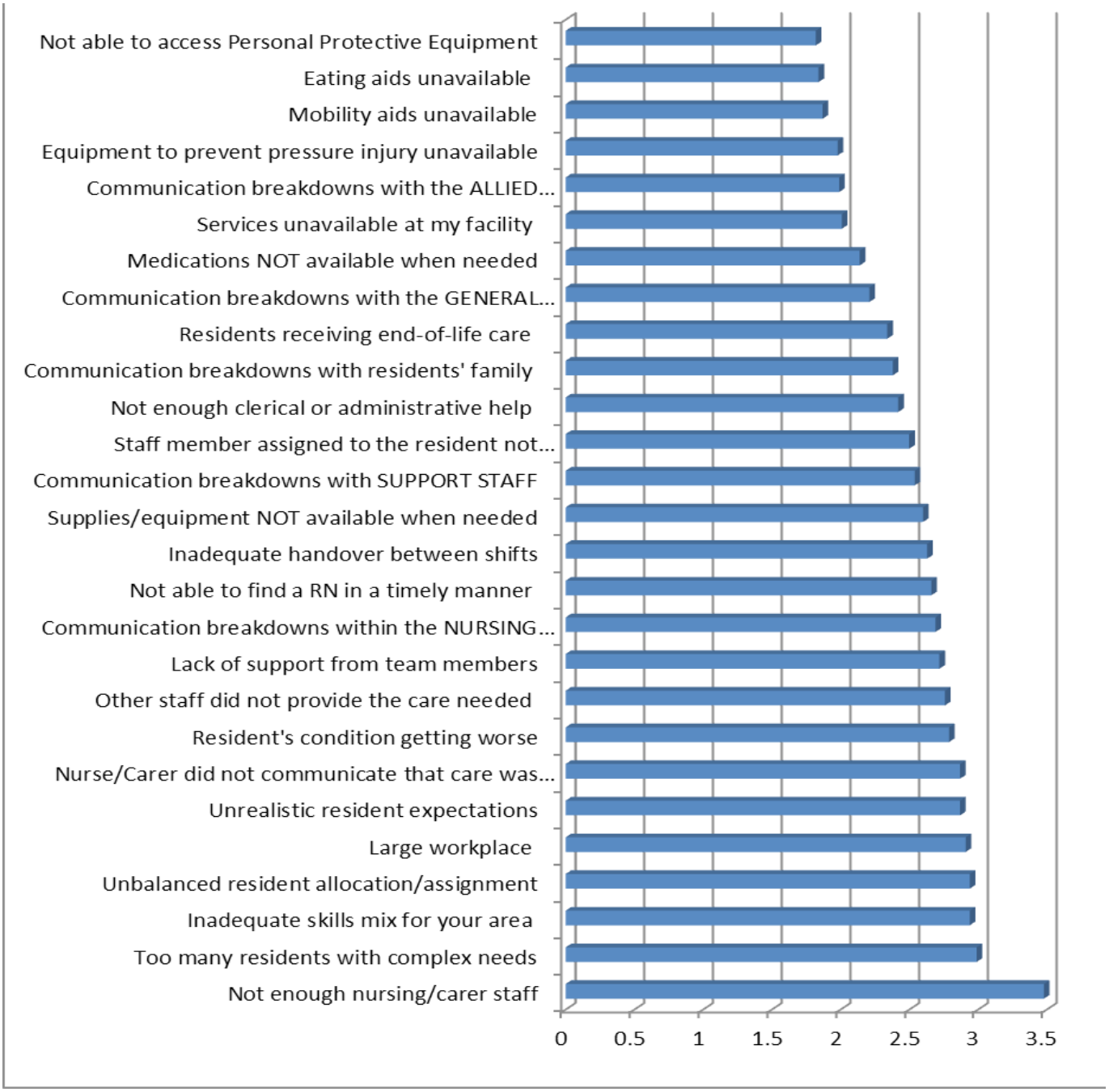
5.4 Reasons for Missed Care

The reasons for missed care have been calculated in two ways. First, the respondents were asked to rate 27 nominated items for the impact they had on missed care on a four-point scale, where 1 was 'not a reason', and 4 was 'a significant reason'. Table 4.8 reports on the mean scores for each item. This table demonstrates that, of the 27 items, a lack of nursing and care staff is the most commonly cited reason for care being missed, followed by 'have too many residents with complex needs', 'inadequate skills mix for your area', and 'unbalanced resident allocation'. The availability of equipment and poor communication with allied health staff were least cited as having an impact on missed care. Figure 4.3 provides the *mean* for each identified reason that care is missed.

Table 4.8: Means scores for reasons for missed care

	Mean	Number	Standard deviation
Not enough nursing/carer staff	3.48	2294	0.82
Too many residents with complex needs	2.99	2200	1.03
Inadequate skills mix for your area	2.94	2256	1.05
Unbalanced resident allocation/assignment	2.94	2193	1.01
Large workplace	2.91	2173	1.10
Unrealistic resident expectations	2.87	2201	1.03
Nurse/Carer did not communicate that care was missed	2.87	2241	0.94
Resident's condition getting worse	2.79	2262	1.03
Other staff did not provide the care needed	2.76	2237	1.03
Lack of support from team members	2.72	2249	1.01
Communication breakdowns within the nursing team	2.69	2245	1.03
Not able to find a RN in a timely manner	2.66	2180	1.09
Inadequate handover between shifts	2.63	2244	1.05
Supplies/equipment NOT available when needed	2.60	2235	1.06
Communication breakdowns with support staff	2.54	2226	1.03
Staff member assigned to the resident not available	2.50	2123	1.07
Not enough clerical or administrative help	2.42	2162	1.12
Communication breakdowns with residents' family	2.38	2220	0.95
Residents receiving end-of-life care	2.34	2198	1.05
Communication breakdowns with the General Practitioner	2.21	2152	0.99
Medications NOT available when needed	2.14	2150	0.97
Services unavailable at my facility	2.01	2133	1.06
Communication breakdowns with the Allied Healthcare Professional	1.99	2164	0.93
Equipment to prevent pressure injury unavailable	1.98	2190	1.02
Mobility aids unavailable	1.87	2184	0.95
Eating aids unavailable	1.84	2162	0.97
Not able to access Personal Protective Equipment	1.82	2169	0.98

Figure 4.3: Means for Impact of Factors on Missed Care



5.5 Organisational Factors Associated with Missed Resident Care

A second means of determining the reasons for missed care was a path analysis based on multi-variate analyses. The path analysis explored the impact that all the variables had on missed care with modelling based upon factors which had a statistically significant impact at $p \leq 0.05$ or higher. Where there is greater statistical significance than $p \leq 0.05$ this is indicated in the text. As already demonstrated, there was little variance between the frequencies and types of care missed in Residential Aged Care over the four time periods surveyed (early, late, night, and weekend shifts), so this analysis focused on the variance of missed residential care on early shifts, as this is the time when care demands and staff interactions between themselves, colleagues, and residents are at their highest.

Organisational variables were found to have a significant impact on both the volume and types of care missed (see Figure 4.4 below). The factors which are bolded are those with a direct impact on missed care.

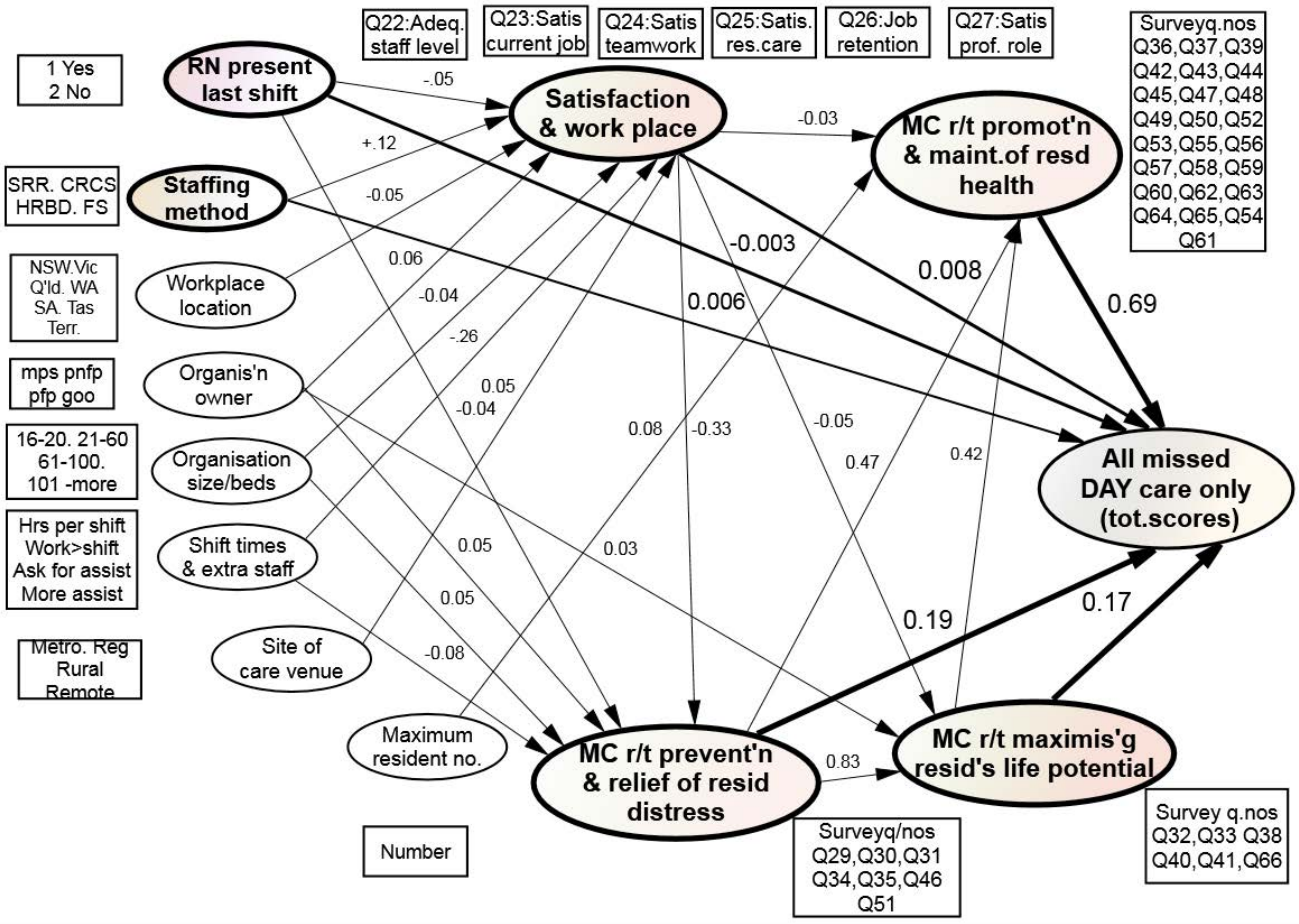
Other factors increase missed care indirectly through impacting those factors which increase missed care. Among the variables that were found to be statistically significant were:

- Jurisdiction (State and Territory);
- Location (metropolitan or rural);
- Size of facility;
- Ownership of facility;
- Maximum number of residents that staff cared for on their last shift;
- Staffing method;
- Presence of an RN on-site during last shift;
- Number of hours worked;
- Capacity to ask for extra staff; and
- Workplace satisfaction.

Impact of Jurisdiction

The State or Territory in which the respondent was employed had an impact on their satisfaction with their role, with staffing levels and teamwork, and with the quality of care they delivered. State of origin was also related to intention to leave aged care. Staff from the Australian Capital Territory, Western Australia, and Tasmania indicated the least satisfaction with their current job. However, it should be noted that these samples are smaller than those from the other states, so the results should be viewed with caution. Victorian nurses showed significantly less dissatisfaction on all factors than their colleagues in other states, which may reflect the extent of the role of public delivery of aged care services in Victoria which is associated with better mean staff:resident ratios (1 to 23.55 staff members/resident) compared with private not-for-profit (1 to 42.87 staff members/resident) and private-for-profit (1 to 39.38 staff members/resident).

Figure 4.4: Final model predicting demographic and organisational effects on the frequency and types of missed residential day care.



Impact of location

The location of the facility within a metropolitan or rural setting also had an impact on workplace satisfaction. Respondents from rural and remote locations expressed significantly less dissatisfaction with staffing levels ($p \leq 0.01$), with their current role ($p \leq 0.001$), and with the quality of care they were providing ($p \leq 0.001$).

Impact of size of facility

The size of the facility was related not only to workplace satisfaction but also to the capacity to deliver care that prevents and relieves resident distress. This care domain broadly relates to the behavioural domain in the ACFI. According to the Royal College of Nursing (2004), this domain includes assessing mental health, preventing and treating resident pain, and providing essential care including palliation. Staff from larger facilities were significantly more likely to report inadequate staff levels ($p \leq 0.001$) and lower levels of satisfaction with resident care ($p \leq 0.001$). Respondents from larger facilities were also more likely to indicate that care which prevents and relieves distress was missed.

Impact of ownership of the facility

Ownership of the facility has a direct impact on workplace satisfaction, the capacity to deliver care that prevents and relieves resident distress, and care that maximises the residents' life potential. This domain highlights staff responsibilities to provide health education to residents, to foster meaningful relationships between residents, to allow residents to satisfy their own developmental or life tasks and to cope with diversity (RCN 2004). Perceptions of staff adequacy varied via organisational type, with respondents from private-for-profit organisations reporting inadequate staffing more frequently ($p \leq 0.001$). These respondents were also more likely to report greater levels of dissatisfaction with resident care ($p \leq 0.001$), with their current role ($p \leq 0.001$), and with teamwork in their workplace ($p \leq 0.05$) than those working in government-owned or not-for-profit facilities.

Impact of maximum number of residents' staff cared for on their last shift

This variable acts as a proxy for staff:resident ratios and was found to have a direct impact on the capacity to deliver care that promoted and maintained the residents' health, although no single shift differed from another. The goal of this domain of care is to maximise residents' health status through the use of health assessment, preventing chronic disease complications by managing resident risk, and/or providing a rehabilitative focus to care activities (RCN 2004). The domain encompasses many activities of daily living, but also many complex health care tasks. Lower staffing ratios are associated with poorer capacity to deliver this care and are associated with lower levels of satisfaction with staffing levels ($p \leq 0.01$), and with current role and standards of practice ($p \leq 0.001$).

Impact of staffing methodology

The dominant staffing method employed in aged care is fixed rostering. This method of staffing was significantly associated with increased frequency of missed care ($p \leq 0.01$). Conversely, facilities with staff:resident ratio methods reported less missed care. The remaining two methods of staffing/resident allocation (computerised residential models and hours per resident per day) were not predictive of missed care.

Presence of an RN onsite during last shift

When an RN was not available onsite during the last shift, staff expressed less workplace satisfaction. In addition, lower levels of staff satisfaction with their current job ($p \leq 0.001$), lower

levels of workplace teamwork ($p \leq 0.001$), and reduced intention to stay in their current job ($p \leq 0.001$) were all associated with the absence of an RN in the workplace. The absence of an RN also had a direct correlation with reported care delivery, with higher levels of missed care reported when an RN was not on-site. This points to issues of appropriate and qualified skills mix and raises questions about the quality of care.

Number of hours worked

Staff working shifts of less than 4 hours and more than 8, reported less satisfaction with their current role. As the path analysis shows the length of the rostered shift increasing, so too do the incidents of missed care relating to responding promptly to patient call bells and the prevention and relief of resident distress.

Capacity to ask for extra staff

Workplace dissatisfaction is associated with a perceived capacity to ask for additional staff. According to the path model (Figure 4.4 above) in the experience of staff, when they do ask and receive extra assistance to provide care to prevent and relieve patient distress, all frequencies of missed care are significantly reduced compared to when busy staff ask for extra assistance, but none is provided ($p \leq 0.001$).

Workplace satisfaction

Levels of staff satisfaction are related to the frequency of missed care. Staff who are less satisfied with their current roles and their profession are more likely to identify missed care. A similar pattern emerges for levels of teamwork and missed care, staff satisfaction with the standards of resident care, and staff intention to leave their current job. In all cases, reduced satisfaction is significantly associated with more missed care. Staff satisfaction levels are also significantly related to all domains of care. As staff satisfaction levels decrease, there is an associated rise in missed care.

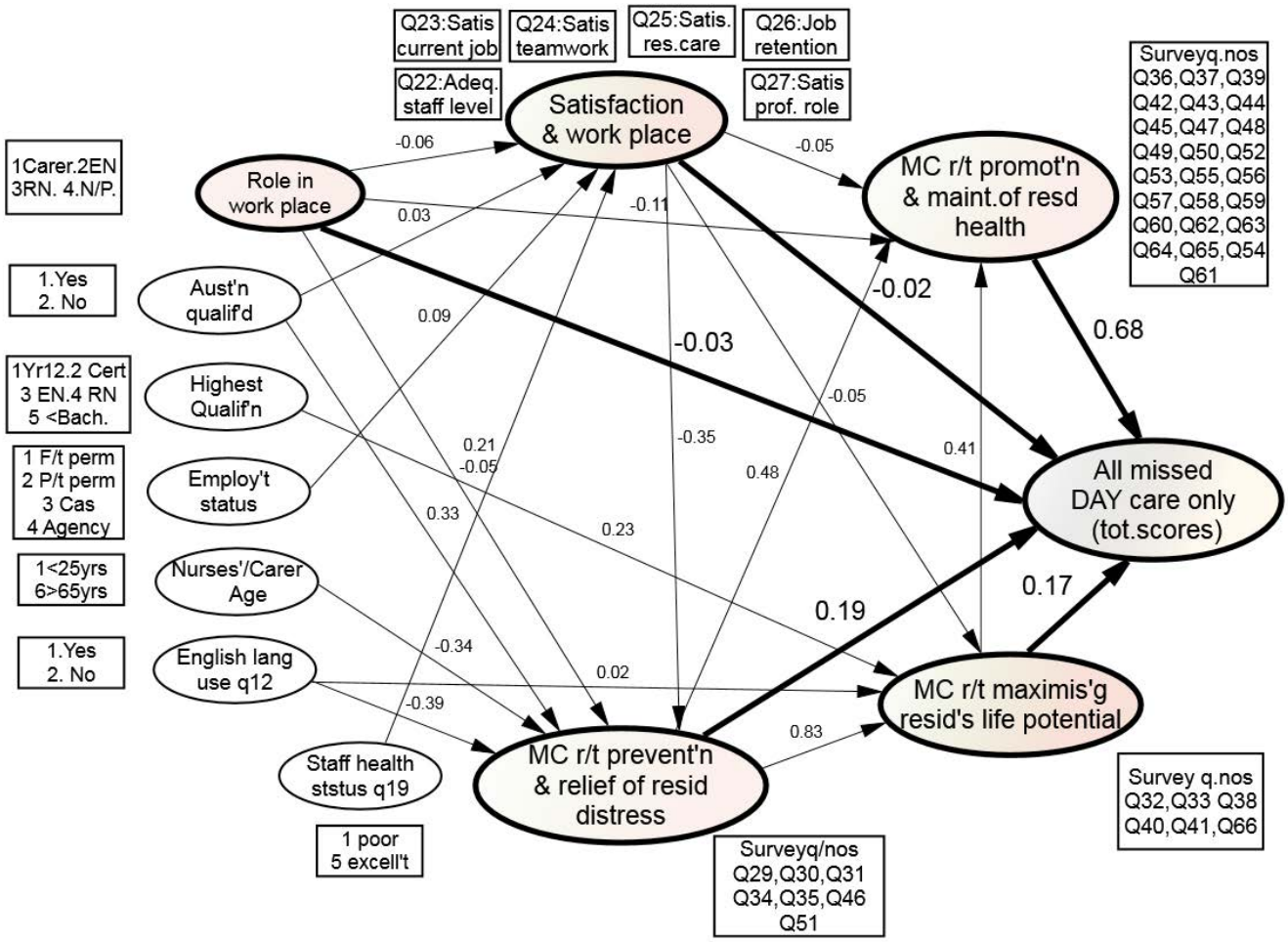
5.6 Personal Factors Associated with Missed Residential Aged Care

Six personal factors had a statistically significant impact on the volume and type of missed care on an early shift at $p \leq 0.05$. As previously, when factors are significant at a higher level, this is indicated in the text (see Figure 4.5). These factors are:

- Role in the workplace;
- First qualification gained in Australia or elsewhere;
- Level of highest qualification;
- Employment status;
- Age of employee; and
- English as a second language.

Factors such as the gender of staff and their length of clinical experience had no influence on the types and frequencies of missed residential care.

Figure 4.5: Final model: Staff factors as predictor variables for the frequency and types of missed residential day care.



Role in the workplace

Role in the workplace had a direct impact on workplace satisfaction, on activities to promote and maintain residents' health, and on activities to prevent and relieve residents' distress. Work role was also significantly related to all missed care. Rates of job satisfaction and satisfaction with role were highest among ENs and lowest among PCWs. Levels of satisfaction with teamwork were highest among RNs and lowest among PCWs ($p \leq 0.001$). PCWs also expressed the highest levels of dissatisfaction with the quality of care ($p \leq 0.001$) and were significantly more likely to want to leave aged care ($p \leq 0.01$).

RNs were also more likely to report missed care related to the promotion and maintenance of residents' health care status, particularly in relation to meeting residents' toileting needs, ensuring resident safety, providing resident mouth care, and assessing residents' mood (or affect). RNs also reported higher levels of missed care in relation to prevention and relief of resident distress, both in relation to the management of difficult behaviour and in assessing and managing pain when residents lack the capacity to communicate a need for pain relief.

First qualification gained in Australia or elsewhere

Respondents whose first qualification was obtained in Australia reported greater dissatisfaction with their work, particularly in relation to standards of resident care and staffing levels. They also reported a significantly higher intention to leave aged care. Respondents whose first relevant caring/nursing qualification was received outside of Australia were significantly more likely to report missed care related to prevention and relief of residents' distress than were those who first qualified in Australia.

Highest qualification

Highest qualification relates to the highest qualification achieved by respondents both inside and outside of nursing. It was related to care tasks which maximise the residents' life potential, with more qualified staff reporting more missed care in relation to activities that promote reablement and healthy ageing. We note that some PCWs may not be fully aware of the implications of missing some ADLs, or other care tasks, or may not see it as their responsibility, pointing once again to the need for a skills mix that can adequately deliver quality care.

Employment status

Employment status relates to full-time, part-time, or casual employment. Employment status was related to work satisfaction. Full-time staff were found to have lower reported levels of satisfaction with work in aged care.

Age of employee

The age of the employee was related to the reporting of missed care in relation to prevention and relief of resident distress. Younger employees reported more missed care in this domain.

English as a second language

Respondents who have English as a second language report higher levels of missed care in relation to preventing and minimising resident distress, and with care tasks which maximise the residents' life potential. Both may be related to communication difficulties and differences in cultural nuances.

5.7 Why Care is Missed: Qualitative Responses

A final question offered participants a chance to provide any further information in relation to missed care. This question was completed by 813 respondents and primarily addressed the causes of missed care. The data was analysed and coded for the reasons why care is missed. Two central themes dominated the analysis. The first related to the manner in which management in aged care facilities were perceived to be responding to systemic and workplace issues, while the second related theme addressed issues of staffing, skills mix, and workload.

The governance of aged care has undergone a number of changes which have contributed to greater private ownership of facilities, increases in resident acuity, particularly in facilities which were previously low care, and greater focus on resident needs associated with increased financial contribution by residents in the form of a refundable accommodation bond. While respondents generally focused upon workplace rather than wider issues, these changes were acknowledged as contributing to missed care. There is a perception by many nurses, particularly those working in private-for-profit facilities, that quality of care comes second to cost savings or profit. For example, one respondent stated that:

> *"I work for a private company – a money-making machine. Upper management and financial stakeholders want high profits not high care, and the government let's them do it" (#58).*

For many respondents, poor care was exacerbated by increasing resident acuity. Another respondent noted that:

> *"The acuity of residents is increasing. You can see a shorter length of stay to prove this. They have chronic and complex".disease and their families also need lots of support. There is no funding for this in our good facility … our older people deserve better (#134).*

The respondent quoted below alluded to a third sub-theme, increasing expectations from both families and residents about the quality of care they should receive, given the increasing resident contributions to accommodation costs. A third respondent noted for example that:

> *"A significant reason for delayed care for other residents is a concern as a particular resident family are very demanding regarding their mother's care; they maintain that their mother does not get the care they pay for" (#54).*

These concerns were also expressed by some nurses and PCWs who believe that other residents are not getting the care they pay for and deserve.

More commonly, however, responsibility for these issues was placed upon the management of individual aged care facilities or groups, and related to managerial decision-making about the use of resources. It needs to be acknowledged that what constitutes 'management' is relative to individual respondents, with some referring to all services that do not provide direct care, others to site managers, and a third smaller group, primarily of PCWs, referring to RNs on the floor. For those respondents identifying concerns with management, there is a common belief that management is unsympathetic to the realities of care delivery and unwilling to listen to staff. A frequent response was that management had unrealistic expectations of what could be achieved.

> *"Lack of realistic goals from management; UNREALISTIC EXPECTATIONS FROM MANAGEMENT (#785: emphasis in original quote)".*

> *"Somehow, the residents who need the most care do not attract sufficient funding to allow for the extra staffing that they need. Yet the management and the families seem to think that those residents should be getting one-on-one care for their waking hours, or even 24/7. This quite simply is impossible" (#771).*

This is accompanied by a belief that responsibility for quality of care has been shifted from systemic determinants, such as increased resident acuity and funding shortfalls, to the individual nurse or carer.

> *"Management tends to blame staff for missed work and mistakes without considering the workload and the limited ability of some staff or suitability for the job" (#602).*

> *"There is low moral[e], no cohesion in cares (sic) provided, and staff are defensive and shifting blame. Management put more and more pressure on us to provide care to our residents in a timely manner. There is no time. Medication errors, lack of reporting, poor handovers, and neglected wounds have unfortunately become commonplace" (#649).*

Workload issues were identified by many participants and frequently related to staffing issues.

Staffing of aged care was a second commonly identified theme, with respondents commenting on both the number and skills mix of staff. There was a common perception that cost savings are being made through the reduction of staff hours and replacement of nursing staff with less costly staff.

> *"Our residents are not dollar signs. … The CEO and GM sit in the office earning the money for themselves and shareholders sending out email "cut staff numbers". Now they are going to remove Enrolled Nurses from aged care homes and use medication competent care workers …" (#8).*

> "*RNs facing the sack to replace them with ENs. Not valued at all in our aged care by*

management. Having no RNs in the day-time from April - demoralising and degrading" (#202).

Inadequate staffing was viewed as having consequences for both the quality and safety of care. Lack of staff on the floor was viewed as leading to poorer outcomes for residents. One respondent said for example that:

"I feel there is not enough staff to attend to residents' needs, therefore there is an increase in UTI's, wounds, falls, and limited emotional support. I would like there to be a realistic staffing ratio to manage residents' needs and, most importantly, their emotional support to ensure their transition into age care [is] more amenable" (#91).

Other respondents highlighted the impact of staffing on the organisation of work, arguing that staffing numbers and workload contributed to a task orientation towards care delivery, which was viewed as having negative consequences in terms of rushing residents and cutting corners, but also in relation to responsiveness to residents' preferences for care. For example, one respondent stated that:

"Staff are rushed to have ADLs completed by a particular time, the PCAs are having to rush residents through the process in order to complete as many residents as they can. This in turn leads to residents being missed/ left to their own devices (leading to falls risks) or receiving inadequate care whilst the residents that scream the loudest or are more demanding get all the care" (#308).

RNs, in particular, identified difficulties in meeting workload expectations. RNs reported that nurse to resident ratios are such that, if something unexpected occurred, they would be unable to complete their regular tasks. For example, one RN stated:

"I think as an RN, some care is missed or late because I have to prioritise - urgent issues (sick or palliative residents, falls, and hospital transfers) are attended to first and other tasks have to be attended later. Without fail on a daily basis, I am not able to attend to all cares or tasks because there are simply not enough hours in the day" (#734).

An inability to get tasks finished within paid working hours means that staff, and RNs in particular, work unpaid overtime to complete all tasks.

"All the RNs/ENs go above and beyond their time, working overtime trying to provide the best care possible for the residents. Staff know they will not get paid for their overtime, but it would be greatly appreciated to receive some positive acknowledgement for the hard work provided" (#33).

5.8 Conclusion

This chapter has reported the results from the missed care survey. The study has found that missed care was reported by participants across all care activities in aged care in Australia, with some activities, notably answering bells and toileting residents along with the management of social and behavioural aspects of care, being missed more frequently. Medically-ordered complex health care tasks were least likely to be missed; however, this care was delivered at the expense of other complex health care tasks. The primary reason for missed care was identified as a lack of staff, increasing resident acuity, the skills mix, with unbalanced resident allocations also being implicated. Workload, staffing, and skills mix issues were also evident in the qualitative responses to the survey, as was a perception that the management of aged care was out of touch with the realities of care delivery. As noted in Chapter 2, the MISSCARE survey was undertaken to establish that, under the current staffing complement, care is not being performed.

CHAPTER 6
Results of the Delphi Survey

6.1 Introduction

The aim of the Delphi survey was to determine whether there was/was not agreement on the staffing methodology that had been developed with the intent to provide quality outcomes of care for people living in Residential Aged Care in Australia. Staffing methodology in this context is defined as a mechanism that covers all the factors that must be taken into account to calculate the nursing and personal care hours per day needed for each specific resident and, at the same time, calculates staffing and skills mix requirements. The Delphi did not seek consensus on the timings.

The staffing methodology formula on which consensus was sought was:

Assessment and reassessment of each resident **+**

Direct nursing and personal care time ***per*** intervention ***per*** resident **x**

Frequency ***per*** shift **+**

Indirect nursing and personal care time ***per*** intervention ***per*** resident **x**

Frequency ***per*** shift =

Total resident nursing and personal care time ***per*** day.

Previous chapters have described the development of resident complexity profiles and how timings aligned to specific direct and indirect nursing and personal care interventions were

conceived and discussed in focus groups with nurses working in Residential Aged Care. The Delphi survey sought consensus from a panel of experts on the following question: *What are the views of identified experts in relation to the need for, and structure of, a staffing methodology to address the assessed need of different residents living in a Residential Aged Care facility?*

In the conduct of the Delphi survey, the following methodological considerations were adopted:

- To involve members of the panel of experts, aged care staff who through their roles would be both knowledgeable about staffing and skills mix, as well as management decision-makers who would utilise the outcomes of the Delphi survey.
- To seek responses from a diverse panel of experts including considerations of jurisdictions in Australia, different age ranges, years of experience, and different types and sizes of aged care facilities.
- To make visible scores for how strongly the majority and minority felt about descriptive statements.
- To emphasise the importance of anonymity and confidentiality to members of the panel of experts.
- To set a consensus at a level that is supported in the literature as appropriate.

To begin, a description of the panel of experts is provided.

6.2 Panel of Experts

Choosing the appropriate persons as members of a panel of experts is the most important first step in the Delphi survey process (Hasson, Keeney & McKenna 2000; Hsu & Sandford 2007; Laustsen & Brahe 2015). The panel of experts for this Delphi survey were residential site managers (RSMs)/ person in charge (however titled) of aged care facilities or their nominee. RSMs are responsible through legislation for the day-to-day operations of a Residential Aged Care facility. In situations where the RSM was not a RN, the RSM was informed that they could nominate their senior RN manager to be their nominee if they chose to do so. While most RSMs are RNs, being a RN was not an inclusion criterion.

Support received from the ANMF was limited to advertising on their website http://safestaffinginagedcare.com that the Delphi survey had commenced. The ANMF did not, at any time, advertise the link to *Survey Monkey*®. This was done in order to maintain the integrity of the Delphi survey as being open only to invited RSMs.

RSMs received an invitation by post from Associate Professor Kay Price on behalf of the research team to participate if the Residential Aged Care facility they managed was listed in a publicly available document through the Commonwealth at the time of the study. RSMs interested in engaging in the Delphi survey were required to type the Survey Monkey link into their browser and proceed to complete it.

The research team had no control over the accuracy of the publically available list. Emails from invited RSMs were received confirming receipt of the invitation. In addition, emails (n=3) were received on behalf of specific providers indicating that facilities aligned to the services would not be participating. Also, 38 letters were 'returned to sender'. As at 30 June 2015, the AIHW (2015) state that there were 2,681 Residential Aged Care facilities providing care in Australia. A total of N=102 RSMs participated in the panel of experts.

To provide a description of participating members of the panel of experts, RSMs were asked the following demographic questions:

1. Age
2. Years of experience
3. Type of facility in which they worked
4. Size of the facility in which they worked
5. The state in which they worked
6. Where in the state they were located

The panel of experts was not intended to be representative. A non-probability purposive sample, rather than randomisation was sought. As Tables 5.1 to 5.3 below illustrate, RSMs (N=102) who completed Round 1 of the Delphi survey came from a diversity of states and territories in Australia. They were of different age ranges and years of experience, and worked in a variety of aged care facilities in terms of size and type.

Table 5.1: Age range and years of experience of the panel of experts

Age	25 – 34 years	4.9% n=5	**Years of experience**	0 – 1	4.9% n=5
	35 – 44 years	17.6% n=18		1 – 4	23.5% n=24
	45 – 54 years	25.5% n=26		5 – 9	11.7% n=12
	55 – 64 years	48.0% n=49		10 – 20	31.3% n=32
	Over 65 years	4.0% n=4		Over 20	28.4% n=29

Table 5.2: Type and size of facility where panel of experts worked

Type	Religious/charitable organisation	28.4% n=29	**Size**	1 – 20 beds	4.0% n=4
	Private not-for-profit organisation	2.9% n=3		21 – 60 beds	41.1% n=42
	Government-owned organisation	41.1% n=42		61 – 100 beds	29.4% n=30
	Multi-purpose service (MPS)	19.6% n=20		101 or more	23.5% n=24
	Private-for-profit organisation	7.8% n=8		Unsure	.98% n=1
	Unsure	0% n=0		Other (2 x RACs on site. 1 x 40 bed; 1 x 60 bed)	.98% n=1

Table 5.3: State and location of panel of experts

State	New South Wales	28.4% (n=29)	**Location**	Metropolitan	42.1% (n=43)
	Victoria	19.6% (n=20)		Regional	52% (n=53)
	Queensland	23.5% (n=24)		Remote	4.9% (n=5)
	Western Australia	8.5% (n=9)			
	South Australia	11.7% (n=12)			
	Tasmania	4.0% (n=4)			
	Northern Territory	0% (n=0)			
	Australian Capital Territory	4.1% (n=4)			

The majority of RSMs (80%) were 45 years of age and over, and seventy four per cent (74%) had over 5 years of experience. RSMs from all States and Territories, except the Northern Territory, and from across different regions were involved. RSMs from private-not-for-profit and private-for-profit organisations constituted eleven per cent (11%) of the panel of experts; however this number does not include people who work in religious or charitable organisations. The findings for, and a discussion of, each descriptive statement is provided below.

6.3 Descriptive Statements on Delphi

Round 1 descriptive statements focused on the assessment of, and addressing the needs of, different residents living in aged care facilities and the need for, and the structure of, a staffing methodology. These statements were, in turn, presented to a panel of experts to identify their agreement or disagreement. As with all survey questions, the evaluation of the reliability of the descriptive statements (or their capacity to estimate what they are supposed to be measuring) was undertaken. The statistical approach used for this purpose was the Cronbach Alpha index, which ranges from 0 to 1, with the latter score indicating strongest reliability. The index for the Delphi questions was .80 which indicates a good fit. In other words, the statements measured what they were intended to measure.

As described in Chapter 2, the consensus level sought for the 20 descriptive statements was set at 80% of members whose responses fell within the two categories of *agree* and *completely agree* on a Likert scale. This percentage reflects the most frequently chosen percentage response in the related literature (Green et al., 1999; Hasson et al., 2000; Keeney et al., 2001; Marshall et al., 2007).

Table 5.4: Descriptive Statements on which consensus was sought

Descriptive statement		Consensus	Figure
The need to assess and address needs of residents			
8	Thinking of your resident profile, resident care needs have increased in volume and complexity and, over time, continue to increase.	√	**5.1**
9	Thinking of your resident profile, a person with complex care needs who comes to live in Residential Aged Care is now living a much shorter time given the complexity of their care needs.	√	**5.2**
10	Thinking of your resident profile, residents require more frequent and complex assessments to be undertaken by the staff team to ensure the safety and quality outcomes of care of all residents.	√	**5.3**
11	Thinking of your resident profile, residents require more frequent and complex interventions and interactions to be implemented to meet their assessed needs.	√	**5.4**
12	Thinking of your residents' profiles, assessment and reassessment of them is required precisely because of the potential for unplanned events; for example experiencing a significant change or deterioration in their health status.	√	**5.5**
13	Thinking of your residents' profiles, assessment and reassessment of them generally identifies new or additional interventions precisely because of the potential for unplanned events; for example, experiencing a significant change or deterioration in their health status.	√	**5.6**
14	Thinking of your residents' profile, assessment and reassessment of them is required precisely because of significant changes or challenging behaviours; for example, extreme agitation, being withdrawn or unsettled.	√	**5.7**
15	Thinking of your residents' profile, assessment and reassessment of them generally identifies new or additional interventions precisely because of significant changes or challenging behaviours; for example, extreme agitation, being withdrawn or unsettled.	√	**5.8**
16	Direct nursing and personal care includes any intervention that a RN, Enrolled Nurse, Personal Care Worker/Carer and/or Assistant in Nursing undertakes that is directly related to assessing or meeting the assessed needs of residents.	√	**5.9**
17	Indirect nursing and personal care includes where a RN, Enrolled Nurse, Personal Care Worker/Carer and/or Assistant in Nursing is required to liaise with General Practitioners, Allied Health professionals, lifestyle personnel, Pharmacy and Pharmacists, or with the resident's significant others, Staff Handover, DDA count, Staffing Shift Management.	√	**5.10**
The need for, and structure of, a staffing methodology			
18	A staffing methodology is needed to be built around assessing and meeting the assessed needs of residents for morning (am), afternoon (pm), and night shifts, and on an ongoing basis.	√	**5.11**
19	A staffing methodology must include the building block of identifying the lowest level in the skills mix of staff who can perform the activities to meet the assessed needs of different resident profiles.	√	**5.12**
20	A staffing methodology must include the building block of identifying the time and frequency of interventions per shift required to assess and meet the assessed needs of different resident profiles.	√	**5.13**
21	To calculate the total resident nursing and personal care time per day for each resident, a staffing methodology must include the building blocks of identifying direct and indirect nursing care work.	√	**5.14**

22	The table provided correctly identifies for the major category of 'Activities of Daily Living', the activities and the number of staff required to perform that activity for the different levels of assistance a resident may need.	√	**5.15**
23	A staffing methodology must include the building block of identifying the number of staff required to meet the different levels of assistance a resident may need.	√	**5.16**
24	The table provided correctly identified the different levels of assistance different residents or a resident over time may require to meet their nutritional and fluids needs.	√	**5.17**
25	A staffing methodology must include the building block of identifying the different levels of assistance a resident may need over time.	√	**5.18**
26	To meet expected outcomes of the accreditation standards and Aged Care Act 1997, an evidenced-based staffing methodology that can calculate resident care hours per day (RCHPD) for the diversity of complex resident profiles living in Residential Aged Care is needed.	√	**5.19**
27	The formulae provided included the necessary building blocks to appropriately identify the total resident nursing and personal care time per day required.	√	**5.20**

6.4 The Need to Assess and Address the Needs of Residents

Figures 5.1 to 5.10 display the findings for the descriptive statements that focused on the changing profile of people living in Residential Aged Care and the need to assess and address these needs.

Responses based on the percentage of members from the panel of experts were grouped into those who *agreed* and *completely agreed* / those who *disagreed* and *completely disagreed* / and those who responded *unsure* to the descriptive statement.

Figure 5.1: The percentage of experts who agree resident care needs have increased in volume and complexity and over time, and continue to increase

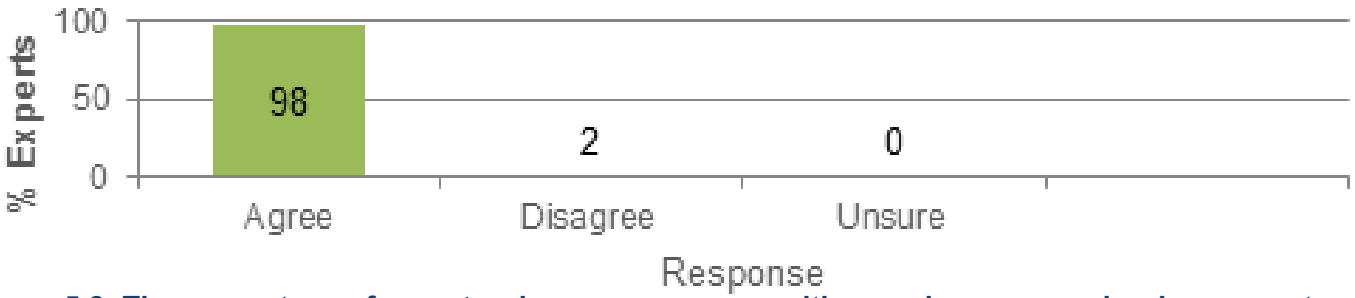


Figure 5.2: The percentage of experts who agree a person with complex care needs who comes to live in Residential Aged Care is now living a much shorter time given the complexity of their care needs

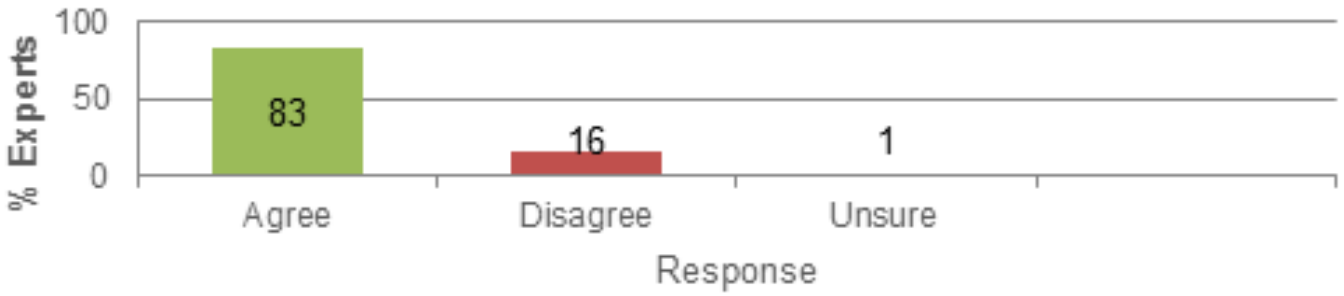


Figure 5.3: The percentage of experts who agree residents require more frequent and complex assessments to be undertaken by the staff team to ensure the safety and quality outcomes of care of all residents

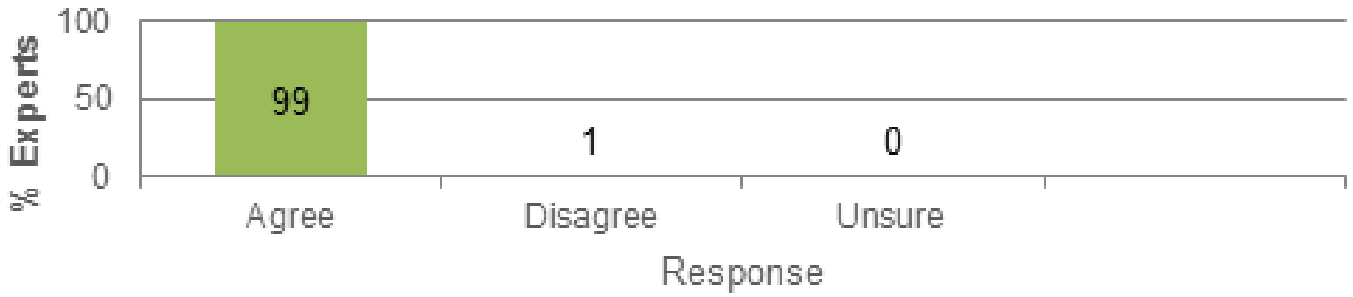


Figure 5.4: The percentage of experts who agree residents require more frequent and complex interventions and interactions to be implemented to meet their assessed needs

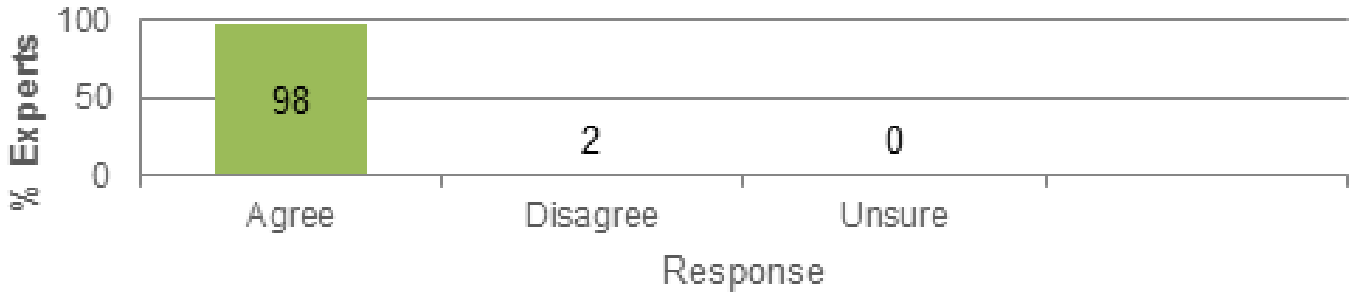


Figure 5.5: The percentage of experts who agree assessment and reassessment of residents is required precisely because of the potential for unplanned events

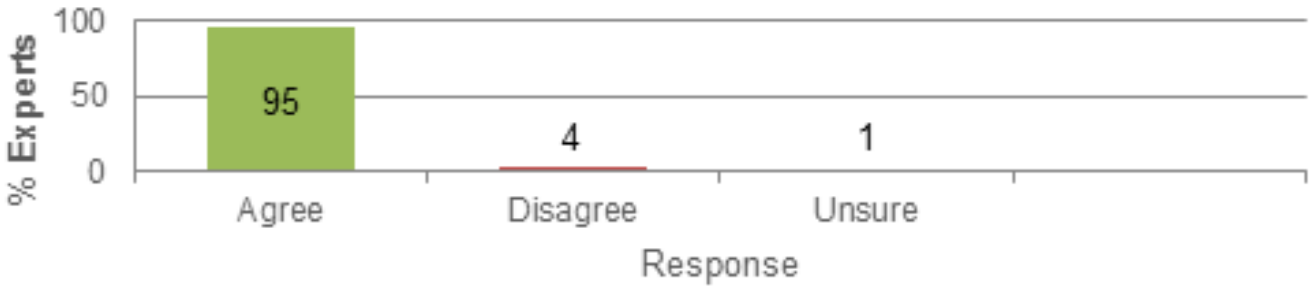


Figure 5.6: The percentage of experts who agree assessment and reassessment of residents generally identifies new or additional interventions precisely because of the potential for unplanned events

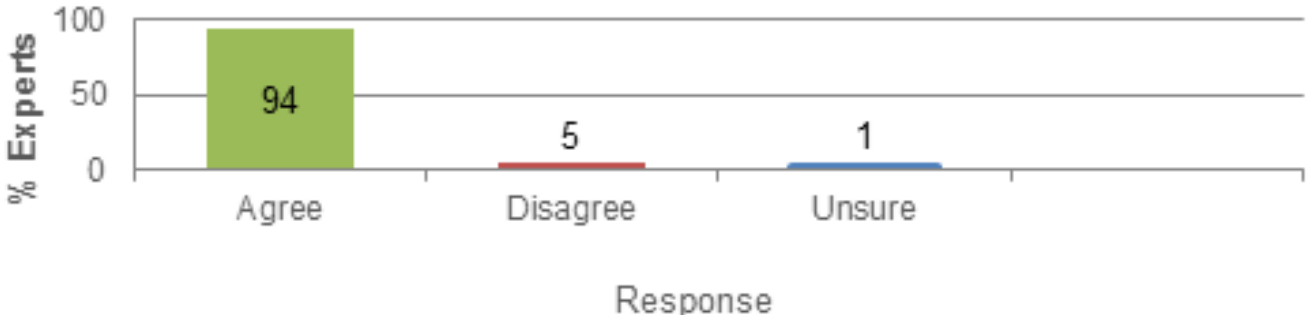


Figure 5.7: The percentage of experts who agree assessment and reassessment of residents is required precisely because of significant changes or challenging behaviours

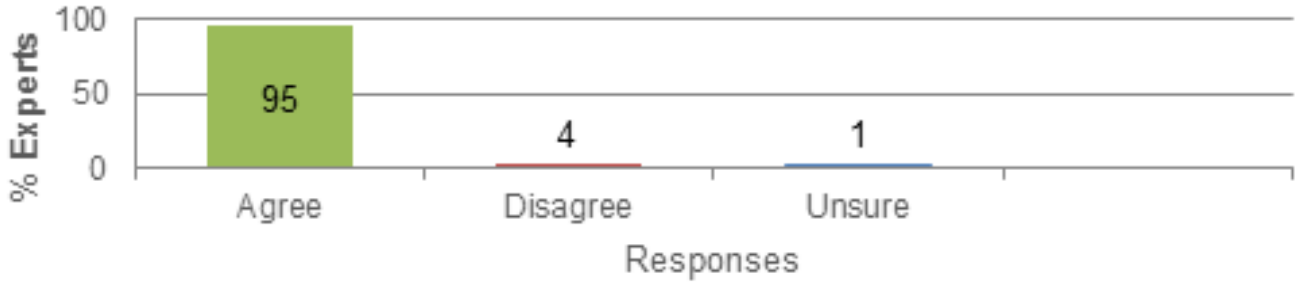


Figure 5.8: The percentage of experts who agree assessment and reassessment of residents generally identifies new or additional interventions precisely because of significant changes or challenging behaviours

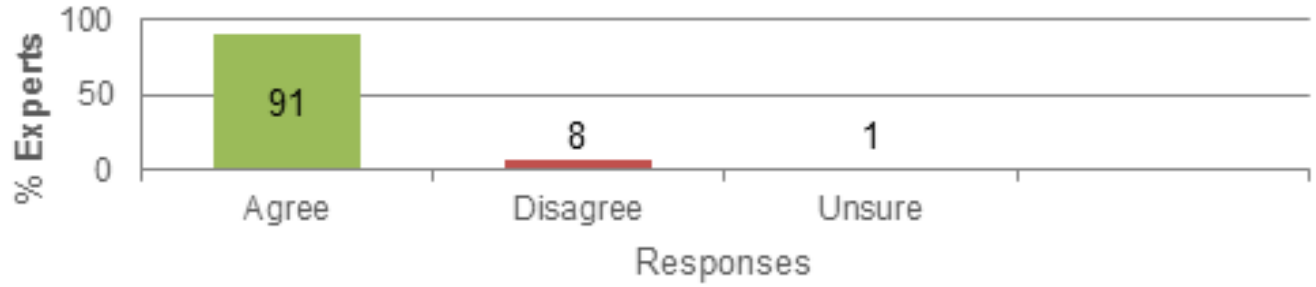
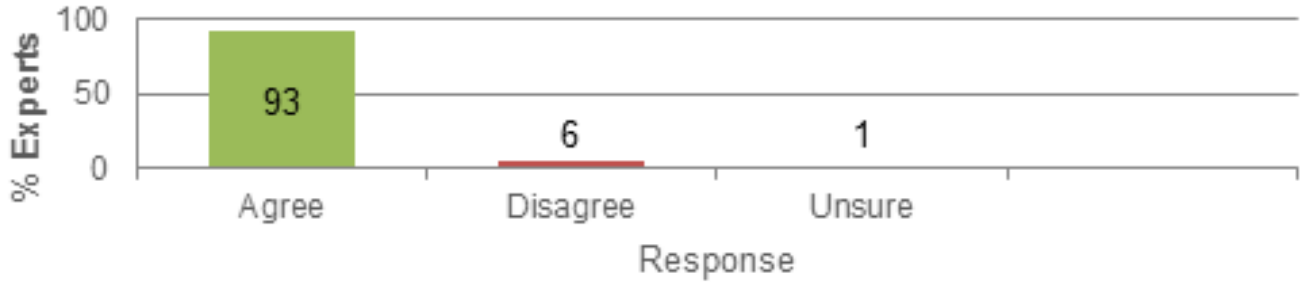


Figure 5.9: The percentage of experts who agree direct nursing and personal care includes any intervention that a RN, Enrolled Nurse, Personal Care Worker/Carer and/or Assistant in Nursing undertakes that is directly related to assessing or meeting the assessed needs of the resident

Figure 5.10: The percentage of experts who agree indirect nursing and personal care includes where a RN, Enrolled Nurse, Personal Care Worker/Carer and/or Assistant in Nursing is required to liaise with General Practitioners, Allied Health professionals, or lifestyle personnel



6.5 The Need For, and Structure of a Staffing Methodology

Figures 11 to 20 display the findings for the descriptive statements that focus on the structure of a staffing methodology. Responses from members of the panel of experts were grouped by percentage into those who *agreed* and *completely agreed* / those who *disagreed* and *completely disagreed* /and those who responded *unsure* to the descriptive statement.

Figure 5.11: The percentage of experts who agree a staffing methodology is needed to be built around assessing and meeting the assessed needs of residents for morning (am), afternoon (pm), and night shifts and on an ongoing basis

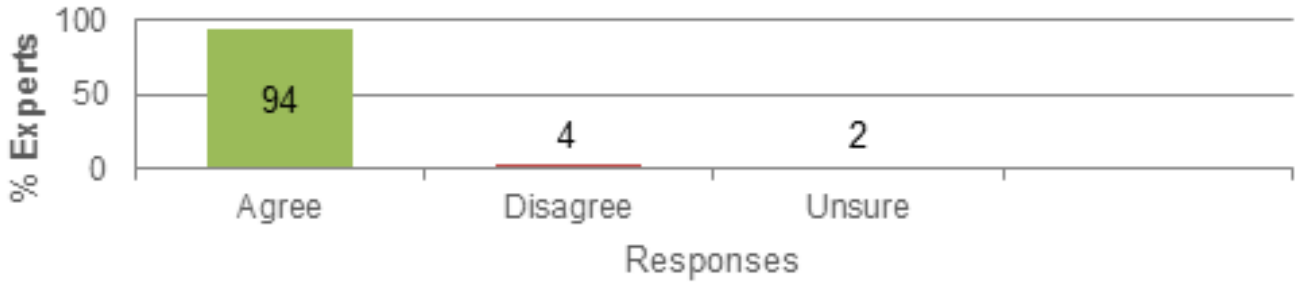


Figure 5.12: The percentage of experts who agree a staffing methodology must include the building block of identifying the lowest level in the skills mix of staff who can perform the assessed activities a resident requires

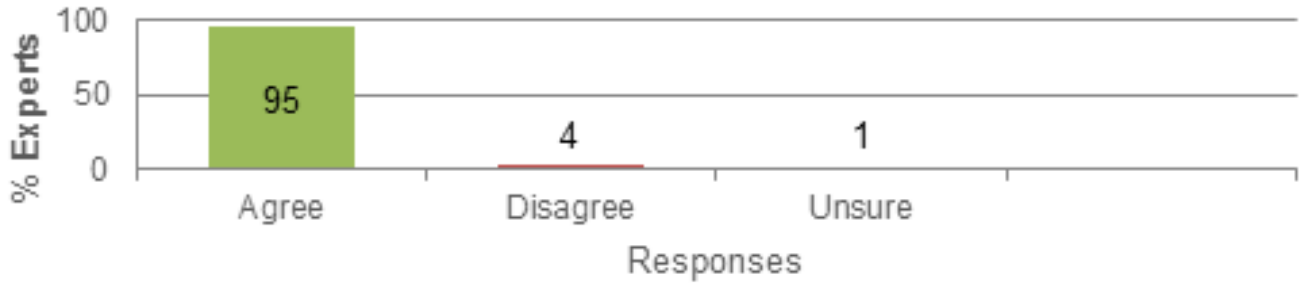


Figure 5.13: The percentage of experts who agree a staffing methodology must include the building blocks of identifying the time and frequency of interventions required per shift

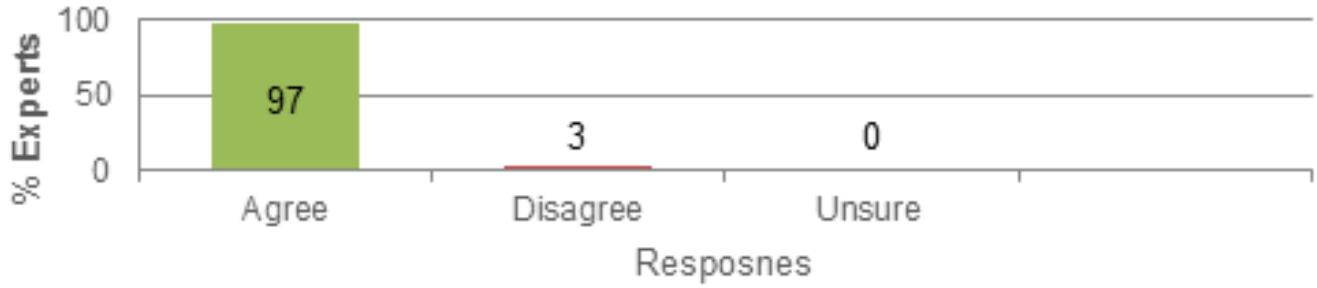


Figure 5.14: The percentage of experts who agree a staffing methodology must include the building block for identifying direct and indirect nursing care work

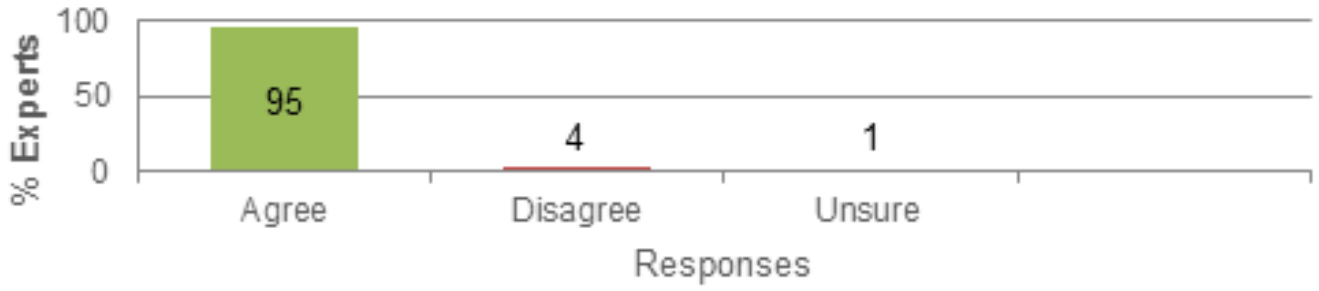


Figure 5.15: The percentage of experts who agree the table provided correctly identifies for the major category of 'Activities of Daily Living', the activities and the number of staff required to perform that activity for the different levels of assistance a resident may need

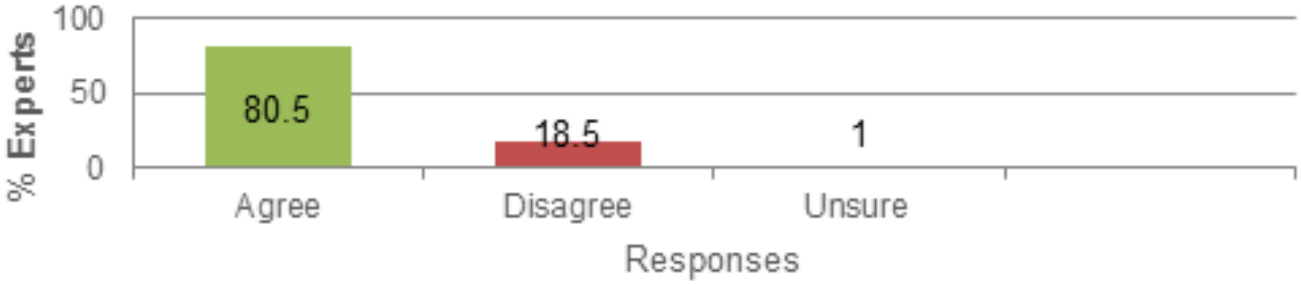


Figure 5.16: The percentage of experts who agree a staffing methodology must include the building block for identifying the number of staff required to meet the different levels of assistance a resident may need

Figure 5.17: The percentage of experts who agree the table provided correctly identified the levels of assistance different residents over time may require to meet their nutritional and fluids needs

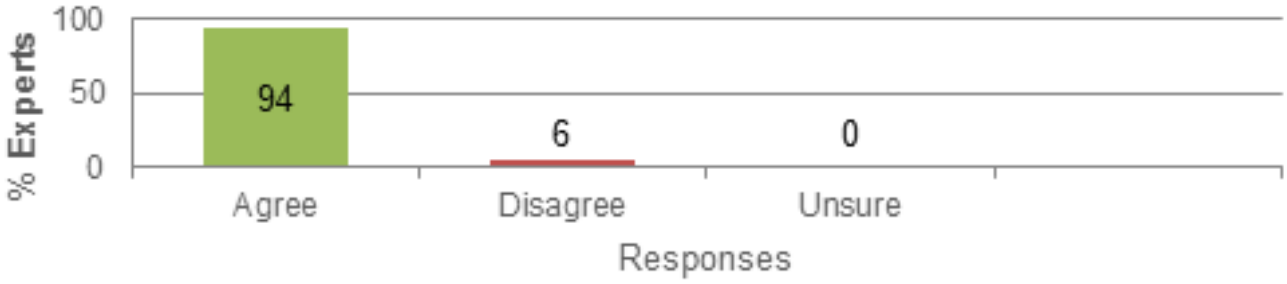


Figure 5.18: The percentage of experts who agree a staffing methodology must include the building blocks for identifying the different levels of assistance a resident may need over time

Figure 5.19: The percentage of experts who agree an evidence-based staffing methodology that can calculate resident care hours per day (RCHPD) for the diversity of complex resident profiles is required to meet expected outcomes of the accreditation standards and *Aged Care Act 1997*

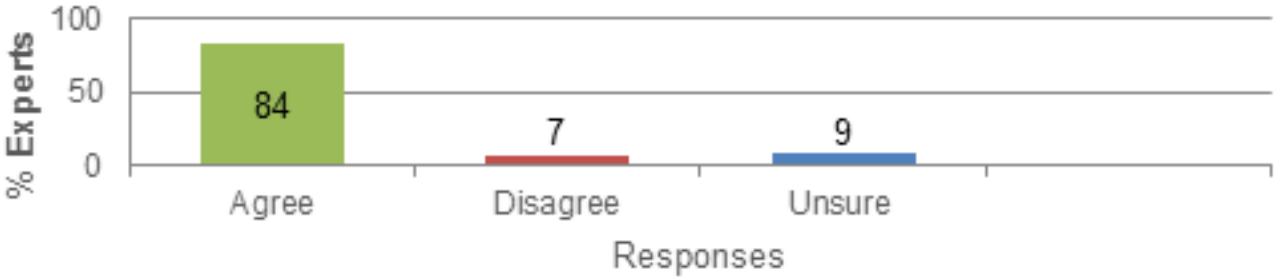
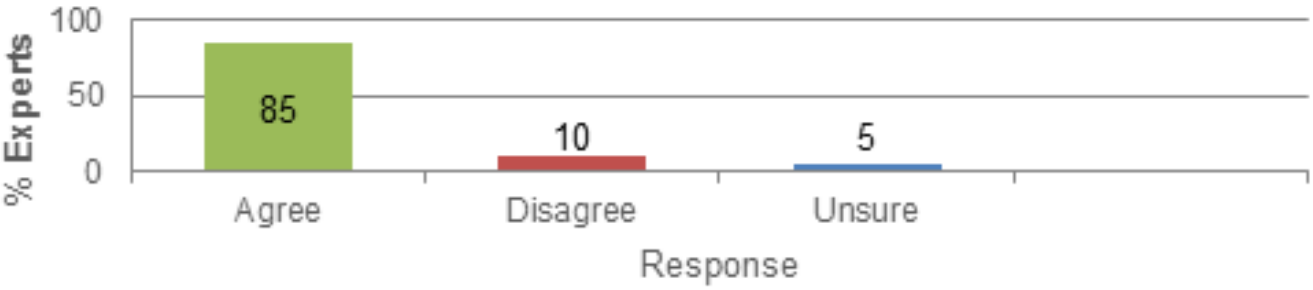


Figure 5.20: The percentage of experts who agree the staffing methodology formulae provided included the necessary building blocks to appropriately identify the total resident nursing and personal care time per day required



In addition to the quantitative data collated from the descriptive statements, written comments provided by members of the panel of experts were sought and a discussion of this qualitative data follows.

6.6 Written Comments to Descriptive Statements

Members of the panel of experts were provided a space to offer written comments to each descriptive statement. The written comments generally supported the descriptive statement, or provided the members of the panel who disagreed, with an opportunity to state why. The number of panel members providing a written comment to each descriptive statement is displayed in the following table (Table 5.5).

Descriptive statements 15 and 20 received 20% or more members offering a written comment.

Table 5.5: Number of members of the panel of experts offering comments to a descriptive statement

Descriptive statement	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Number of members	13	12	7	7	10	6	10	6	5	10	14	10	4	11	24	5	16	5	16	27
>20%															*					*

Descriptive statement 15: *The table provided correctly identifies for the major category of 'Activities of Daily Living', the activities and the number of staff required to perform that activity for the different levels of assistance a resident may need*.

A recurring view expressed by the participants for descriptive statement 15 noted that it was unusual to require three (3) staff to assist residents, with two (2) usually being the maximum. However, some participants identified residents who required 4 staff to assist with 'Activities of Daily Living'.

Descriptive statement 20: *The formulae provided included the necessary building blocks to appropriately identify the total resident nursing and personal care time per day required.*

A recurring view expressed by the participants for descriptive statement 20 focused on the variations that members of the panel of experts considered existed among residents, geographies, and layout of facilities, and varying efficiencies with the same level of staff. In addition, there was a view that timings needed to include time for the residents to make their own decisions so that staff could take direction from them about what they wanted to do. This view was expressed in comments to other questions as well.

Another view provided in response to several statements noted that persons with particularly challenging behavioural issues were not 'admitted' to a facility in an attempt to control costs and improve staff and resident satisfaction.

6.7 Discussion of the Delphi Findings

The Delphi survey is a widely used group communication process which aims to achieve a convergence of opinion on a specific real-world issue and attempts to address "what could/should be" (Hsu & Sandford, 2007; Miller, 2006). Round 1 of the Delphi focused on the assessment, and addressing the needs, of different residents living in aged care facilities and the need for, and structure of, a staffing methodology.

Choosing RSMs as members of the panel of experts was in recognition that this group is knowledgeable about staffing and skills mix and are the management decision-makers who will utilise the outcome of the Delphi. The diversity

of the panel is described above and the N=102 membership is more than the n=50 normally cited as an approximate size for Delphi surveys (Hsu & Sandford 2007). Larger numbers of participants increases the trustworthiness of a combined opinion and, as already noted, the questions had a high degree of reliability. Clearly, the importance of focusing on Residential Aged Care was exemplified by the response of members to descriptive statement 1. Ninety-eight per cent (98%) of members of the panel of experts completely agreed that their resident profile and resident care needs had increased in volume and complexity and, over time, these needs continue to increase. There is complete agreement across the diversity of RSMs, jurisdictions/States and Territories, and diversity of size of facilities. There is complete agreement that a focus on Residential Aged Care is a real-world issue of significance.

Consensus was set at 80% of members whose responses fell within the two categories of *agree* and *completely agree* on the Likert scale. This level of consensus was reached for all descriptive statements supporting the view that there are minimal, if any, opposing views in relation to the assessment and addressing of the needs of different residents living in aged care facilities. There are also minimal, if any, opposing views on why there is a need for a staffing methodology, and on the structural features of what needs to be included in this staffing methodology to support quality of care outcomes in Residential Aged Care. As the tables demonstrate, the majority of responses were higher than 80%. The written comments identified that any methodology needed to include adequate time to allow a resident to make their own decisions so that staff took direction from what residents themselves wanted to do.

It is acknowledged that more than one round of a Delphi survey is usually required for consensus-building through increasing the percentage of consensus among the members of a panel of experts (Green et al., 1999; Hasson et al., 2000; Keeney et al., 2001; Marshall et al., 2007). The conduct of focus groups prior to the Delphi survey, and the extensive review of the literature informing this study could be constituted as Round 1 of the Delphi survey. Generally, Round 1 of a Delphi survey asks open-ended questions from which to solicit specific information from members of the panel of experts to inform the development of the structured questions. As with this Delphi survey, it is both acceptable and common practice to use a structured questionnaire for Round 1 (Hsu & Sandford 2007). Three rounds of participation were planned and ethics approval was granted for this number of rounds, identifying that 'extended' consent would be sought. Extended consent was approved as it was anticipated that consensus might not be achieved to specific descriptive

statements around direct and indirect nursing and personal care.

To achieve consensus on all descriptive statements among a diverse group of resident site managers (RSM) across the diversity of States, Territories, and regional locations in Australia provides the ANMF with agreement on the building blocks of a staffing methodology:

Assessment and reassessment of each resident **+**

Direct nursing and personal care time ***per*** intervention ***per*** resident **x**

Frequency ***per*** shift **+**

Indirect nursing and personal care time ***per*** intervention ***per*** resident **x**

Frequency ***per*** shift **=**

Total resident nursing and personal care time ***per*** day

CHAPTER 7
Staffing and the Need for Action

7.1 The Evidence

The goal of this study was to test the need for a staff:resident staffing and skills mix standard/ methodology for Residential Aged Care. The methodology was developed in a previous study, but is reported in this study as the basis for the evaluation. The evaluative data were collected through three major research activities as outlined in Chapter 2. These included:

1. Seven national focus groups of nurses working in Residential Aged Care to seek feedback on the appropriateness of the nursing and personal care interventions assigned and associated timings that formed part of the methodology;
2. The administration of a MISSCARE survey modified for the Residential Aged Care sector to determine the tasks that are routinely missed, by who, and the reasons why they are missed; and
3. A Delphi survey which sought consensus from experts in Residential Aged Care about the staffing and skills mix issues impacting on Residential Aged Care outcomes and agreement about the principles underpinning the development of the methodology.

The key findings of the study:

1. Staffing levels in Residential Aged Care are currently not sufficient to ensure safe, quality aged care;
2. Current skills mix does not address the increasing complexity and acuity of residents in Residential Aged Care and leads to missed care;
3. An evidenced-based staffing methodology is needed; and that
4. The principles underpinning the methodology tested in this study are appropriate for Residential Aged Care.

The discussion that follows outlines the specific findings in relation to each statement.

Safe staffing levels in Residential Aged Care are not sufficient to ensure safe, quality aged care

Development of resident complexity profiles based on the methodology, results from the focus groups and MISSCARE survey

Validated evidenced-based resident complexity profiles, staffing and skills mix requirements over a 24 hour period were developed on the basis of assessed nursing and personal care needs, building on Stage One of the study. These are reported in Chapter 3. Six typical residential care profiles showed that the time taken to complete all nursing and personal care interventions ranged from 2.5 to 5.0 hours per day with focus group participants suggesting that an additional 30 minutes be added to all profiles. This is significantly more than is currently being provided. Drawing upon data from the Bentley survey of Residential Aged Care, Allard (2016) noted that in 2015, residents received 39.8 hours of direct care/ fortnight in Australian Residential Aged Care facilities which averaged up to 2.86 hours/resident per day, raising concerns about safe staffing levels.

7.2 MISSCARE survey

The second component of the evaluation was the MISSCARE survey which sought to identify what care was being missed and why it was missed. The survey builds upon work undertaken in determining timings for care through demonstrating that current staffing does not allow time for all tasks to be completed. A central finding from the survey was that all aspects of care were reported as missed at least part of the time. Care was divided into the three domains underpinning the ACFI funding tool. Tasks related to the management of behaviour and provision of social support were most commonly missed. This finding is consistent with findings from surveys conducted in Switzerland and Canada (Zuniga et al. 2015; Knopp-Shiota et al, 2015), and may be associated with the prioritisation of measurable or medically-ordered tasks (Schubert et al. 2013; Blackman et al, 2015a). Similar results were obtained by Henderson et al, (2016b) in a qualitative study of rural aged care in South Australia. This study found that opportunities for social care decreased as staffing numbers fell. With regard to support for activities of daily living, the tasks most frequently missed involved responding to resident requests (toileting within 5 minutes of request and answering call bells within 5 minutes). Both suggest a lack of staff to undertake these essential, but additional tasks. In the final domain of complex health care, some tasks are missed infrequently (suctioning tracheostomies,

maintaining IV or subcutaneous sites, and checking blood glucose levels). Other complex health care tasks, particularly those related to assessment, medication management, and documentation, are missed more frequently. This suggests that RNs are also prioritising tasks to fit the time available to them.

Staffing levels were the most commonly identified reason for missed care in this survey. Both subjective and objective measures of staffing were undertaken in this survey. Participants were asked to estimate how often staffing levels were adequate to need. Only 8.2% of staff indicated that staffing needs were always adequate. Respondents were also asked how many residents they were responsible for on their last shift. Across all staff, the mean was 1 staff to 38.05 residents, while RNs managed 59.25 residents on their last shift. This number was highest across all professional groups in private-not-for-profit facilities, and significantly lower in government-owned facilities. Table 6.1 shows hours/resident/day for different roles across mode of ownership calculated on the basis of time for each resident/hour using mean resident numbers calculated over a 24 hour day. Means were calculated on the basis of maximum residents managed on the last shift, and may not reflect the number of residents managed across the whole shift, which may result in an underestimation of care worker time. However, the table demonstrates considerable variation in time available for resident care on the basis of facility ownership and raising concern about safe staffing levels given the incidents of missed care.

Table 6.1: Hours/resident /day based upon mean resident numbers by role and ownership of facility

Ownership	Mean Resident No.	Hours/resident/day
Government		
RN/NP	32.62	44 mins
EN	18.26	1 hr, 19 mins
PCW	20.30	1 hr, 11 mins
Total		**3 hrs, 14 mins**
Private-for-profit		
RN/NP	61.94	23 mins
EN	36.01	40 mins
PCW	23.69	1 hr, 1 min
Total		**2 hrs, 4 mins**
Private not-for-profit		
RN/NP	66.38	22 mins
EN	36.04	40 mins
PCW	25.07	57 mins
Total		**1 hr, 59 mins**

Across all staff, the mean number of residents managed per shift was 38.05 while RNs managed 59.25 residents on their last shift

The number of residents managed on the last shift had a direct impact on missed care through failure to perform care which promotes and maintains the residents' health. For Schubert et al. (2008: 228) "lack of nursing resources such as staffing, skills mix or time" is associated with "implicit rationing" in which nurses withhold, or do not provide, all required nursing care due to insufficient resources. For Papastavrou et al. (2014), implicit rationing is associated with priority setting with nurses deciding

which care to give to optimise patient outcomes. This appears to be occurring in Residential Aged Care with tasks that are more immediately essential to health missed less frequently. Findings from the MISSCARE survey are presented in Chapter 4.

Current skills mix does not address the increasing complexity and acuity of residents in Residential Aged Care

Increasing acuity has occurred alongside changes in skills mix that have resulted in fewer RNs and a higher proportion of PCWs. Brennan et al. (2012) argue that changes in skills mix in Residential Aged Care should be understood in the context of cost savings made on the basis of employment of less qualified staff. Respondents to all three phases of this study identified later admission of residents, with those residents having more complex co-morbidities upon admission. In the 2013-14 financial year, for example, 19.93% of all residents in high care were classified at high levels of dependence across all three domains (Department of Social Services 2015). After the introduction of reforms to aged care in 2014, this figure rose to 27% by June 2015.

The number of RNs had decreased between 2007 and 2012 raising questions about adequate staffing skills mix. The Residential and Aged desktop modelling calculation tested in this study resulted in a skills mix requirement of RN 30%, EN 20% and Personal Care Worker 50% based on the twenty-four nursing and personal assessment and care requirements. These findings are reported in Chapter 3.

Table 6.2 outlines the hours of care provided by RNs, ENs, and PCWs calculated as being needed to deliver care to resident profiles using the staffing methodology. The allocated times do not include recommendations from the focus groups for an additional 30 minutes per resident profile or from the results of the MISSCARE survey.

Table 6.2: Nursing and personal care hours/ resident/ day pre-focus groups and MISSCARE survey

			Skills mix		
Resident Profile	RCHPD	Total Residential and Personal Care Minutes Per Day	RN (Min)	EN (Min)	PCW/AIN (Min)
1	2.5	150	45	30	75
2	3.0	180	54	36	90
3	3.5	210	63	42	105
4	4.0	240	72	48	120
5	4.5	270	81	54	135
6	5.0	300	90	60	150

The 2.86 hrs/day of resident care identified by the Bentley aged care survey is less than the 5 hours

calculated as being required for high acuity residents using the staffing methodology (Table 6.2), and is less than the amount identified in comparable studies. For example, Zhang et al. (2006), in a literature review of minimum staffing levels for Residential Aged Care, identified recommendations ranging from 4.55 to 4.85 hours/resident/day which is almost double the current Australian estimates. Furthermore, the time provided for care by RNs is less than that calculated on the basis of care interventions (data from the survey suggests that RNs who are spending time completing essential complex care activities where there is legal compliance or non-completion may jeopardise health at the expense of other care activities e.g., monitoring intravenous lines rather than assessing the impact of medications and/or documentation).

Improved RN staffing ratios have been associated with decreases in pressure ulcers, infections including UTIs, complaints of pain, rates of hospitalisation (Backhaus 2014), lower restraint use, decreased mortality rates, fewer deficiency citations (Dellafield et al., 2015), decreased deterioration in ADLs, and use of nutritional supplements (Horn 2005).

In this study, the focus group participants associated inadequate skills mix with poor reporting and delayed management of emerging issues, along with poor understanding of the health impacts of some tasks e.g., rushing residents, or not identifying all that is required in attending to a resident. Likewise, 80% consensus was achieved for a statement from the Delphi survey which addressed changes in acuity and complex health care needs, focusing on the role of the RN in assessing and reassessing care needs. The findings from the Delphi survey are reported in Chapter 5.

The findings from the MISSCARE survey also provide support for the importance of skills mix. Skills mix was identified as being the third most frequently reported important reason for missed care in Residential Aged Care, with RNs reporting more missed care related to both complex health care needs and ADLs than ENs and PCWs. This is unlikely to reflect poorer performance of these tasks as the performance of ADLs is not usually undertaken by RNs and may reflect greater awareness of, or sensitivity to, care which is not completed. The most commonly missed tasks were meeting residents' toileting needs, ensuring resident safety, providing resident mouth care, and the assessment of residents' mood (or affect).

Health Impacts of Inappropriate Skills Mix on Missed Care

The importance of ADLs and basic nursing care for resident health cannot be over-estimated. This is widely accepted in acute care settings and has resulted in management strategies to ensure that basic care is completed, such as rounding (Willis et al., 2015b). For example, the need to prompt a resident to use the toilet (a carer function) is done for resident comfort, but also to reduce the risk of more significant problems, such as a urinary tract infection, response to diuretic medication, or prostatic enlargement or/and an acute bowel obstruction. Understanding these risks is outside of the knowledge and skill level of PCWs to assess and/or evaluate; they can only be expected to respond to residents' more immediate elimination requests. PCWs will not have the knowledge of unusual excretory patterns unless they have been briefed or trained. This deficit in meeting residents' toileting needs suggests that non-nursing staff are unable or unaware to engage in on-going resident assessment or that they have insufficient re-evaluation skills to determine if the residents' unmet needs have reduced in acuity. Similarly, staff may not be aware of the implications of missed mouth care beyond the discomfort experienced by

the resident. PCWs may not be aware of the long-term implications of inadequate mouth hygiene such as increased saliva viscosity and vulnerability to oral infection and ulceration. These issues impact on dental health and the maintenance of dentures which, in turn, potentially affects nutrition (Lewis et al., 2015). Staff need to be alert to these implications and to assess and re-evaluate residents for these factors. If issues such as these are not followed through or reported, deficits in care will have long-term implications.

Missed personal care AND missed ASSESSMENT AND REASSESSMENT BY RNs can lead to increased infections in residents, and other complications leading to the need for more intensive care.

While the missed care tasks identified by PCWs appear to be simple, such as attending to Activities of Daily Living, and well within their scope, the broader implications for health suggest the need to give serious consideration to the skills mix in Residential Aged Care, specifically adequate numbers of RNs to provide required initial and on-going assessment and evaluation of resident care. The role of the RN involves the provision and coordination of care and, more specifically, delegating aspects of care to others according to qualifications, competence, and scope of practice. This includes monitoring the care, who it is delegated to, and the implications for resident health should some tasks be missed. This may often be difficult to do when the resident-to-staff ratio is incompatible with professional expectations.

A staffing methodology and defined methodology is needed in Residential Aged Care to ensure safe staffing levels

The findings on staffing levels and skills mix outlined above support the need for a staffing methodology to determine staffing levels in Residential Aged Care. Further evidence is provided by the findings of the MISSCARE survey. Fixed staffing is the dominant means of staffing Residential Aged Care, with staff requesting additional staff which may or may not be provided when required. Fixed staffing was associated with increased levels of missed care, while facilities using staff:resident ratios to determine staffing experienced significantly less missed care.

The principles underpinning the methodology tested in this study are appropriate for Residential Aged Care

A goal of this study has been to test a specific methodology for determining staffing levels in Residential Aged Care. The methodology which underpinned this research was based on the following components:

Assessment and reassessment of each resident **+** direct nursing and personal care time ***per*** intervention ***per*** resident **x** frequency ***per*** shift **+** indirect nursing and personal care time ***per*** intervention ***per*** resident **x** frequency ***per*** shift **=** total resident nursing and personal care time ***per*** day

Two aspects of data collection explored the feasibility of this methodology developed as part of Stage One of this study: the focus groups and the Delphi survey. A central finding from the focus groups was that the profiles developed on the basis of the methodology consistently underestimated the time needed to provide optimal care for the resident profile by 30 minutes. Often, this time was related to the performance of additional activities to settle or provide emotional support for

residents e.g., providing drinks when toileting at night. Further, the profile of the resident population in each facility was skewed towards residents requiring more complex care. Factors which were viewed as increasing the time allocated largely related to the time taken to complete indirect tasks. Four recurring issues in particular, were identified as increasing nursing and carer time. These were:

1. Skills mix/staffing model
2. Administrative load and communication needs of residents
3. Geographical location and access to resources
4. Special needs groups and related matters (people with dementia, CALD background, palliative care)

Skills mix is addressed above. In addition, focus group participants identified a lack of administrative support, particularly after hours, which led to the use of RN time for answering phones and other administrative tasks as well as spending time communicating with residents' families. Geographical location related to the size of the facilities and the time taken moving between areas to deliver care. Special needs groups relates to the additional time required for communication and providing culturally sensitive care for these residents. The focus group findings are summarised in Chapter 3.

Focus group participants identified the need for, on average, an additional 30 minutes per resident profile for indirect care interventions.

A key finding from the Delphi survey was agreement on the principles underpinning the staffing methodology. The features of a staffing methodology on which consensus was achieved include:

- Factoring staffing needs across the three shifts;
- Inclusion of skills mix through determining the minimum staffing level which can undertake each intervention;
- Timings for interventions;
- Inclusion of direct and indirect tasks;
- Using this data to determine NHPRD; and
- Making recommendations for both staffing levels and skills mix on the basis of RCHPD.

7.3 Conclusion

This study has explored the impact of staff numbers on care in Residential Aged Care arguing that staffing numbers and skills mix lead to poorer care outcomes. Using a staffing methodology built upon the assessed nursing and personal care needs of standard resident profiles along with the time taken to complete the care needed, the study has demonstrated that current staff hours/resident/day are not adequate to meet care needs and that the current skills mix is compromising the quality of care given the rising levels of resident acuity. A failure to provide all care is confirmed by the MISSCARE survey which demonstrates that all aspects of care are currently missed at least part of the time with staffing numbers identified as the major causal factor. Recent changes in funding and regulation of Residential Aged Care are likely to exacerbate staffing issues through greater involvement of private-for-profit providers

and reduced funding for complex health care needs despite compelling evidence of increasing resident acuity and complexity. This is occurring alongside reduced employment of nursing staff and increasing use of PCWs to deliver many aspects of care. Results from the Delphi study demonstrate an ongoing need for resident assessment built upon a solid health knowledge base that is not part of care workers' training. The findings for all components of this study strongly support a need for a methodology to ensure adequate staffing in aged care.

The proposed methodology includes time to:

Assess and reassess each resident **+**

Direct nursing and personal care time ***per*** intervention ***per*** resident **x**

Frequency ***per*** shift **+**

Indirect nursing and personal care time ***per*** intervention ***per*** resident **x**

Frequency ***per*** shift **=**

Total resident nursing and personal care time ***per*** day

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ACFI	Aged Care Funding Instrument
ACT	Australian Capital Territory
ADL	Activities of Daily Living
AIHW	Australian Institute of Health and Welfare
AIN	Assistants in Nursing
ANMF	Australian Nursing and Midwifery Federation
AM	Before Noon
CALD	Culturally and Linguistically Diverse
CEO	Chief Executive Officer
DDA	Dangerous Drug Act
DoHA / DOH	Department of Health
DON	Director of Nursing
DVA	Department of Veteran Affairs
EN	Enrolled Nurse
FTE	Full Time Equivalent
Hh:mm:ss	Hours:minutes:seconds
LPN	Licenced Practical Nurse
LVN	Licenced Vocational Nurse
MMSE	Mini-Mental State Examination
MPS	Multi-Purpose Service
NHPRD	Nursing Hours per Resident Day
NSW	New South Wales
NILS	National Institute of Labour Studies
NNM	Nursing Non-Management Time
NOF	Neck of Femur
NP	Nurse Practitioner
NT	Northern Territory
PCA	Personal Care Assistants
PCW	Personal Care Worker
PTSD	Post-Traumatic Stress Disorder
PM	After Noon
RACF	Residential Aged Care Facility
RA&RCD	Resident Aged and Restorative Care Database
RCHPD	Resident Care Hours per Day
RCN	Royal College of Nursing
RN	RN
RSM	Residential Site Managers
RTO	Registered Training Organisation
SA	South Australia
TIA	Transient Ischaemic Attack
UTI	Urinary Tract Infection
VET	Vocational Education Sector
WA	Western Australia
WHO	World Health Organization

Glossary

Term	Description
Box Plots	The middle line in the box represents the median (50% of scores are above and below this line), the box itself covers around 50% of the scores (the lower box line is the 25th percentile and the upper box line is the 75th percentile), and the 'whiskers' below and above the box indicate the lowest adjacent value and the upper adjacent value. Circles represent outliers in the distribution.
Carers/care workers	Unlicensed and unregulated workers providing personal care under direction and indirect supervision of an RN. Includes Assistants in Nursing, PCWs, and Personal Care Assistants. Throughout the report, the term used is PCWs.
Direct Nursing and Personal Care	The provision of nursing care to a resident which involves all aspects of the health care of a resident, including assessments, re-assessments, activities of daily living, treatments, counselling, self-care, education, complex care, management and administration of medication, and documentation; personal care is the provision of activities of daily living and management, including personal hygiene, grooming, dressing, assistance with mobility, meals, and fluids.
Domains of care	The three domains of care used in the ACFI to categorise care e.g.: ADLs, behavioural and complex health care needs were used to classify tasks for the MISSCARE survey.
Enrolled/Division 2 nurses	Enrolled nurses, also known as Division 2 Nurses in Victoria, are persons registered under the *Health Practitioner Regulation National Law* — (a) to practise in the nursing and midwifery profession as a nurse (other than as a student); and (b) in the enrolled nurses division of that profession.
Environmental Care	Activities that nurses and carers undertake to ensure a safe environment, such as staff allocation, shift-to-shift handovers, occupational health and safety activities, and checking of emergency equipment.
Government facilities	Facilities owned and operated by State and Territory governments, including multi-purpose services which provide a range of services often including aged care in rural regions using a combination of State and Federal funding.
Indirect Nursing and Personal Care	The care that nurses and personal carers undertake that is not directly related to the resident, but has a relationship to the care provided to the resident, such as GP consultations, case conferencing, and restocking.
Private-for-profit facilities	Facilities operated by private, profit-seeking businesses.
Private-not-for-profit facilities	Privately-owned facilities which are created for a purpose other than profit.
RN	A RN, or division 1 nurse in Victoria, is a person registered under the *Health Practitioner Regulation National Law* — (a) to practise in the nursing and midwifery profession as a nurse (other than as a student); and (b) in the RNs division of that profession.
Residents	The recipients of care in Australian Residential Aged Care Facilities.
Resident Care Needs	Assessed care needs as described in the ACFI data, ACFI assessments, and other facility assessments.

Term	Description
Resident Environmental Care	Activities that nurses and carers undertake to ensure a safe environment, such as staff allocation, shift-to-shift handovers, occupational health and safety activities, and checking of emergency equipment.
Resident Profiles	Profiles developed on the basis of common presentations of older people in Residential Aged Care which have an associated time for care delivery based on the methodology underpinning this research.
Skill mix	Mix of range and types and levels of staff providing nursing and personal care.
Staffing Inputs	Determined by staff rosters and role descriptions. Staffing inputs consist of: • the staff skills required to provide nursing and personal care; • types of professional staff required to provide nursing and personal care; and • the staff numbers required to provide nursing and personal care.
Staffing methodology	Formula used to determine hours of care required to ensure basic care needs are met.
Work Periods (used for analysis)	Day shift (approx. 7am-3pm) Late shift (approx. 3pm-11pm) Night duty (approx. 11pm-7am)

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APPENDIX A - FOCUS GROUP QUESTIONS

Questions asked in relation to each typical resident profile and associated nursing care/interventions using Implementation Fidelity Framework

Do you have residents who match this profile? If yes, would you say it is a typical profile of many residents?

Do the care/interventions carried out in your facility correspond with those in this typical resident profile?

(1) adherance to intervention protocols,

In general, are you able to provide all care/interventions (at the right time) for this type of resident in your current staffing/skill mix?

(2) dose/intensity, or amount of intervention delivered, and

How much time would you generally spend over each shift providing care to this type of resident?

(morning, afternoon, night shifts)

Describe the usual staffing/skill mix on each shift in your organisation

Which aspects of care are carried out by ENs, Careworkers, RNs: (describe)

If the care/interventions carried out in your facility do not correspond with this resident profile, describe the care/interventions that would typically be provided to residents with this profile in your organisation

(3) program differentiation, or the presence of critical distinguishing features of the intervention.

If you are not able to provide all care/interventions (at the right time) for this type of resident, what care would you prioritise to ensure that it is provided? Why? How do you decide which care to prioritise? Do you discuss this issue with other staff? (Explore)

Summative Checking Question after going through all typical profiles

Thinking about these profiles that we have just discussed, do you have any residents whose care needs are different from these profiles? If yes, describe the resident profile, and associated care needs/interventions. Then work through above series of questions (1,2,3)

Thinking about your current staffing profile, are there care requirements that you are unable to meet for any types of residents in your facility? Describe these resident types and associated care requirements.

What staffing/ skill mix would you need to meet all care requirements on every shift?

Service Delivery Model

Care delivery can be approached from a number of different perspectives or models. For example, this can be rehabilitative, restorative, curative, palliative, management and consumer directed. How do you understand (any of) these terms?

Thinking about work place and/or role, what model of service delivery is used in your workplace? Are some, all or different approaches used? Can you please provide an example(s) of the approach that is mainly used in your workplace/role?

How do you understand the approach used in your organisation? Do you consider that the service delivery model used in your organisation promotes healthy ageing? Does the approach/model facilitate a consumer directed care approach? Give an example of how it does this?

Thinking about the approach/model used in your organisation, what nursing skill mix (RN/EN/PCW) is required for care delivery using this model to be effective?

Are there issues/problems with the service/care delivery model used? If there are issues/problems with using this approach describe these issues/problems and how they have come about?

What in your opinion is not being addressed? What in your opinion needs to be addressed for the approach to work successfully?

What are the implications for the facility/you of delivering/not delivering care using/not using a particular service delivery approach? What are implications for residents of no specific service delivery model being used? What are the implications for residents if care is not consumer directed? What strategies are available to you to question the model of service being used in your workplace?

APPENDIX A - PLANNER

Stage	Notes
Part 1 Presentation of Resident profiles Jenny Hurley	Copy of individual profiles given out to participants to refer to during the focus group discussions **Need to be collected at the end - cannot leave the room**
Part 2 Terri go through each of the 3 resident profiles asking these questions in relation to each profile Luisa add probes as relevant	State Name of Profile **1. Do you have residents who match this profile?** **If yes, would you say it is a typical profile of many residents?** **If no – elaborate**? 2. Do the care/interventions carried out in your facility for this type of resident correspond with those in this profile? If yes explore If no why not? **3. What is different/additional/less – explore & describe what the care interventions** 4. In general, are you able to provide all care/interventions (at the right time) for this type of resident in your current staffing/skill mix? Follow up on response **5. How much time would you generally spend over each shift providing care to this type of resident? (morning, afternoon, night shifts)** 6. Describe the usual staffing/skill mix on each shift in your organisation (morning, afternoon, night shifts **7. If interventions match, indicate the aspects of care are carried out by ENs, Careworkers, RNs – probe responses as necessary** 8. If the care/interventions carried out in your facility do not correspond with this resident profile, describe the care/interventions that would typically be provided to residents with this profile in your organisation **9. If you are not able to provide all care/interventions (at the right time) for this type of resident, what care would you prioritise to ensure that it is provided?** **Why? How do you decide which care to prioritise?** **Do you discuss this issue with other staff? (Explore)**
Part 3 Terri - Summative Checking Questions after going through all profiles	1. **Thinking about the profiles we have just discussed, do you have any residents whose care needs are different from these profiles**? **If yes, describe the resident profile, & associated care needs/interventions**. **Then work through above series of questions** 2. Thinking about the current overall staffing profile per shift in your organisation, are there care requirements that you are unable to meet for any types of residents in your facility? If yes, describe these resident types and associated care requirements. What staffing/ skill mix would you need to meet all care requirements on every shift?

Part 4 Luisa	General introduction explaining that care delivery can be approached from a number of different perspectives or models. For example, this can be rehabilitative, restorative, curative, palliative, management and consumer directed. **1. Are you familiar with any of these terms/approaches/models – How do you understand them?** 2. Are some, all or different approaches used? Can you please provide an example(s) of the approach that is mainly used in your workplace/role? Probe/expand **3. Do you consider that the service delivery model/approach used in your organisation promotes healthy ageing? Yes How : No why not** 4. Does the approach/model facilitate a consumer directed care approach? Yes How : No why not **5. Thinking about the approach/model used in your organisation, what skill mix (RN/EN/PCW) is required on any given shift for care delivery using this approach/ model to be effective?** 6. Are there issues/problems with the service/care delivery model used? Describe the issues How/why they have come about? **7. What in your opinion is not being addressed in terms of resident care within your service delivery approach ? Why Not?** 8. What in your opinion needs to be addressed for the approach to work successfully to achieve desired outcomes for residents? **9. What do you think are the implications for the facility of delivering care using a particular service delivery approach?** 10. What do you think are the implications for the facility of not delivering care using a particular service delivery approach? **11. What are implications for residents of not using a specific service delivery model? What are the implications for residents if care is not consumer directed?** 12. What strategies are available to you to question the model of service being used in your workplace? 13. What evidence based tools do you use in assessment on admission of a resident to the facility – please name? If no tools used, why not 14. How do you justify assessments on ACFI audit? 15. Do you have an RN on every shift very day of the week? Explore
Section 4 Closing Terri & Luisa	Thanks for your participation. Any concluding comments

APPENDIX B - MISSCARE SURVEY

Developing an evidence base for aged care staffing and skill mix

Description of the study:
This survey is part of the project entitled 'Developing an evidence base for aged care staffing and skill mix'. This project will investigate and develop recommendations for optimum staffing levels and skill mix for aged care. This project is supported by the Department of Social Health Sciences and School of Nursing & Midwifery at Flinders University and the School of Nursing & Midwifery at the University of South Australia in conjunction with the Australian Nursing and Midwifery Federation (ANMF).

Purpose of the study:
This project aims to determine appropriate safe staffing levels for aged care. Specifically, it will explore:

-The adequacy of staffing scenarios for particular populations of clients in Residential Aged Care.

-Factors (other than cost or availability) that influence decision making around staffing levels and mix in Residential Aged Care.

-The relative importance/value of resident's care requirements (direct care demand), indirect care requirements and environmental factors (such as design, support staff availability).

-Confirm the validity of the example indicative resident profiles established in step one.

-Establish a profile of care time per acuity type

What will I be asked to do?
You are invited to complete a survey about care which is missed/delayed in Residential Aged Care and the reasons why it is missed. The survey will take no more than 30 minutes.

What benefit will I gain from being involved in this study?
Sharing of your ideas will help us understand staffing needs in Residential Aged Care and to make recommendations upon evidence-based staffing levels..

Will I be identifiable by being involved in this study?
Your answers will be anonymous and will not be identifiable in reports or any published works from this study..

Are there any risks or discomforts if I am involved?
The investigators anticipate few risks from your involvement in this study and you are free to stop answering the survey at any time.

How will I receive feedback?
Outcomes from the project will be summarised in a final report.

This research project has been approved by the Flinders University Social and Behavioural

1. Gender

- ◯ Female
- ◯ Male

2. Age

- ◯ Under 25 years old (<25)
- ◯ 25 to 34 (25-34)
- ◯ 35 to44 (35- 44)
- ◯ 45 to 54 (45-54)
- ◯ 55 to 64 (55 - 64)
- ◯ Over 64 years old (65+)

* 3. From list below, please select one that best shows where you work

- ◯ Multi-purpose Service (MPS)
- ◯ Private not-for-profit organization (eg: religious and charitable organisations)
- ◯ Private for-profit organisation
- ◯ Government-owned organisation
- ◯ Unsure

* 4. Size of your work area: how many beds or residents are at your facility?

- ◯ 1 to 20 beds
- ◯ 21 to 60 beds
- ◯ 61 to 100
- ◯ 101 or more
- ◯ Unsure
- ◯ Other (please specify)

* 5. What type of residential care facility do you work in?

- Residential Aged Care: formerly both high care and low care
- Residential Aged Care: formerly low care only
- Dementia only

Other (please specify)

* 6. Thinking about the last shift you worked, was there a Registered Nurse on duty and on site?

- Yes
- No

7. Thinking about the last shift you worked, what was the maximum number of residents that you looked after?

* 8. From the options below, where is your workplace?

- Metropolitan
- Regional
- Rural
- Remote

* 9. In which State or Territory do you currently work?

- New South Wales
- Victoria
- Queensland
- Western Australia
- South Australia
- Tasmania
- Northern Territory
- Australian Capital Territory

10. Please select your highest qualification?

- ◯ Did not complete Year 12
- ◯ Completed Year 12
- ◯ Certificate III aged care
- ◯ Enrolled Nurse Certificate (Hospital trained)
- ◯ Certificate IV aged care
- ◯ EN Diploma in Nursing
- ◯ Registered General Nurse Certificate
- ◯ RN Diploma in Nursing or equivalent
- ◯ Bachelor Degree in Nursing
- ◯ Bachelor Degree in Midwifery
- ◯ Bachelor Degree/Honours outside of Nursing
- ◯ Graduate Diploma in Nursing/Midwifery
- ◯ Graduate Diploma outside of Nursing/Midwifery
- ◯ Master's degree in Nursing/Midwifery
- ◯ Master's degree outside of Nursing
- ◯ PhD/Professional Doctorate

Other (please specify)

11. Was your original nursing/carer qualification from Australia?

- ◯ Yes
- ◯ No

If no, list country where you were first qualified as a nurse/carer

12. Is English your first/primary language?

- ◯ Yes
- ◯ No
- ◯ If no, list the language(s) you use other than English?

* 13. What are you employed as?

- Registered Nurse
- Enrolled nurse/ Division 2
- Care worker/ Assistant in nursing
- Nurse Practitioner

14. What is your job title?

15. What is your employment status

- Full-time permanent
- Part-time permanent
- Casual
- Agency

Other (please specify)

16. Experience in your role

- 0- 12 months
- 1 - 4 years
- 5 - 9 years
- 10 - 20 years
- Greater than 20 years

- ◯ greater than 8 hours

Other (please specify:eg; shifts times vary according to needs of the residents)

18. How many times in the past 3 months did you work more than your rostered shift length (paid and unpaid)?

- ◯ Less than 5 times
- ◯ 5-10 times
- ◯ 11-15 times
- ◯ 16-20 times
- ◯ Greater than 20 times
- ◯ Never

19. In general, would you say your health is:

- ◯ Excellent
- ◯ Very good
- ◯ Good
- ◯ Fair
- ◯ Poor

20. If your work area becomes busy, can you ask for extra staff to meet that demand?

- ◯ Yes
- ◯ No

If you answered yes, please describe the situation which you can ask for extra staff?

21. If you ask for additional staff are they usually provided?

- Yes
- No
- Other (please specify)

22. Overall, how often do you feel that staffing in your work area is adequate?

- 100% of the time
- 75% of the time
- 50% of the time
- 25% of the time
- 0% of the time

23. How satisfied are you in your current position?

- Very satisfied
- Satisfied
- Dissatisfied
- Very dissatisfied

If dissatisfied, please say why you are dissatisfied.

24. How satisfied are you with the level of teamwork in your workplace?

- Very satisfied
- Satisfied
- Dissatisfied
- Very dissatisfied

If dissatisfied, please say why you are dissatisfied.

25. How satisfied are you with how residents are cared for in your workplace?

- ◯ Very satisfied
- ◯ Satisfied
- ◯ Dissatisfied
- ◯ Very dissatisfied

If you are dissatisfied please say why?

26. Do you plan to leave your current position?

- ◯ Yes
- ◯ No

27. Overall, how satisfied are you with being a nurse/carer as a professional choice?

- ◯ Very satisfied
- ◯ Satisfied
- ◯ Dissatisfied
- ◯ Very dissatisfied

If dissatisfied, please say why.

28. What staffing model/method does your facility use?

- ◯ Staff-to-resident ratio
- ◯ Computerised Resident Classification System eg: icare
- ◯ Hours per Resident Bed/Day
- ◯ Fixed staffing
- ◯ I don't know

SECTION A: MISSED CARE

Nurses/carers often have multiple demands on their time which require them to reset priorities and not complete all the care needed. To the best of your knowledge in the past three (3) months, how frequently are the following elements of care MISSED (not done, omitted, left unfinished) by staff (including you) on the shifts below. The times indicated in this section refer to the standard shift length times in your workplace i.e.: early, late and nights worked Monday to Friday with a separate response for weekends. Thinking about the different residents in your workplace during this time which of the following care was missed. Please mark all that apply. If you do not think this apect of care applies to your role, please use the not applicable (N/A) column

29. Intervening when residents' behavior is inappropriate or unwelcome (e.g. wandering into other person's rooms or interfering while wandering)

	Never missed	Rarely missed	Occasionally missed	Frequently missed	Always missed	N/A
Early or day shift	○	○	○	○	○	○
Late or evening shift	○	○	○	○	○	○
Night shift	○	○	○	○	○	○
Weekend	○	○	○	○	○	○

Comment

30. Intervening when residents say inappropriate or unwelcome things (e.g. verbal refusal of care; disruptive to others, verbal sexually inappropriate advances directed at staff, other residents or visitors)

	Never missed	Rarely missed	Occasionally missed	Frequently missed	Always missed	N/A
Early or day shift	○	○	○	○	○	○
Late or evening shift	○	○	○	○	○	○
Night shift	○	○	○	○	○	○
Weekend	○	○	○	○	○	○

Comment

31. Intervening when resident is physically agitated (e.g. biting, spitting, throwing things, destroying property, kicking, pushing, screaming)

	Never missed	Rarely missed	Occasionally missed	Frequently missed	Always missed	N/A
Early or day shift	○	○	○	○	○	○
Late or evening shift	○	○	○	○	○	○
Night shift	○	○	○	○	○	○
Weekend	○	○	○	○	○	○

Comment

32. Encouraging residents' social engagement

	Never missed	Rarely missed	Occasionally missed	Frequently missed	Always missed	N/A
Early or day shift	○	○	○	○	○	○
Late or evening shift	○	○	○	○	○	○
Night shift	○	○	○	○	○	○
Weekend	○	○	○	○	○	○

Comment

33. Encouraging residents' participation in decision-making about their care

	Never missed	Rarely missed	Occasionally missed	Frequently missed	Always missed	N/A
Early or day shift	○	○	○	○	○	○
Late or evening shift	○	○	○	○	○	○
Night shift	○	○	○	○	○	○
Weekend	○	○	○	○	○	○

Comment

34. Interacting with resident when he/she has problems communicating

	Never missed	Rarely missed	Occasionally missed	Frequently missed	Always missed	N/A
Early or day shift	○	○	○	○	○	○
Late or evening shift	○	○	○	○	○	○
Night shift	○	○	○	○	○	○
Weekend	○	○	○	○	○	○

Comment

35. Assessing and monitoring resident for presence of pain (when they are not able to tell you they are in pain)

	Never missed	Rarely missed	Occasionally missed	Frequently missed	Always missed	N/A
Early or day shift	○	○	○	○	○	○
Late or evening shift	○	○	○	○	○	○
Night shift	○	○	○	○	○	○
Weekend	○	○	○	○	○	○

Comment

36. Making sure residents are safe

	Never missed	Rarely missed	Occasionally missed	Frequently missed	Always missed	N/A
Early or day shift	○	○	○	○	○	○
Late or evening shift	○	○	○	○	○	○
Night shift	○	○	○	○	○	○
Weekend	○	○	○	○	○	○

Comment

37. Identifying the residents' underlying mood or emotional state (when they are unable to tell you how they feel)

	Never missed	Rarely missed	Occasionally missed	Frequently missed	Always missed	N/A
Early or day shift	○	○	○	○	○	○
Late or evening shift	○	○	○	○	○	○
Night shift	○	○	○	○	○	○
Weekend	○	○	○	○	○	○

Comment

38. Maximising residents' dignity (eg: ensuring their privacy)

	Never missed	Rarely missed	Occasionally missed	Frequently missed	Always missed	N/A
Early or day shift	○	○	○	○	○	○
Late or evening shift	○	○	○	○	○	○
Night shift	○	○	○	○	○	○
Weekend	○	○	○	○	○	○

Comment

39. Ensuring residents are not left alone when supervision is required

	Never missed	Rarely missed	Occasionally missed	Frequently missed	Always missed	N/A
Early or day shift	○	○	○	○	○	○
Late or evening shift	○	○	○	○	○	○
Night shift	○	○	○	○	○	○
Weekend	○	○	○	○	○	○

Comment

40. Supporting residents to maintain their interests

	Never missed	Rarely missed	Occasionally missed	Frequently missed	Always missed	N/A
Early or day shift	○	○	○	○	○	○
Late or evening shift	○	○	○	○	○	○
Night shift	○	○	○	○	○	○
Weekend	○	○	○	○	○	○

Comment

41. Providing resident activities to improve their mental and/or physical function

	Never missed	Rarely missed	Occasionally missed	Frequently missed	Always missed	N/A
Early or day shift	○	○	○	○	○	○
Late or evening shift	○	○	○	○	○	○
Night shift	○	○	○	○	○	○
Weekend	○	○	○	○	○	○

Comment

42. Moving residents confined to bed/chair who cannot walk by themselves (eg: pressure area care)

	Never missed	Rarely missed	Occasionally missed	Frequently missed	Always missed	N/A
Early or day shift	○	○	○	○	○	○
Late or evening shift	○	○	○	○	○	○
Night shift	○	○	○	○	○	○
Weekend	○	○	○	○	○	○

Comment

43. Assisting residents with mobility (e.g. one person transfers, supervision of walking)

	Never missed	Rarely missed	Occasionally missed	Frequently missed	Always missed	N/A
Early or day shift	○	○	○	○	○	○
Late or evening shift	○	○	○	○	○	○
Night shift	○	○	○	○	○	○
Weekend	○	○	○	○	○	○

Comment

44. Assisting residents toileting needs within 5 minutes of request

	Never missed	Rarely missed	Occasionally missed	Frequently missed	Always missed	N/A
Early or day shift	○	○	○	○	○	○
Late or evening shift	○	○	○	○	○	○
Night shift	○	○	○	○	○	○
Weekend	○	○	○	○	○	○

Comment

45. Preparing residents for meal times

	Never missed	Rarely missed	Occasionally missed	Frequently missed	Always missed	N/A
Early or day shift	○	○	○	○	○	○
Late or evening shift	○	○	○	○	○	○
Night shift	○	○	○	○	○	○
Weekend	○	○	○	○	○	○

Comment

46. Providing emotional support to resident and/or family and friends.

	Never missed	Rarely missed	Occasionally missed	Frequently missed	Always missed	N/A
Early or day shift	○	○	○	○	○	○
Late or evening shift	○	○	○	○	○	○
Night shift	○	○	○	○	○	○
Weekend	○	○	○	○	○	○

Comment

47. Assisting with residents' general hygiene (dressing / washing / grooming)

	Never missed	Rarely missed	Occasionally missed	Frequently missed	Always missed	N/A
Early or day shift	○	○	○	○	○	○
Late or evening shift	○	○	○	○	○	○
Night shift	○	○	○	○	○	○
Weekend	○	○	○	○	○	○

Comment

48. Providing residents' oral hygiene/ teeth/mouth care

	Never missed	Rarely missed	Occasionally missed	Frequently missed	Always missed	N/A
Early or day shift	○	○	○	○	○	○
Late or evening shift	○	○	○	○	○	○
Night shift	○	○	○	○	○	○
Weekend	○	○	○	○	○	○

Comment

49. Ensuring your own hand hygiene

	Never missed	Rarely missed	Occasionally missed	Frequently missed	Always missed	N/A
Early or day shift	○	○	○	○	○	○
Late or evening shift	○	○	○	○	○	○
Night shift	○	○	○	○	○	○
Weekend	○	○	○	○	○	○

Comment

50. Assessing and monitoring resident for healthy skin

	Never missed	Rarely missed	Occasionally missed	Frequently missed	Always missed	N/A
Early or day shift	○	○	○	○	○	○
Late or evening shift	○	○	○	○	○	○
Night shift	○	○	○	○	○	○
Weekend	○	○	○	○	○	○

Comment

51. Responding to call bell/call alerts initiated within 5 minutes

	Never missed	Rarely missed	Occasionally missed	Frequently missed	Always missed	N/A
Early or day shift	○	○	○	○	○	○
Late or evening shift	○	○	○	○	○	○
Night shift	○	○	○	○	○	○
Weekend	○	○	○	○	○	○

Comment

52. Taking vital signs/observations as ordered/required

	Never missed	Rarely missed	Occasionally missed	Frequently missed	Always missed	N/A
Early or day shift	○	○	○	○	○	○
Late or evening shift	○	○	○	○	○	○
Night shift	○	○	○	○	○	○
Weekend	○	○	○	○	○	○

Comment

53. Assessing and monitoring residents' food/fluid intake (includes people with feeding tubes)

	Never missed	Rarely missed	Occasionally missed	Frequently missed	Always missed	N/A
Early or day shift	○	○	○	○	○	○
Late or evening shift	○	○	○	○	○	○
Night shift	○	○	○	○	○	○
Weekend	○	○	○	○	○	○

Comment

54. Full documentation of all care including assessments and/or tasks

	Never missed	Rarely missed	Occasionally missed	Frequently missed	Always missed	N/A
Early or day shift	○	○	○	○	○	○
Late or evening shift	○	○	○	○	○	○
Night shift	○	○	○	○	○	○
Weekend	○	○	○	○	○	○

Comment

55. Providing wound care (includes chronic wounds such as varicose, pressure ulcers and diabetic foot ulcers)

	Never missed	Rarely missed	Occasionally missed	Frequently missed	Always missed	N/A
Early or day shift	○	○	○	○	○	○
Late or evening shift	○	○	○	○	○	○
Night shift	○	○	○	○	○	○
Weekend	○	○	○	○	○	○

Comment

56. Providing stoma care (includes temporary stomas)

	Never missed	Rarely missed	Occasionally missed	Fequently missed	Always missed	N/A
Early or day shift	○	○	○	○	○	○
Late or evening shift	○	○	○	○	○	○
Night shift	○	○	○	○	○	○
Weekend	○	○	○	○	○	○

Comment

57. Maintaining nasogastric (NG) / Percutaneous Endoscopic Gastrostomy (PEG) tube care as ordered

	Never missed	Rarely missed	Occasionally missed	Frequently missed	Always missed	N/A
Early or day shift	○	○	○	○	○	○
Late or evening shift	○	○	○	○	○	○
Night shift	○	○	○	○	○	○
Weekend	○	○	○	○	○	○

Comment

58. Providing catheter care (Urinary)

	Never missed	Rarely missed	Occasionally missed	Frequently missed	Always missed	N/A
Early or day shift	○	○	○	○	○	○
Late or evening shift	○	○	○	○	○	○
Night shift	○	○	○	○	○	○
Weekend	○	○	○	○	○	○

Comment

59. Suctioning airways/tracheostomy care

	Never missed	Rarely missed	Occasionally missed	Frequently missed	Always missed	N/A
Early or day shift	○	○	○	○	○	○
Late or evening shift	○	○	○	○	○	○
Night shift	○	○	○	○	○	○
Weekend	○	○	○	○	○	○

Comment

60. Measuring and monitoring residents' blood glucose levels.

	Never missed	Rarely missed	Occasionally missed	Frequently missed	Always missed	N/A
Early or day shift	○	○	○	○	○	○
Late or evening shift	○	○	○	○	○	○
Night shift	○	○	○	○	○	○
Weekend	○	○	○	○	○	○

Comment

61. Reassessing the resident to see if their daily care/requirements needs to be changed

	Never missed	Rarely missed	Occasionally missed	Frequently missed	Always missed	N/A
Early or day shift	○	○	○	○	○	○
Late or evening shift	○	○	○	○	○	○
Night shift	○	○	○	○	○	○
Weekend	○	○	○	○	○	○

Comment

62. Maintaining IV/sub-cutaneous sites and devices care according to residential facility policy

	Never missed	Rarely missed	Occasionally missed	Frequently missed	Always missed	N/A
Early or day shift	○	○	○	○	○	○
Late or evening shift	○	○	○	○	○	○
Night shift	○	○	○	○	○	○
Weekend	○	○	○	○	○	○

Comment

63. Ensuring PRN medication requests are acted on within 15 minutes

	Never missed	Rarely missed	Occasionally missed	Frequently missed	Always missed	N/A
Early or day shift	○	○	○	○	○	○
Late or evening shift	○	○	○	○	○	○
Night shift	○	○	○	○	○	○
Weekend	○	○	○	○	○	○

Comment

64. Giving medications within 30 minutes before or after scheduled time.

	Never missed	Rarely missed	Occasionally missed	Frequently missed	Always missed	N/A
Early or day shift	○	○	○	○	○	○
Late or evening shift	○	○	○	○	○	○
Night shift	○	○	○	○	○	○
Weekend	○	○	○	○	○	○

Comment

65. Evaluating resident's response to medications

	Never missed	Rarely missed	Occasionally missed	Frequently missed	Always missed	N/A
Early or day shift	○	○	○	○	○	○
Late or evening shift	○	○	○	○	○	○
Night shift	○	○	○	○	○	○
Weekend	○	○	○	○	○	○

Comment

66. Providing end-of-life care in line with residents' documented wishes

	Never missed	Rarely missed	Occasionally missed	Frequently missed	Always missed	N/A
Early or day shift	○	○	○	○	○	○
Late or evening shift	○	○	○	○	○	○
Night shift	○	○	○	○	○	○
Weekend	○	○	○	○	○	○

Comment

SECTION B: REASONS FOR MISSED NURSING CARE

67. Indicate from your perspective/view which of the following reasons contribute to MISSED care in your work place. Please mark one box for each item.

	Not a reason	Minor reason	Moderate reason	Significant reason	N/A
a.Not enough nursing/carer staff	○	○	○	○	○
b. Inadequate skill mix for your area (eg: RN/EN/carer ratio)	○	○	○	○	○
c. Resident's condition getting worse/deteriorating	○	○	○	○	○
d. Not enough clerical or administrative help (e.g. reception staff to answer telephone)	○	○	○	○	○
e. Unbalanced resident allocation/assignment	○	○	○	○	○
f. Medications NOT available when needed	○	○	○	○	○
g. Inadequate handover between shifts	○	○	○	○	○
h. Services unavailable at my facility (e.g. podiatrist, hairdresser, lifestyle skills staff)	○	○	○	○	○
i. Other staff did not provide the care needed (e.g. lifestyle staff not available)	○	○	○	○	○
j. Supplies/equipment NOT available when needed	○	○	○	○	○
k. Lack of support from team members.	○	○	○	○	○
l. Tension or communication breakdowns with SUPPORT STAFF (e.g. catering staff)	○	○	○	○	○

	Not a reason	Minor reason	Moderate reason	Significant reason	N/A
m. Tension or communication breakdowns within the NURSING TEAM	○	○	○	○	○
n. Tension or communication breakdowns with the GENERAL PRACTITIONER	○	○	○	○	○
o. Tension or communication breakdowns with the ALLIED HEALTHCARE PROFESSIONAL(eg: O.T or Physiotherapist)	○	○	○	○	○
p. Tension or communication breakdowns with residents' family or significant other	○	○	○	○	○
q. Nurse/Carer did not communicate that care was missed	○	○	○	○	○
r. Staff member assigned to the resident not available	○	○	○	○	○
s. Not able to find a RN in a timely manner OR RN is not available	○	○	○	○	○
t. Large work place needing increased staff time to move between areas to provide resident care	○	○	○	○	○
u. Not able to access PPE (Personal Protective Equipment such gloves/gowns/masks)	○	○	○	○	○
v. Mobility aids unavailable	○	○	○	○	○
w. Equipment to prevent pressure injury unavailable	○	○	○	○	○
x. Eating aids unavailable eg: non-slip place mats	○	○	○	○	○

	Not a reason	Minor reason	Moderate reason	Significant reason	N/A
y. Too many residents with complex needs	○	○	○	○	○
z. Residents receiving end-of-life care care	○	○	○	○	○
Z2. Unrealistic resident expectations	○	○	○	○	○

68. is there anything else you would like to tell us about missed care at your work?

THANK YOU

We appreciate your time. If you would like more information about the study you are welcome to contact

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APPENDIX C - DELPHI SURVEY

Delphi Survey Round 1

Thank you for your support to this research project.

As explained to you in the Information Sheet, this Delphi Survey is Phase 2 of a larger mixed methods study. This study is part of the project entitled 'Developing an evidence base for aged care staffing and skill mix'. This project will investigate and develop recommendations for optimum staffing levels and skill mix for aged care and is being conducted by a collaboration between the University of South Australia and Flinders University.

The invitation to participate has been sent to you because of your role as residential site manager for a residential aged care facility. Your participation (and email address) or that of your nominee will be kept confidential and anonymity of responses is guaranteed.

Your expert opinion is sought on the need for, and structure of, a staffing methodology to assess and address the assessed needs of different residents living in residential aged care in Australia in order to provide quality outcomes of care. Staffing methodology in this context is defined as understanding the considerations that must be taken into account to calculate the nursing and personal care hours per day needed for each specific resident and at the same time calculate the staffing and skill mix requirements needed.

A series of descriptive statements follow. For each descriptive statement listed, you are invited to indicate your opinion from five possible choices, namely, completely disagree, disagree, agree, completely agree and unsure. Please select the most appropriate response and mark the box which most closely represents your opinion. Please try to avoid not answering or selecting unsure unless you really are unsure.

At the end of each statement additional space is available for you to write comments and you are encouraged to use this. If you require more space for writing your comments you can write more at the end of the questionnaire. Be sure to indicate clearly what specific descriptive statement you are commenting on.

Before you begin please provide some demographic details about you, the type of residential care facility you manage and please provide an email address so that you can be involved in the subsequent rounds of the Delphi Survey. Please be assured that you will be anonymous and will not be identifiable in reports or any published works from this study.

About You

1. Return email address for your continued participation in the Delphi Survey

2. Age

- Under 25 years old (<25)
- 25 to 34 (25 - 34)
- 35 to 44 (35 - 44)
- 45 to 54 (45 - 54)
- 55 to 64 (55 - 64)
- Over 65 years old (>65)

3. Experience in your role

- 0 - 12 months
- 1 - 4 years
- 5 - 9 years
- 10 - 20 years
- greater than 20 years (>20 years)

4. From the list below, please select one that best shows where you work

- Religious/charitable organisation
- Multi-purpose service (MPS)
- Private not-for-profit organisation
- Private for profit organisation
- Government owned organisation
- Unsure

5. Size of your work area: How many beds or residents are at your facility?

- 1 - 20 beds
- 21 - 60 beds
- 61 - 100 beds
- 101 or more
- Unsure
- Other (please specify)

6. From the options below where is your workplace?

- Metropolitan
- Regional
- Remote

7. In which State or Territory do you work?

- New South Wales
- Victoria
- Queensland
- Western Australia
- South Australia
- Tasmania
- Northern Territory
- Australian Capital Territory

Delphi Survey Round : Descriptive Statements

Let us begin Round 1. There are twenty (20) descriptive statements for you to review and offer your opinion on.

8. Thinking of your resident profile, resident care needs have increased in volume and complexity and over time, continue to increase.

Completely disagree	Disagree	Agree	Completely agree	Unsure
○	○	○	○	○

Other (please specify)

9. Thinking of your resident profile, a person with complex care needs who comes to live in residential aged care is now living a much shorter time given the complexity of their care needs

Completely Disagree	Disagree	Agree	Completely Agree	Unsure
○	○	○	○	○

Other (please specify)

10. Thinking of your resident profile, residents require more frequent and complex assessments to be undertaken by the staff team to ensure the safety and quality outcomes of care of all residents.

Completely Disagree	Disagree	Agree	Completely Agree	Unsure
○	○	○	○	○

Other (please specify)

11. Thinking of your resident profile, residents require more frequent and complex interventions and interactions to be implemented to meet their assessed needs.

Completely Disagree	Disagree	Agree	Completely Agree	Unsure
○	○	○	○	○

Other (please specify)

12. Thinking of your residents' profiles, assessment and reassessment of them is required precisely because of the potential for unplanned events; for example experiencing a significant change or deterioration in their health status.

Completely Disagree	Disagree	Agree	Completely Agree	Unsure
○	○	○	○	○

Other (please specify)

13. Thinking of your residents' profiles, assessment and reassessment of them generally identifies new or additional interventions precisely because of the potential for unplanned events; for example experiencing a significant change or deterioration in their health status.

Completely Disagree	Disagree	Agree	Completely Agree	Unsure
○	○	○	○	○

Other (please specify)

14. Thinking of your residents' profile, assessment and reassessment of them is required precisely because of significant changes or challenging behaviors; for example extreme agitation, being withdrawn or unsettled.

Completely Disagree	Disagree	Agree	Completely Agree	Unsure
○	○	○	○	○

Other (please specify)

15. Thinking of your residents' profile, assessment and reassessment of them generally identifies new or additional interventions precisely because of significant changes or challenging behaviors; for example extreme agitation, being withdrawn or unsettled.

Completely Disagree	Disagree	Agree	Completely Agree	Unsure
○	○	○	○	○

Other (please specify)

16. Direct nursing and personal care includes any intervention (for example, showering a resident) that a Registered Nurse (RN) Enrolled Nurse (EN) Personal Care Worker/Carer and/or Assistant in Nursing (AiN) undertakes that is directly related to assessing or meeting the assessed needs of resident.

Completely Disagree	Disagree	Agree	Completely Agree	Unsure
○	○	○	○	○

Other (please specify)

17. Indirect nursing and personal care includes where a Registered Nurse (RN), Enrolled Nurse (EN), Personal Care Worker/Carer and/or Assistant in Nursing (AiN) is required to liaise with General Practitioners (GP), Allied Health professionals, lifestyle personnel, Pharmacy and Pharmacists, liaise with resident's significant others, Staff Handover, DDA count, Staffing Shift Management.

Completely Disagree	Disagree	Agree	Completely Agree	Unsure
○	○	○	○	○

Other (please specify)

18. A staffing methodology is needed to be built around assessing and meeting the assessed needs of residents for morning (am), afternoon (pm) and night shifts and on an ongoing basis.

Completely Disagree	Disagree	Agree	Completely Agree	Unsure
○	○	○	○	○

Other (please specify)

19. A staffing methodology must include the building block of identifying the lowest level in the skill mix of staff who can perform the activities to meet the assessed needs of different resident profiles.

Completely Disagree	Disagree	Agree	Completely Agree	Unsure
○	○	○	○	○

Other (please specify)

20. A staffing methodology must include the building block of identifying the time and frequency of interventions per shift required to assess and meet the assessed needs of different resident profiles.

Completely Disagree	Disagree	Agree	Completely Agree	Unsure
○	○	○	○	○

Other (please specify)

21. To calculate the total resident nursing and personal care time per day for each resident, a staffing methodology must include the building blocks of identifying direct and indirect nursing care work.

Completely Disagree	Disagree	Agree	Completely Agree	Unsure
○	○	○	○	○

Other (please specify)

Activities of Daily Living

There a two (2) tables in this section for you to consider about Activities of Daily. The first table relates to activities of personal hygiene,mobility and ambulation. The second table relates to activities in relation to nutrition and fluids.

In this section you are being asked to give your opinion about the activity and the level of assistance required by staff to carry out these activities. The following questions asks your opinion about the accuracy of the categories identified.

22. The table below correctly identifies for the major category of 'Activities of Daily Living', the activities and the number of staff required to perform that activity for the different levels of assistance a resident may need.

Completely Disagree	Disagree	Agree	Completely Agree	Unsure
○	○	○	○	○

Other (please specify)

23. A staffing methodology must include the building block of identifying the number of staff required to meet the different levels of assistance a resident may need.

Completely Disagree	Disagree	Agree	Completely Agree	Unsure
○	○	○	○	○

Other (please specify)

24. The table below correctly identifies the different levels of assistance different residents or a resident over time may require to meet their nutritional and fluids needs.

Completely Disagree	Disagree	Agree	Completely Agree	Unsure
○	○	○	○	○

Other (please specify)

Activities of Daily Living_Nutrition and Fluids

25. A staffing methodology must include the building block of identifying the different levels of assistance a resident may need over time.

Completely Disagree	Disagree	Agree	Completely Agree	Unsure
○	○	○	○	○

Other (please specify)

26. Developing a staffing methodology that is evidenced based and which can calculate the resident care hours per day (RCHPD) for the diversity of complex resident profiles living in residential aged care, will assist in meeting expected outcomes of the accreditation standards and *Aged Care Act, 1997*

Completely Disagree	Disagree	Agree	Completely Agree	Unsure
○	○	○	○	○

Other (please specify)

27. The following formulae includes the necessary building blocks to appropriately identify the total resident nursing and personal care time per day required.

(Assessment and reassessment of each resident) + (direct nursing and personal care time per intervention per resident x frequency per shift) + (indirect nursing and personal care time per intervention per resident x frequency per shift) = total resident nursing and personal care time per day.

Completely Disagree	Disagree	Agree	Completely Agree	Unsure
○	○	○	○	○

Other (please specify)

28. Is there anything you would like to tell us? If so, please be sure to specify clearly what descriptive statement you are commenting on.

Also, a reminder that if you have not provided your email address please do so.