

AN EXPLORATION OF SIMILARITIES AND
DIFFERENCES IN REGISTERED AND ENROLLED
NURSE PRE-REGISTRATION EDUCATION AND ROLE
EXPECTATIONS ON GRADUATION

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**A Thesis Submitted in fulfillment of the Requirements for the
Degree of Doctor of Philosophy**

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CANDIDATE’S STATEMENT OF ORIGINALITY

General Declaration

In accordance with Monash University Doctorate Regulation 17.2 Doctor of Philosophy and Research Master’s regulations the following declarations are made:

I hereby declare that this thesis contains no material which has been accepted for the award of any other degree or diploma at any university or equivalent institution and that, to the best of my knowledge and belief, this thesis contains no material previously published or written by another person, except where due reference is made in the text of the thesis.

This thesis includes three original manuscripts published in peer reviewed journals and six unpublished publications. The core theme of the thesis is nursing education in Australia. The ideas, development and writing up of all the manuscripts in the thesis were the principal responsibility of myself, the candidate, working within the School of Nursing and Midwifery under the supervision of Professor Lisa McKenna and Dr Angelo D’Amore.

The inclusion of co-authors reflects the fact that the work came from active collaboration between researchers and acknowledges input into team-based research. In the case of chapters one, two, four, five, six and seven my contribution to the publication work involved the following:

Thesis Chapter	Publication Title	Publication Status	Nature and Extent of Candidate's Contribution
Ch 1.	The changing skill mix in Nursing: considerations for and against different levels of nurse	Published, <i>Journal of Nursing Management</i>	80% - concept development, key ideas, development and writing up
Ch 2.	Scope of Practice for Australian Enrolled Nurses: Evolution and Practice Issues	Published, <i>Contemporary Nurse</i>	70% - concept development, key ideas, development, and writing up
Ch 2.	Australian Registered and Enrolled Nurses: Is there a difference?	Published. <i>International Journal of Nursing Practice</i>	70% - concept development, key ideas, development, and writing up
Ch 4.	Similarities and differences in educational preparation of registered and enrolled nurses in Australia: An examination of curricula content.	Under review <i>Contemporary Nurse</i>	80% - concept development, key ideas, development and writing up
Ch 5.	Comparison of the educational preparation of registered and enrolled nurses in Australia: the educators perspective	In Press <i>Nurse Education in Practice</i>	80% - concept development, key ideas, development and writing up
Ch 5.	Educators' expectations of career pathways for registered and enrolled nurses in Australia	Under review, <i>Nurse Education in Practice</i>	80% - concept development, key ideas, development and writing up
Ch 6.	Graduate role expectations of Australian registered and enrolled nursing students: A mixed method approach	Under review <i>Nurse Education Today</i>	80% - concept development, key ideas, development and writing up
Ch 7.	Senior nurse expectations of the roles, career opportunities and employability of graduate registered and enrolled nurses on commencement to practice	Published, <i>Australian Health Review</i>	80% -concept development, key ideas, development and writing up
Ch 7.	Senior nurse role expectations for graduate registered and enrolled nurses in Australia: content analysis of open-ended survey questions	Under review, <i>Contemporary Nurse</i>	80% -concept development, key ideas, development and writing up

Although the page numbering of included manuscripts is present on the papers, I have renumbered pages for submitted or published manuscripts in order to generate a consistent presentation within the thesis.

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ABSTRACT

Two levels of nurse are employed in Australia to deliver patient care. Registered Nurses (RNs) have been regulated in the state of Victoria since 1923. Enrolled nurses (ENs) were introduced into the nursing workforce in the 1960s in response to economic pressures and shortages of RNs. The last ten years has seen significant changes to the scope of practice (SOP) of both ENs and RNs. Changes to the SOP of ENs, to enable them to utilise a larger skill set and undertake enhanced roles, have led to modifications in their educational preparation, with preregistration education increasing from certificate to diploma level. The increasing number of skills and diversity of roles of ENs have led to overlapping of roles between ENs and RNs, resulting in role confusion and ambiguity between the two levels of nurse. However, little research has been undertaken to understand differences in educational preparation and resulting graduate role expectations of the two levels of nurse.

In this thesis by partial publication, findings are reported from a multi-phase mixed methods research project which aimed to investigate differences and similarities in educational preparation and resulting role expectations of RNs and ENs in Victoria, Australia. The research utilised four separate phases to explore different perspectives: Phase 1: comparison of RN and EN curricula content, educational philosophies, curriculum design, and educational teaching and learning approaches; Phase 2: nursing course coordinator expectations of RN and EN student education and role outcomes; Phase 3: EN and RN nursing students' expectations of their graduate roles; and Phase 4: senior nurse expectations of graduate RN and EN roles on commencement to clinical practice. Analyses of data were undertaken using various techniques including thematic, content, descriptive and statistical analyses.

Similarities were found between certificate, diploma and degree level nursing courses in terms of educational topics, basic patient care skills, and student role expectations. Although

similarities existed, differences in entry criteria, educational focus, teaching and learning approaches, some clinical skills and role expectations on graduation have led to considerable variation in student outcomes between graduates of the three course levels. The three nursing programs were found to prepare graduates for different roles and career expectations. The greater depth of knowledge and critical thinking ability of degree-prepared RN graduates was seen to enable them to care for patients of a higher complexity.

Considerable variation between workplaces exists in practice expectations of ENs. Although no specific role was identified only for the graduate EN, the role of caring for complex, acute or deteriorating patients was specific for RNs. Graduates from both EN and RN programs expected to undertake skills in clinical practice which senior RNs felt were outside their abilities. Confusion and ambiguity in role expectations of ENs remains an issue for nurses in Victoria.

Previous to this study, no research had focused on understanding differences in educational preparation of the different levels of nurse registered to practice in Australia. This research has addressed this gap, identifying considerable differences in educational preparation and role expectations between EN and RN graduate nurses. This research helps to inform educators, clinicians and students regarding differences and similarities in the educational preparation of ENs and RNs and how they are prepared for different levels of practice. This may influence how skill mix is determined in clinical practice, particularly in acute areas, and how allocation of patient care is undertaken to ensure optimal patient care and safety. It is concluded that RNs must be available in all clinical areas in high enough numbers to enable supervision of ENs and ensure deterioration of patient conditions is detected and managed.

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DEFINITIONS

Educational provider – An educational organisation accredited by the Australian Nursing and Midwifery Accreditation Council to educate nurses at either certificate, diploma, degree or post-graduate level.

Enrolled nurse – A second level nurse registered by the Australian Health Professional Registration Agency, authorised to undertake patient care under the supervision of a registered nurse.

Registered nurse – A first level nurse registered by the Australian Health Professionals Registration Agency to practise. Registered nurses have responsibility for care of patients and the supervision of other staff allocated to patient care.

Scope of practice – Refers to the activities that an individual healthcare practitioner is permitted to undertake for which they are educated, competent and authorised to perform. Scope of practice is influenced by the context in which nurses practise, clients' health needs, level of competence, education and the needs of service providers

Skill mix – Nursing skill mix constitutes proportions of different levels of nurse, including level of qualifications, expertise and experience, available for patient care during a nursing shift.

LIST OF ABBREVIATIONS

Admin – Administration

ANMAC – Australian Nursing and Midwifery Accreditation Council

AQF – Australian Qualifications Framework

CEO – Chief Executive Officer

Cert – Certificate

Dip – Diploma

EN – Enrolled Nurse

Ha – The alternate hypothesis

Ho – The null hypothesis

HOS – Head of School

IT – Information technology

IV – Intravenous

LPN – Licensed Practical Nurse

MUHREC – Monash University Human Research Ethics Committee

NCLEX – National Council Licensure Examination

NUM – Nurse Unit Manager

RN – Registered Nurse

RTO – Registered Training Organisation

SOP – Scope of practice

TAFE – Technical and Further Education

UHW – Unregulated healthcare worker

VCE – Victorian Certificate of Education

VET – Vocational education and training

Declaration for Thesis Chapter One

Declaration by candidate

In the case of Chapter One, the nature and extent of my contribution to the work "The changing skill mix in nursing: Considerations for and against different levels of nurse" was the following:

Nature of contribution	Extent of contribution (%)
I was the main contributor for concept development, key ideas, development and writing up	80%

The following co-authors contributed to the work:


Name	Nature of contribution	Extent of contribution (%) for student co-authors only
Lisa McKenna	Contributed to concept development, key ideas, development and writing up	10%
Angelo D'Amore	Contributed to concept development, key ideas, development and writing up	10%

The undersigned hereby certify that the above declaration correctly reflects the nature and extent of the candidate's and co-authors' contributions to this work*.

Candidate's
Signature

	Date 8/02/2014
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Main
Supervisor's
Signature

	Date 8/02/2014
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Chapter One: Introduction

1.0 Introduction

Chapter One provides an introduction to the researcher and the research study. The purpose of this chapter is to develop the reader's interest in the topic by setting the background and explaining the importance of the study. This is achieved by providing an insight into the author's personal experience that provided the impetus for the study. This is followed by an overview of the issues and factors related to registered and enrolled nurses (RNs and ENs respectively) roles and scope of practice (SOP) in Australia along with an examination of the literature related to skill mix in nursing. The aim for the study, objectives and significance are discussed, followed by an outline of the research methodology and thesis chapters to be presented.

1.1 Impetus for the study

My interest in understanding the differences between the two levels of nurses employed in Australia originated whilst working as a Nurse Unit Manager (NUM) on a rural acute medical ward. It was a busy ward which catered for a wide range of acute cases from attempted suicide to acute myocardial infarction. RNs made up the majority of the staff, and graduate RNs and ENs made up to 25% of the skill mix on any shift. This was unusual at the time as metropolitan hospital acute wards were all staffed exclusively by RNs, as it was felt they provided better quality care. ENs employed on the ward were allocated a full patient load for each shift. Medications for the patients allocated to ENs were administered by one of the RNs who picked up the extra workload on top of their own patient load. ENs were often used to fill vacancies of RNs and often two of the five staff required on a shift were ENs. Senior RNs

complained of the stress associated with supervising the high numbers of 'junior' staff responsible for highly acute patients. Following several near miss incidents in which patient deterioration was not picked up by ENs, several of the experienced post-graduate educated staff left the ward due to stress.

Shortly after this, I changed employment and began working as an educator at both the local TAFE and university, teaching both pre-registration ENs and RNs. The diploma nursing program was just being implemented into the local TAFE. I was surprised at the similarities in course content and depth of knowledge between the RN program and EN diploma program. Teaching both cohorts of students the same content and to a similar level, challenged my ideas on what the difference in the SOP was between the different levels of nurse. The diploma program introduced many skills that previously were the domain of RNs only. This began my search to better understand the differences in educational preparation of the two levels of nurse and what roles they were expected to undertake on graduation.

1.2 Background to nursing roles and scope of practice in Australia

There are two levels of nurses registered to practise in Australia, the degree educated RN and the certificate or diploma educated EN (Nursing and Midwifery Board of Australia, 2010). It has been argued that differences exist between the roles of the two levels of nurse in Australia based on educational preparation, skills, knowledge and supervision requirements (Francis & Humphreys, 1999; Kenny & Duckett, 2005). Where RNs practise as independent practitioners, undertaking leadership and delegation roles, ENs practise under the regulated supervision of an RN. Both levels of nurse retain accountability and responsibility for their individual actions and nursing care (ANMC 2002; ANMC 2006; Kenny & Duckett, 2005). ENs were originally introduced into the nursing workforce to work as assistants to RNs, although workforce

shortages and economic constraints have resulted in significant changes to their SOP (Bellchambers & McMillan, 2007; Nankervis, et al., 2008). The introduction of enhanced SOP for nurses, both ENs and RNs, has provided opportunities for ENs to undertake further education to enable them to expand their roles, undertaking work that was previously considered only suitable for RNs. This has narrowed role differences between the two levels of nurse in Australia resulting in role overlap and confusion (Chaboyer, et al., 2008; Deering, 2007). Recent changes to the educational preparation and expected roles of ENs have led to discourse within the discipline over what differences remain in skills and roles between ENs and RNs.

1.3 Role confusion and overlap

SOP has been defined by Klein (2007, para. 1) “as the activities that an individual healthcare practitioner is permitted to perform within a specific profession”. SOP for ENs and RNs, according to the Nursing and Midwifery Board of Australia (2010b), refers to that which they are educated, competent and authorised to perform, and is influenced by the context in which they practice, clients’ health needs, level of competence, education and the service provider’s needs. This definition of SOP has removed previous restrictions on nursing practice due to nursing level, and enabled expansion of nursing roles for both RNs and ENs. Development of similar competency standards for both ENs and RNs by nurse regulators in Australia was aimed at decreasing limitations on SOP but has resulted in confusion between the two roles (Gibson & Heartfield, 2003).

The numbers and roles of ENs have increased significantly since their introduction into the Australian health care system (Australian Institute of Health and Welfare, 1998a, 2009). Changes to SOP, including medication administration, have been driven by staff shortages

and economic constraints (Bellchambers & McMillan, 2007). Although educational preparation has expanded to accommodate these changes, the increase in SOP has invariably led to greater role confusion, overlap and increased work demands on ENs (Conway, 2007). Healthcare organisations have not demonstrated understanding of how change in role of one health care worker invariably affects other associated roles when manipulating skill mix (Nankervis, et al., 2008). Furthermore, issues of quality of care involved in changing skill mixes have not been addressed (Aitken, et al., 2002; Massey, Aitken, & Chaboyer, 2008). The increasing use of unregulated health care workers has compounded confusion over SOP and raised further issues of quality of care versus economic rationalisation (McIntosh & Smith, 2012; Queensland Nurses Union, 2011). Role confusion, increased work demands, organisational readiness for the changes and assessment of quality of care have been recognised in the literature as issues which require consideration when expanding SOP and changing skill mix (Bellchambers, & McMillan, 2007; Blay & Donoghue, 2006; Conway, 2007; Massey, Aitken, & Chaboyer, 2008; Nankervis, et al., 2008).

The following article presents an analysis of issues involved with the manipulation of skill mix, the percentage of RNs available for patient care, and the influence on workforce shortages, quality of care and economic issues in healthcare. The manuscript has been published by the *Journal of Nursing Management*, as follows:

1.4 Article 1: The changing skill mix in nursing: Considerations for and against different levels of nurse

Jacob, E. McKenna, L & D'Amore, A. (2013) The changing skill mix in nursing: Considerations for and against different levels of nurse, *Journal of Nursing Management*. Sep 23, DOI: 10.1111/jonm.12162

The changing skill mix in nursing: considerations for and against different levels of nurse

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The changing skill mix in nursing: considerations for and against different levels of nurse

Aim To investigate the current literature to gain an understanding of skill mix, why it is being manipulated and how it affects patient care and health-care costs. **Background** Due to workforce shortages, economic constraints and increasing patient acuity, employers are looking at methods of providing patient care whilst maintaining costs. Registered nurses make up a large percentage of the health-care budget. The manipulation of skill mix (i.e. the percentage of registered nurses available for patient care) is seen as one method of managing the increasing cost whilst still ensuring patient care.

Evaluation Research literature was used to determine the current use of skill mix and its impact on patient care and health-care costs.

Key issue The use of a higher proportion of registered nurses is associated with better health outcomes, shorter length of stay and reduced patient morbidity.

Conclusion Economic savings from substituting registered nurses with other health professionals may be offset by increased patient length of stay in hospital and increased patient mortality.

Implications for nursing management When evaluating nursing skill mix, a higher percentage of registered nurses may result in health-care facility cost savings by providing a shorter length of stay and decreased patient complications.

Keywords: economic factors, levels of nurse, scope of practise, skill mix, workforce

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Background

Economic constraints, workforce shortages and increasing acuity of patients are common throughout the Western world. Governments and employers have been seeking clarity in the defined roles for health-care workers to ensure the most appropriate and cost effective skill mix whilst maintaining quality of care (Canadian Nurses Association 1993, Ayre *et al.* 2007, Yang *et al.* 2012). Changes in the Australian health care environment have also resulted in the need to re-examine the

roles of all health-care workers. This need is, in part, related to the necessity for the Australian health-care system to meet the demands of financial constraints, increased patient acuity levels and shortage of nursing and other health care professionals (Milson-Hawke & Higgins 2003, Gibson & Heartfield 2005, Conway 2007, Nankervis *et al.* 2008).

Nurses constitute the largest group of health-care workers in many countries and in Australia comprise the largest single group of employees and hence a large proportion of health care costs (Milson-Hawke

& Higgins 2003, Nankervis *et al.* 2008, Goryakin *et al.* 2011). Changes to the nursing skill mix to employ second level nurses (nurses qualified and practising at a level lower than a registered nurse (RN) such as enrolled nurses or licenced practise nurses who are supervised by RNs) and unregulated health professionals as assistants to RNs have been seen as solutions to both escalating health-care costs and shortages of RNs (McIntosh & Smith 2012). This commentary paper examines arguments for and against the manipulation of nursing skill mix to aid in addressing the nursing workforce shortage and rising health-care costs. The three key issues presented in this commentary paper have been identified from the literature and are areas that should be taken into consideration when proposing or debating changes to the skill mix in addressing workforce shortages.

Evaluation

Definition of skill mix

Nursing skill mix constitutes the proportions of different levels of nurse, including the level of qualifications, expertise and experience, available for patient care during a nursing shift. According to Duffield *et al.* (2006), skill mix is the adjustable component of the health-care sector human resources used to achieve the most flexible and cost effective use of available health care personnel. It has been defined as 'the proportion of registered nurses' (Duffield *et al.* 2007 p. 9), as nursing care was originally only given by RNs. Internationally, there are significant differences in skill mix configurations and models of care.

Configurations of nursing skill mix teams differ based on the country in which they are employed and the acuity of the patient. They can range from entirely RNs to combinations of registered and second level nurses [enrolled nurse (EN) in the UK and Australia and licenced practical nurse (LPN) in the USA] or other categories of unlicensed health-care workers (UHW), such as personal care attendants or nursing assistants as used in Australia and the UK (Duffield *et al.* 2006, Ayre *et al.* 2007, Goryakin *et al.* 2011). According to Flynn and McKeown (2009) no staffing or skill mix model has been developed for nursing that addresses all variables that impact on the nursing workload. It is suggested that this lack of a consistent model may be, in part, due to the subjectivity of some aspects of nursing care that are based on professional judgements of patient acuity and patient nursing requirements. A deficiency in empirical evidence for

determining the correct skill mix for each situation makes decision making for the implementation of appropriate skill mix difficult (Ayre *et al.* 2007, Yang *et al.* 2012). Despite attempts to develop information systems that can measure and define patient acuity and calculate nursing skill mix requirements, mixed results have shown variability in their applicability to different work environments and the ability to enable better management of workforce issues and provide data which can be used to help manage workforce supply and demand.

The skill mix solution

The role of each level of health-care worker is to provide patient care. Economic considerations, workforce shortages and diversity in interpreting how different levels of nurse affect the quality of patient care, have led to variations in configuration of the nursing workforce in many countries (Ayre *et al.* 2007). Whilst countries such as Australia, Canada and USA have maintained a two tiered system with RNs and ENs, other countries such as the United Kingdom have chosen to phase out the use of ENs, utilise only one level of nurse and increase the use of unregulated health-care workers as support staff for RNs (Heartfield & Gibson 2005). Adjustments to skill mix are seen to be one means of maintaining care for patients in a background of nursing shortages, whilst controlling the expanding cost of health care (Duffield *et al.* 2006). Staff configuration may vary depending on the availability of staff, economic considerations and the different specialty needs of patients. For example, skill mix in high acuity areas such as emergency and intensive care departments has traditionally required higher numbers of RNs to deal with the increased risk of patient morbidity and mortality associated with these areas. Changes in the roles of any of the group will result in reflective change in the roles of the other levels (Ayre *et al.* 2007). Decisions on how appropriately to mix skills appear to be dependent on three main issues: economic considerations, workforce shortages and quality issues.

Economic issues

The cost of health care has risen in conjunction with increased acute patient numbers, an ageing population and technology use. In an effort to curb increasing costs, employers have examined the nursing workforce, which constitutes the largest cost component of the workforce, in an effort to reign in expenses (Goryakin *et al.* 2011). Nursing care was originally undertaken solely by RNs. Enrolled nurses were

introduced in many countries as assistants to RNs in response to rising costs and the decreased availability of RNs (Russell 1990, Webb 1999). Before phasing out the role of ENs in the 1990s, they were originally introduced into the workforce in the UK because they were cheaper to employ than the more expensive RNs (Brown 1994). Enrolled nurses have since been replaced by less costly UHWs in the UK (McIntosh & Smith 2012). Arguments for the need to have a differing nursing skill mix appear to be based largely on economic factors with some authors suggesting that degree trained RNs may become too expensive, resulting in other workers taking up more of the traditional nurse's role (Francis & Humphreys 1999). This financial driver for changes in skill mix is supported by Duffield *et al.* (2006) who suggest that finance is the most prevalent influence on skill mix since RNs are seen as costly rather than cost-effective. Francis and Humphreys (1999) further suggest that the UK government accepted the upgrading of RNs to university status, and the phasing out of ENs, because the project included the introduction of a new, cheaper employee, the unskilled health worker, to make up for the price increase in employing RNs.

Economic factors have resulted in extensions to the roles of RNs and ENs and the development of newer roles such as nurse practitioners in the USA, UK and Australia (Chang & Twinn 1995). The changing scope of practise for different levels of nurse is driven by economic imperatives rather than professional needs (Chang & Twinn 1995, Goryakin *et al.* 2011). As ENs are substantially cheaper to employ than RNs, there is strong support by employers in Australia to both maintain and extend their role (Francis & Humphreys 1999, Blay & Donoghue 2006). This is demonstrated in figures from the state of Victoria, Australia, which have shown that whilst extended roles for ENs saw 33.6% of them undertaking medication endorsement by 2009, only 0.06% of RNs saw a corresponding increase in movement to nurse practitioner roles (Nurses Board of Victoria 2010a,b). The current drive in Australia to enhancing the scope of practise for ENs to undertake roles even closer aligned to those of RNs has created concern from RNs and others, fuelling a debate on whether health care is being controlled by economic factors rather than quality of care. Heartfield and Gibson (2005) imply that the future of ENs will be determined by market forces in Australia, regardless of legislation or professional decisions. This is supported by a study of Australian nurses by Buchanan and Considine (2002) who found that nurses believed their work was valued by man-

agement on the basis of efficiency and cost saving rather than quality of patient care.

Economic imperatives in Australia have resulted in changes to the configuration of nursing with, not only introduction of ENs into areas previously staffed solely by RNs, but also an increase in cheaper UHWs employed in the industry to undertake tasks traditionally assigned to ENs (Bellchambers & McMillan 2007). According to Heartfield and Gibson (2005), the increased use of UHWs is consistent with a worldwide trend driven by economics to reconfigure the health workforce.

Quality of patient care

There is increasing evidence linking nursing skill mix with patient outcomes in both mortality and adverse patient events (Aitken *et al.* 2002, Lankshear *et al.* 2005, Needleman *et al.* 2006, Duffield *et al.* 2007, Massey *et al.* 2008). Needleman *et al.* (2006) found that the greater the number of RNs, the fewer the number of patient complications. They suggested that direct cost savings for health services could be made by reducing adverse outcomes. Duffield *et al.* (2007 p. 9) determined that the proportion of RNs on a ward was 'more critical to patient outcomes than hours of nursing provided'. This may explain why experience and theoretical knowledge have also been linked with optimal patient outcomes (Tschannen & Kalisch 2009). Higher skilled and experienced nurses have been shown to undertake continual patient assessment and to communicate patient status to other health professionals, enabling the earlier detection of potential problems and earlier discharge times for patients (Tschannen & Kalisch 2009, Esparza *et al.* 2012).

Skill mix has also been found significantly to affect the occurrence of medication errors according to a USA study by Patrician and Brosch (2009), which found a decrease of 86% chance of medication errors occurring for every 10% increase of RNs in the skill mix. Ayre *et al.* (2007) argues that if RNs are removed from routine patient care through a diluting of the nursing skill mix, there is a higher possibility of critical changes in patients' conditions being missed. This is supported by a study by Needleman *et al.* (2006) who determined that greater use of RNs, rather than ENs, results in decreased adverse events and shorter length of stays, which partially offsets the increased cost of employing higher qualified staff. Milson-Hawke and Higgins (2003) argue that the most economic and effective health care delivery is achieved through high numbers of qualified staff, with RNs comprising the majority of nursing staff in acute

care settings. This may be in part due to the RN's focus on the patient and belief that nursing activities should originate from patient needs and not from tasks, rules or routines (Segesten *et al.* 1998).

Whilst RNs and ENs work in a regulated framework in Australia, UHWs are unregulated and have no education requirements (Heath 2002). Because UHWs are unregulated, there is no control over employment or quality of work. The increased use of UHWs to replace ENs in the workforce (McIntosh & Smith 2012) appears to be putting economic imperatives ahead of quality of care issues. UHWs are undertaking complex nursing tasks, which arguably should only be performed by nurses, risking quality of patient care (Francis & Humphreys 1999, Queensland Nurses Union 2011). Quality patient care demands lifelong learning from all health professionals (Jones & Cheek 2003) and UHWs not only have minimal skills and knowledge in patient care and assessment, they have no requirements to maintain or improve their knowledge. As UHWs are an unregulated group, control of their roles is up to the individual employer who may utilise them to replace nurses in the workforce due to pressure to minimise costs (Francis & Humphreys 1999). One suggested solution to this problem is to regulate the training and scope of practise of UHWs (Francis & Humphreys 1999, Beadnell 2012), which may require including them as a third level nurse (a nurse registered to practise at a level lower than a registered or enrolled nurse).

Workforce shortages

A review of nurse education in Australia by Heath (2002) found that nurses would need to change the way they practise in terms of becoming more flexible, adaptable and prepared to delegate roles to keep up with the changing roles of nurses and to change to address workforce shortfalls. Chaboyer *et al.* (2008) suggests that a predicted increase in the shortage of RNs is the driving force increasing the scope of practise for ENs, resulting in role ambiguity and a blurring of role boundaries. This is supported by Duffield *et al.* (2006) who argue that downsizing of organisations and shortages of qualified nurse have led to 'multiskilling' and encouraged less skilled workers to take on routine tasks traditionally undertaken by RNs. Preston (2009) proposes that expanding the roles of either level of nurse into areas currently not their domain will further exacerbate workforce shortages of nurses. Carrigan (2009) suggests that workforce shortage is one of the main drivers for an increase in UHWs. Whilst there are differences in nursing workforce

configurations throughout the world, difficulties in determining and measuring what nurses actually do make it difficult to determine the most appropriate configuration (Heath 2002, Ayre *et al.* 2007). Although requirements for skill mix ratios have been stipulated in California, no distinction is made between RNs and LPNs, although they stipulate a maximum use of 50% LPNs in achieving set ratios (Donaldson *et al.* 2005). Although Ringerman and Ventura (2000) found that 55% of RN tasks could be delegated to trained ENs, their study resulted in decreasing RN work satisfaction, which could potentially lead to RNs leaving the profession and hence worsen the shortfall of available RNs, the major reason cited for increasing use of ENs. Preston (2009) concludes that whilst redesigning the workforce and extending the roles of different health professionals may result in improvements in efficiency, quality of care and professional satisfaction, it appears to have little short-term effect on nursing shortages. Retention of RN in the workforce has been linked to skill mix (Goryakin *et al.* 2011, Staggs & Dunton 2012). Issues have arisen in both the UK and Australia from the introduction of UHWs, despite a difference in workforce configurations. As UHWs are involved in the 'care-giving' role, traditionally undertaken by nurses, professional autonomy is being encroached upon by non-nurses (Francis & Humphreys 1999). Boundaries of care are not well delineated for either level of nurse and, even less so, for the UHW. Ayre *et al.* (2007) suggest that UHW roles have shifted from being 'complementary to' nurses to one of 'substitution for' nurses.

Another problem that has arisen due to the change in skill mix in acute care areas is that graduate nurses are not able to be employed in health services as there are not enough RNs on the staff to preceptor them (May 2010). According to May (2010), despite the predicted nursing shortage in Australia and corresponding increase in university placements for nurses, it is expected that thousands of newly graduated RNs in Australia will be unable to gain employment due to a lack of experienced preceptors to supervise them and economic constraints curtailing the health care sector in favour of cheaper options.

Implications for nursing management

Manipulation of skill mix has become an important nursing management tool to maintain health care costs and to manage workforce shortages. The focus of skill mix needs to change from looking purely at

the cost of nursing staff, to assessing the cost of the total patient care episode. Managers using skill mix must also take account of the impact on RNs in working with a more junior skill mix, the responsibility of health services to assist in the education of RNs for the future and the implications for quality of patient care. Whilst maintaining costs is vital, this leads to a vicious cycle where the use of a decreased skill mix exacerbates workforce shortages of RNs, as it decreases placement opportunities for student RNs and hence future workforce availability, and ultimately increases pressure on the RNs currently practising, thereby decreasing work satisfaction and hence retention. To the contrary, a higher percentage of RNs may result in health-care cost savings by decreasing both the length of patient stay and patient complications. In addition, this would provide increased opportunity for supervision of student RNs for future practise, thereby increasing the workforce available for care.

Conclusion

A shortage of RNs is seen as the main reason for employing ENs and UHWs in skill mix numbers. The assumption in changing skill mixes is that if ENs and UHWs undertake lower level duties, RNs will have more time to meet higher level patient needs, resulting in improved quality of care at lower cost. Changes in skill mix need to be balanced with quality care, as if increasing the skill mix produces better outcomes for patients, there are compelling reasons for health care systems to consider configurations that use higher numbers of RNs rather than cheaper alternatives. Whilst it is cheaper for health services to employ ENs and UHW, the reduction in the length of hospital stay and decreased patient complication rates found when employing greater numbers of RNs negates the financial argument for employing cheaper staff to undertake the 'simpler' tasks. The increase in the use of ENs and UHW to undertake traditional nursing roles has led to a blurring of the roles of each health-care worker, making individual roles difficult to delineate. However, skill mix is a broad phenomenon and current studies have not addressed interactions between different levels of nurses, how differences in educational preparation affect clinical competencies and problem solving skills, and the effect of the different levels of nurse. Without taking into account the individual characteristics of nurses and differences in work environments, it is very difficult to assume a one size fits all approach to nursing.

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Ethical approval

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1.5 Statement of the Problem

Since the introduction of enhanced SOP for ENs and resulting role expansion, nursing skill mix has been changed to incorporate increasing numbers of ENs. The fast pace of change to roles through adjusting SOP and skill mix has left many questions unanswered regarding the effects of these changes on the quality of nursing care, influences on roles of other health care workers, and changes to the employment of ENs. The national curriculum for training ENs has been redeveloped by the Australian Qualifications Framework to reflect increased knowledge and skills required by the expanding SOP (National Training Information Service, 2007). It has been suggested that education needs for RNs and ENs are very similar as both undertake many of the same functions (Deering, 2007). A major consequence of these developments is potential overlap between practice roles of RNs and ENs. The Australian Nursing and Midwifery Accreditation Council standards for both EN and RN courses (Ryan, 2009a; 2009b) state that one of the basic competencies for all nurses is to understand the difference in roles between the two levels of nurse in Australia, yet there is a paucity of research exploring the difference in educational preparation and role expectations of both levels of nurse on graduation.

1.6 Aims of the study

The aim of this study was to compare educational preparation; skills and knowledge at graduation; and expectations of key stakeholders of the roles of graduate RNs and ENs within the health care system in Victoria.

Specific objectives related to this aim were to:

1. Compare RN and EN pre-registration curricula to identify educational philosophies, curriculum design and content, and teaching approaches used in the educational preparation of RNs and ENs.
2. Compare nursing course coordinators' expectations of knowledge and skills of RNs and ENs on graduation.
3. Explore nursing course coordinators' opinions about role, SOP and differences in educational preparation of RNs and ENs.
4. Compare RN and EN students' expectations of their nursing roles within the health care team at the time of graduation.
5. Compare nursing administrators', graduate nurse coordinators', senior clinical nurses' and nurse regulators' expectations of the roles of graduate RNs and ENs within health care teams at the time of graduation.

1.7 Research Method

A multi-phase mixed methods design was chosen for this research, since such an approach is considered useful in providing multiple perspectives on the issue being studied, and highlighting differences and similarities between aspects of a phenomenon (Bernardi, et al., 2007; Östlund, Kidd, Wengström, & Rowa-Dewar, 2011). In this study, four phases of research were undertaken, utilising a combination of research methods (questionnaires and interviews), to illicit information from various perspectives on nurse education and graduate roles. This approach enabled the researcher to attain a comprehensive and in-depth understanding of the issue, based on multiple data sources and analysis methods (Johnson &

Onwuegbuzie, 2004). Quantitative questionnaires were used to reflect and gather initial data and frame the questions for the face-to-face interviews with course coordinators. This enabled differences and similarities in educational practices between nursing programs to be explored and provided a more complete view of nursing education. Gathering information from ENs and RNs students and senior RNs (recognised as senior in health services through their employment in administration, ward management, research or education) via questionnaires, using both check boxes and open-ended questions, provided further data on graduate roles to enable a better understanding of the expected graduate roles for both ENs and RNs.

1.8 Significance of the study

The findings of this study are significant as they identify similarities and differences in curriculum design, educational preparation, and role expectations of ENs and RNs in Victoria. The study will contribute to a better understanding of factors contributing to confusion about SOP for the different levels of nurse and assist nursing managers in planning appropriate skill mix for acute patients. It will also contribute towards a body of knowledge that will assist in improved role understanding and better use of the skills of all members of the nursing workforce. This research will stimulate opportunities for discussion over future development of workforce policy and curriculum design for Australian nurses in the future. A better understanding of differences and similarities in the educational preparation and role expectations of RNs and ENs may contribute towards future nursing workforce planning and developing nursing education to meet health sector needs.

1.9 Thesis outline

This thesis has been undertaken by partial publication which has guided the structure of the thesis, and as such, publications provide the basis of many of the chapters. Research results were submitted for publication as the project developed to enable them to be submitted for peer review. The thesis is presented over nine chapters with each chapter consisting of an introduction, body and summary. This is also the case for chapters based primarily on publications, where a chapter introduction and outline of the publications are provided prior to copies of the submitted or published manuscripts, followed by a summary of the chapters main outcomes. As all manuscripts contain a reference list, only references used in the thesis outside the manuscripts are provided in the reference list.

This introductory chapter presents a background to nursing roles and education in Australia, sets the scene for the study, and explains why this topic was chosen for the research including its significance for the nursing profession. The aims, objectives and methodology have been briefly outlined.

Chapter Two critiques current literature on nursing in Australia at the time of the study. It outlines the historical background to employment of ENs in Australia and identifies practice issues arising from the existence of two levels of nurse. It also presents an analysis of current literature as to differences and similarities between RNs and ENs in Australia.

Chapter Three outlines the multi-phase mixed methods approach used to investigate differences in educational preparation of RNs and ENs in Australia. It discusses participant selection, questionnaire development, administration of surveys, interview practice, data analysis and ethical considerations. A multi-phase mixed methods approach was used with the research being undertaken in four phases to enable various opinions to be sort to provide a complete picture of nursing education and role expectations to develop. The use of mixed

methods enabled incorporation of statistical data on curricula with qualitative interview data from course coordinators. Mixed methods were also used in student and senior nurse surveys to obtain statistical data on expected roles along with qualitative data on opinions for the differences in roles. The use of descriptive statistical, thematic and content analysis are discussed as well as the use of inferential statistics to determine statistically significant differences and similarities.

Chapter Four reports findings from the curriculum survey undertaken with course coordinators. The study method in this phase consisted of surveys completed by course coordinators from eight Victorian educational facilities. Descriptive statistical analysis was used to identify similarities and differences in the reported academic curricula between certificate and diploma EN programs and degree RN programs.

Chapter Five reports on results of semi-structured interviews with course coordinators from eight Victorian educational institutions on the education of RNs and ENs. The interviews were thematically analysed, and reported on the differences and similarities in educational preparation and career expectations of the two levels of nurse educationally prepared in Australia.

Chapter Six reports findings from graduating nursing student surveys. The sample consisted of RN and EN students in their final year of study. Inferential statistical analysis was used to identify statistically significant differences and similarities in role expectations of the two groups of nurses. Content analysis of qualitative data was used to ascertain issues identified by each group of nurse.

Chapter Seven reports findings from the senior nurse survey. Senior RNs working in Victoria were asked to complete the survey to identify their expectations of each level of nurse on graduation. Senior RN status was identified by the employed position of the RN. RNs

employed by health services in administration, ward management, education or research were considered as senior. Inferential statistics, thematic analysis and content analysis were used to identify statistically significant differences and similarities in role expectations by senior nurses and to find themes present in the qualitative data.

Chapter Eight outlines the findings in relationship to current literature on educational preparation and role expectations of graduate nurses and outlines implications for the nursing profession. Similarities and differences in educational preparation are discussed along with educators' reasoning for the differences. Expectations for graduate roles are also explored in line with current literature on graduate nurses. Recommendations drawn from the study are also presented.

Chapter Nine presents the conclusions from the study. Limitations of the study are also discussed.

1.10 Summary of Chapter One

Chapter One presented a background to the introduction of enrolled nursing into the nursing workforce in Australia and provided a personal insight into the experience of the author to explain why this field of study was chosen. This introductory chapter has outlined discussions that have occurred regarding the changing of skill mix of nurses in patient care areas, EN education and the paucity of literature available on EN education and role expectation on graduation.

The aim of this study was to explore educational preparation and role expectations of graduate RNs and ENs. The study contributes to debates on the use of two levels of nurse in Australia and role confusion that is increasing due to changes in educational preparation of ENs. The

next chapter provides a detailed review and critique of the literature on the use of RNs and ENs in Australia, historical differences between the roles of the two levels of nurse and resulting role confusion due to changes to the scope of practice of both level of nurse.

Declarations for Thesis Chapter Two

Declaration by candidate

In the case of Chapter Two, paper one, 'Scope of Practice for Australian Enrolled Nurses: Evolution and Practice Issues' the nature and extent of my contribution to the work was the following:

Nature of contribution	Extent of contribution (%)
I was the main contributor for concept development, key ideas, development and writing up	70%

The following co-authors contributed to the work:

Name	Nature of contribution	Extent of contribution (%) for student co-authors only
McKenna, L	Contributed to concept development, key ideas, development and writing up	10%
Barnett, T.,	Contributed to concept development, key ideas, development and writing up	10%
Sellick, K.,	Contributed to concept development, key ideas, development and writing up	10%

The undersigned hereby certify that the above declaration correctly reflects the nature and extent of the candidate's and co-authors' contributions to this work*.

**Candidate's
Signature**

	Date 8/02/2014
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**Main
Supervisor's
Signature**

	Date 8/02/2014
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In the case of Chapter Two, paper two, 'Australian Registered and Enrolled Nurses: What's the difference?' the nature and extent of my contribution to the work was the following:

Nature of contribution	Extent of contribution (%)
I was the main contributor for concept development, key ideas, development and writing up	80%

The following co-authors contributed to the work:

Name	Nature of contribution	Extent of contribution (%) for student co-authors only
McKenna, L	Contributed to concept development, key ideas, development and writing up	10%
Sellick, K.,	Contributed to concept development, key ideas, development and writing up	10%

The undersigned hereby certify that the above declaration correctly reflects the nature and extent of the candidate's and co-authors' contributions to this work*.

Candidate's Signature		Date 8/02/2014
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Main Supervisor's Signature		Date 8/02/2014
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Chapter Two: Literature Review

2.0 Introduction

This chapter provides an overview of the history of enrolled nursing in Australia and changes that have occurred to the role of ENs since their introduction into the Australia nursing workforce in the 1960s. The literature was examined to identify challenges and issues involved in utilising two levels of nurse in Australia. Although there were many publications on RN education and practice issues, few published articles could be found regarding pre-registration education of ENs.

The literature review is presented in the form of two published manuscripts. The first manuscript reports on a literature review undertaken to examine the history of two levels of nurse in Australia and identify practice issues that have arisen since the introduction of a second level of nurse. This manuscript titled “Scope of Practice for Australian Enrolled Nurses: Evolution and Practice Issues” was published in *Contemporary Nurse Journal* (2013).

The second manuscript reports on a further aspect of the literature review undertaken to examine published literature discussing similarities and differences in educational preparation and role expectations of RNs and ENs in Australia. This manuscript, titled “Australian Registered and Enrolled Nurses: What’s the difference?” was published in the *International Journal of Nursing Practice* (2012).

2.1 Article 2: Scope of Practice for Australian Enrolled Nurses: Evolution and Practice Issues

Jacob, E., Barnett, T., Sellick, K., & McKenna, L. (2013) Scope of Practice for Australian Enrolled Nurses: Evolution and Practice Issues, *Contemporary Nurse*, 45(2), 159-167

Scope of practice for Australian enrolled nurses: Evolution and practice issues

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ABSTRACT: *Significant changes to the scope of practice for enrolled nurses have occurred in Australia over the past decade. These changes, which are largely a consequence of staff shortages and economic pressure, have resulted in increased role confusion and overlap between enrolled and registered nurses in Australia. This paper presents a brief history of the enrolled nurse in Australia followed by an overview of the current situation and emerging trends in the education and employment of these nurses. Definitions and approaches to scope of practice are described and emerging issues within Australia raised and discussed. A review of the literature found the number of enrolled nurses and the roles they perform have changed significantly in Australia following the introduction of the enhanced scope of practice. Further research is required to better define and delineate between the different nursing roles and to explore broader frameworks to analyze, describe and define these roles.*

KEYWORDS: enrolled nurses, scope of practice, skill mix, Australia, nursing roles

Workforce shortages and economic constraints have resulted in significant changes to the scope of practice for enrolled nurses in Australia. The rapid pace of these changes have left unanswered many questions about the impact of scope of practice on the quality of care, roles of other health care workers, and education and employment of enrolled nurses. Klein (2007, p. 1) defines scope of practice 'as the activities that an individual healthcare practitioner is permitted to perform within a specific profession'. Scope of practice for enrolled and registered nurses, according to the Australian Nursing and Midwifery Council ([ANMC], 2007) refers to that which they are educated for and are competent and authorized to perform. Scope of practice is also influenced by the context in which nurses practice, clients' health needs, level of competence, education and the needs of service providers (ANMC, 2007; Gibson & Heartfield, 2005; Nankervis, Kenny, & Bish, 2008). The terms 'extended', 'expanded' and 'enhanced' scope of practice are considered synonymous, referring to the movement of a professional's role into the practice domain traditionally or legally associated with another health discipline such as medicine, pharmacy or other allied health disciplines

(Hegney, 1997). Whilst movements of practice roles toward those of other health disciplines may occur in Australia for registered nurses, enhanced scope of practice for enrolled nurses is largely the extension of their role into domains of practice traditionally reserved for registered nurses.

A search of the literature was undertaken to examine expanded scope of practice for enrolled nurses in Australia and to identify emerging professional and practice issues. Academic databases of CINAHL, MEDLINE, Informit and ProQuest were searched using the terms 'enrolled nurse', 'division 2 nurse', 'scope of practice', 'practice roles' and 'Australia'. The term 'division 2 nurse' was included as it was the term used for these nurses in Victoria until 2010. Reference lists from all papers located were scanned for additional sources. The initial search located 12 journal articles which related directly to the role and scope of practice for enrolled nurses in Australia. Eight of the articles were research reports, two were literature reviews and the other two discussion papers. The research articles were mainly descriptive studies with small samples ranging from 2–48 participants which examined the role, function, competencies, scope of practice and education of enrolled nurses in Australia (Bellchambers

& McMillan, 2007; Blay & Donoghue, 2006; Chaboyer et al., 2008; Gibson & Heartfield, 2003, 2005; Heartfield & Gibson, 2005; Milson-Hawke & Higgins, 2004; Nankervis et al., 2008).

The websites of government departments (such as AIHW) and nurse regulatory authorities were also searched to determine current policy and professional issues using the same terms as above. Multiple documents were found which referred to enrolled nurses, including definitions of scope of practice, nursing competencies and current pilot projects in different states which aimed at enhancing their scope of practice. Government databases also provided demographic, registration and employment data on both levels of nurses throughout Australia (Australian Institute of Health and Welfare, 2009).

BACKGROUND TO CURRENT SITUATION

Australia has a long tradition of training, employing and regulating enrolled nurses as second level nurses (Gibson & Heartfield, 2005). The position of enrolled nurse (originally called Nurse's Aide) was introduced into Australia during the 1960s in an effort to improve the supply of nursing-related services and reduce rising costs (Russell, 1990). Prior to this, nursing services for patient care were managed solely by registered nurses.

There are currently two levels of nurses registered to practise in Australia, with registration level dependent upon educational qualifications. For registered nurses the minimum requirement is completion of a 3-year Bachelor of Nursing degree or equivalent, and for enrolled nurses the minimum requirement is completion of a 1-year certificate (Australian Institute of Health and Welfare, 2003; Ryan, 2009, 2010).

Enrolled nurses (like registered nurses) were initially trained in teaching hospitals through the apprenticeship system. The focus of training was to assist with patient care under the supervision of a registered nurse and to undertake 'less complex' procedures (Australian Institute of Health and Welfare, 2006). Hence the scope of practice for enrolled nurses was predominantly task focused and limited to basic patient care such as assisting with activities of daily living and monitoring health status (Milson-Hawke & Higgins, 2003).

By 1994, the enrolled nurse had become an integral part of the health care system, progressively increasing to include greater areas of general nursing care as nursing shortages moved registered nurses into more specialist roles to care for higher acuity patients (Nurse Policy Branch, 2001). With this expanding role came the need for improved enrolled nurse education which resulted in the move of enrolled nurse training to the vocational education and training sector, commencing in Victoria in 1997 (Nurse Policy Branch, 2001). A review of the enrolled nurse role in aged care, undertaken by the National Aged Care Forum in 2001 (Australian Institute of Health and Welfare, 2003; Bellchambers & McMillan, 2007; National Aged Care Forum, 2001), recommended expanding the enrolled nurse role further to include administration of medications. Following the review, legislation governing medication administration and corresponding adjustments to the basic enrolled nurse curriculum was enacted in most states to accommodate this additional responsibility.

Because each state had their own registration board prior to 2010, the education and responsibilities of enrolled nurses varied from state to state. Following calls for a consistent approach to educational preparation for enrolled nurses across Australia (Milson-Hawke & Higgins, 2003), enrolled nurse training was included in the National Health Training Package in 2007 (Australian Qualifications Framework, 2010; Nankervis et al., 2008). This led to an improvement in the career pathway for enrolled nurses into specialty practice areas through the development of national standards for certificate (12 months), diploma (18 months) and advanced diploma (2 year) courses. The longer courses incorporated medication administration and advanced skills to further enhance the scope of practice and facilitate expansion of enrolled nurse employment in acute health services. Enrolled nurse training was also seen as a pathway to enable entry to university and progress toward a registered nurse qualification (Victorian Health Service Management Innovation Council, 2010).

The percentage of enrolled nurses in the Australian workforce has varied greatly over the

past two decades, ranging from a low of 11% in 2001 to a high of 36% in 1995 (see Table 1). Initial peaks in workforce numbers resulted from increased use of enrolled nurses during registered nurse shortages, whilst the significant trough in numbers in 2001 has been linked to the introduction of unregulated health care workers into aged care (Australian Institute of Health and Welfare, 2003; Bellchambers & McMillan, 2007; Heartfield & Gibson, 2005).

The addition of medication administration to the scope of practice for enrolled nurses was the most significant practice change for enrolled nurses over the last two decades, with the initial impetus coming from the aged care sector and rural settings (Bellchambers & McMillan, 2007). Previously, only registered nurses were legally permitted to administer medications. This change paved the way for enrolled nurses to move into clinical areas that have traditionally been the domain of registered nurses. By the late 1990s several states were exploring further expansion of the enrolled nurse's role into areas such as acute care (Nurses and Midwives Board of New South Wales, 1999; Queensland Nursing Council, 1999). In Victoria, seven trial projects were funded by the Department of Human Services to examine the use of enrolled nurses in the areas of acute care (Stephenson, 2007; The Alfred, n.d.), emergency (Redden-Hoare & Mant, 2008), mental health (Barwon Health, n.d.), aged care (Western District Health Service, n.d.), rehabilitation and residential care (Eastern Health and Deakin University, 2006), and rural health services (Mt Alexander Hospital, Castlemaine, and Maldon Hospital, 2006). The findings from these

projects suggested that with appropriate planning, training and management, enrolled nurses' roles could be expanded into many different care settings. However, reports on these projects tended to list skills and tasks that enrolled nurses could perform, raising as problematic issues of a task versus a problem solving approach to roles expected of enrolled nurses. This has amplified purported differences in the philosophy of practice underpinning the different educational preparation for enrolled nurses and registered nurses.

Across Australia, enrolled nurse responsibilities have expanded to include a variety of settings such as operating theaters, anesthetics and emergency departments (including triage), acute medical and surgical wards, and enhanced roles which include education, bereavement counseling, management and wound care (Heartfield & Gibson, 2005; Nankervis et al., 2008). Variation in roles, responsibilities, standards and training opportunities are found across different settings within Australia, with rural and remote nurses having more extended roles than most urban settings (Heartfield & Gibson, 2005; Nankervis et al., 2008). Extension of roles for rural enrolled nurses is not surprising as the proportion of enrolled nurses working in rural areas is much greater than in metropolitan areas (Australian Institute of Health and Welfare 1998a, 2012).

DETERMINING SCOPE OF PRACTICE

Determining what it is that nurses do, and defining their roles, has been identified as a problem in many countries (Canadian Nurses Association, 1993; Chang & Twinn, 1995). Different ways of viewing scope of practice have emerged which include task lists, competency statements and decision making frameworks. Task lists have been used by some organizations and researchers to define practice (Chaboyer et al., 2008). However, defining roles by a list of tasks rather than contributions to patient care (Chang & Twinn, 1995) delimits the value of nurses in the health care team. Chaboyer et al. (2008) found that using task lists for research demonstrates little observable difference in the role of the registered and enrolled nurse. What task lists do not identify are differences in clinical reasoning,

TABLE 1: PERCENTAGE OF NURSES WORKING AS ENROLLED NURSES IN AUSTRALIA BY YEAR

Year	Total nursing workforce	Percentage of EN's in nursing workforce, %
1990	198,500 (employed)	22.7
1995	267,535 (registered)	35.8
2001	236,562 (registered)	11.2
2004	288,911 (registered)	19.5
2007	305,834 (registered)	19.7

(Australian Institute of Health and Welfare, 1998a, 1998b, 2003, 2009).

management of patient care, problem solving and ethical decision making skills which are essential to registered nursing practice (Canadian Nurses Association, 1993).

The ANMC (2002) developed competency standards for both enrolled and registered nurses to provide national guidelines by which practice could be defined and assessed. These competencies are divided into four domains of practice: professional practice; critical thinking and analysis; provision and coordination of care; and collaborative and therapeutic practice. McEwan (2007) argued that these ANMC competency standards are seen as definitions for scope of practice in Australia. Development of similar competency standards for both enrolled and registered nurses was aimed at decreasing limitations on scope of practice between the different roles but has resulted in confusion in determining differences among the two levels of nurses (Gibson & Heartfield, 2003). The competency standards are broad, principled statements that aim to accommodate every practice setting and read like a list of expected professional standards rather than skills for mastery (Wells, 2002). It has been argued that this has made them more related to registration requirements and less meaningful when determining scope of practice and professional development at an individual level (Wells, 2002). Critics of the competencies suggest that they are not specific to nursing and could apply to other health professions (Wells, 2002).

Scope of practice cannot be based on competency standards alone as implementation in practice varies widely depending on the enrolled nurses' education, experience, work context, and legislative requirements (Gibson & Heartfield, 2005; Milson-Hawke & Higgins, 2003). To overcome this limitation, the national decision making framework was developed by the ANMC (2007) to aid individuals in determining scope of practice. This framework includes statements and flow charts to assist nurses, both registered and enrolled, to make situational specific decisions whilst allowing flexibility for professional judgment (University of Newcastle, 1999). They also delineate the outer boundaries

of nursing practice and are thought to be flexible and broad enough to accommodate the wide range of patient populations, roles and responsibilities that currently exist, whilst allowing new roles to evolve in response to changes in the delivery of care and population health needs (Wilson, 2009). The frameworks were developed to enable easier assessment of competency status and remove restrictions that limit nursing practice by leaving decision making for scope of practice to the individual nurse and their employer (Nankervis et al., 2008). Caution in the use of decision making frameworks is suggested by the National Nursing and Nursing Education Taskforce (2006) who suggest that while they may assist with decision making, they have the potential to add an additional layer of paperwork and confusion to the scope of practice debate rather than simplifying the process. They advise that the multiple steps involved in the decision making frameworks can be labor intensive to implement and impractical to use when quick decisions are required.

PROFESSIONAL AND PRACTICE ISSUES

Although each approach to determining scope of practice has advantages, neither the task, competency nor decision making framework approach have been sufficient to adequately address the range of issues and concerns inherent with expanding the scope of practice of the enrolled nurse. The impact on quality of care, increased work demands, organizational readiness for advanced enrolled nursing practice and role confusion due to changes to the role have been recognized in the literature as issues which require further research and debate when expanding scope of practice and will be explored further in the following discussion.

Impact on quality of care

Changes to the scope of practice for different health care workers raises questions about the influence enrolled nurses and unregulated health care workers have on the quality of the care being delivered to patients. It has been demonstrated by Aitken et al. (2002), using 'nurse sensitive' measures, that patient mortality

was directly related to the number of registered nurses per patient in a clinical setting. Massey, Aitken, and Chaboyer (2008) established a relationship between the level of education and experience of nurses in providing quality nursing care, suggesting that the greater the experience and education of the nurses, the better the quality of care delivered. With registered nurses having the higher level of education it would seem that to maintain quality care for patients they should comprise the majority of nursing staff in acute care settings. Milson-Hawke and Higgins (2003) suggest that manipulation of the nursing skill mix to reduce the proportion of registered nurses may decrease the quality of care and result in increased costs. Breaking down complex nursing skills into simpler tasks to enable enrolled nurses to perform them, as appears to be happening in current scope of practice pilot projects, could be seen as detrimental to patient care, as complex thinking and analytical skills are seen to be different for the two levels of nurses (Gibson & Heartfield, 2003). A lack of evidence regarding the impact of extended scope of practice for enrolled nurses on patient care has been cited as a reason to open the debate as to whether clear guidelines for practice are needed to direct enrolled nurses and ultimately nursing practice (Milson-Hawke & Higgins, 2003). The current drive in Australia to enhance the scope of practice for enrolled nurses to undertake roles more closely aligned to that of the registered nurse (and at less cost) has furthered the debate over whether health care is determined by economics rather than considerations related to the quality of care and patient outcomes. It is acknowledged that the scope of practice and role of RN has also changed over time. Clearly more research is warranted on the issue of quality of care and education of nurses in Australia to ensure that quality of care for patients is not compromised by increasing scope of practice for enrolled nurses.

Increased work demands

Enrolled nurses have expressed lack of enthusiasm for an expanded scope of practice, seeing it as adding tasks rather than increasing critical

reasoning, reflection, planning or evaluation skills (Nankervis et al., 2008). Policies aimed at further enhancement of enrolled nurses roles have raised debate about using increasing scope of practice as simply a cost cutting exercise (Milson-Hawke & Higgins, 2003) with enrolled nurses being required to undertake more higher order duties and reporting feeling pressured to increase their scope of practice or risk their employment (Nankervis et al., 2008). In rural environments where enrolled nurses are often already practising at advanced levels, concern regarding potential for additional demands on nurses' time, educational preparedness to undertake extended roles and lack of clarity on how these would be incorporated into practice have been expressed (Blay & Donoghue, 2006; Nankervis et al., 2008). Enrolled nurses who are already expected to carry workloads and meet time frames may feel overworked by the additional duties which may result in more nurses leaving the profession. Official recognition and legitimization of skills currently practised by enrolled nurses is recommended by Nankervis et al. (2008), particularly in rural areas, to enable distinctions to be formalized between the two levels of nurses before efforts are made to further enhance the scope of practice and hence workload.

Organizational readiness

Changing the scope of practice of any health care professional will undoubtedly be reflected in changes to the roles of other staff working with them. A study by Nankervis et al. (2008) found that organizations were inadequately prepared to implement enhanced scope of practice for enrolled nurses or for the changes in practice roles this would bring to all members of the health care team. Bellchambers and McMillan (2007) also identified disparities between industry readiness, organizational demands and worker preparedness. Results from the trial projects in Victoria also found that careful planning and management for the new roles was required for successful implementation. As new enrolled nurse roles impact on current service delivery, support from all levels of the organization,

including management and registered nurses is required for successful implementation (Nurse Policy Branch, 2008). Policies to enhance scope of practice for enrolled nurses require structural change that includes engagement with, and empowerment of, nurses in workplace reforms (Nankervis et al., 2008). Cowin and Jacobsson (2003) claim that efforts to improve nurse retention and supply by up-skilling and increasing scope of practice without necessarily addressing the root causes of workforce shortfalls, will lead to increased stress and burnout and could exacerbate nurse shortfalls by causing enrolled nurses to exit the profession.

Role confusion and overlap

According to Conway (2007), restructuring of the nursing profession in Australia has involved little consideration of the potential for role confusion and overlap. Expanding scope of practice for different health professionals has provided health organizations with opportunities to reconfigure staffing skill mix, restructure the workforce to meet future requirements and reduce health care costs (Bellchambers & McMillan, 2007; Milson-Hawke & Higgins, 2003; Nankervis et al., 2008). This has often resulted in blurring of the boundaries between health professionals, especially in rural areas where there are acute shortages of registered nurses yet high levels of enrolled nurse availability (Kenny & Duckett, 2005). Parts of rural Australia have welcomed the extended scope of practice as a means to justify current practices for enrolled nurses who are required to work with a more expanded role than their metropolitan counterparts (Heartfield & Gibson, 2005; Kenny & Duckett, 2005; Milson-Hawke & Higgins, 2003). Yet even in rural Australia the resulting change in skill mix and blurring of professional boundaries has produced some discord within the nursing community (Nankervis et al., 2008).

Role confusion is further exacerbated by observational studies that show the tasks undertaken by enrolled and registered nurses to be the same (Chaboyer et al., 2008) resulting in suggestions that position descriptions be generic for both enrolled and registered nurses to allow for greater

flexibility in staffing (Victorian Health Service Management Innovation Council, 2010). Some authors have even claimed that training needs of both enrolled nurses and registered nurses are virtually the same (Deering, 2007). Although tasks undertaken by both registered and enrolled nurses may appear similar, a study by Bellchambers and McMillan (2007) found that enrolled nurses did not understand their roles, functions or outcomes of their actions and that the changing role of enrolled nurses has led to a lack of clarity of the roles of all members of the health team. Despite efforts to remove role restrictions by expanding scope of practice, nurses have expressed a desire for clear role statements that reduce ambiguity and enable recognition of skill and experience (Nankervis et al., 2008). Fitzgerald, Pearson, Walsh, Long, and Heinrich (2003) argue that greater role clarity for both registered and enrolled nurses can lead to more effective utilization of nursing staff.

Increasing educational requirements for enrolled nurses has caused further role confusion with the development of diploma level training for enrolled nurses leading to further expansions in their scope of practice. Differences in education between enrolled and registered nurses in terms of educational philosophy and statutory requirements have traditionally distinguished between the two levels (Francis & Humphreys, 1999), however movement of enrolled nurse training to a diploma level has contributed to this distinction appearing to become less marked.

Confusion also exists in identifying whose responsibility it is to determine scope of practice and in using decision making frameworks for role clarification (Gibson & Heartfield, 2005; Milson-Hawke & Higgins, 2003). Enrolled nurses, who are required to work under the supervision of registered nurses, are now faced with differing definitions of what constitutes supervision and how formal the relationship needs to be (Gibson & Heartfield, 2003). The ANMC guidelines state that enrolled nurses work under the supervision and direction of a registered nurse (ANMC, 2002), yet enhanced scope of practice, in some instances, requires enrolled nurses to work with relative autonomy.

CONCLUSION

The numbers and roles of enrolled nurses have changed significantly since their introduction into the Australian health care system. A change in scope of practice for nurses has been primarily driven by staff shortages and economic pressures. Although education preparation has improved to support the change, the increase in enrolled nurses' scope of practice has invariably led to role confusion and overlap with that of the registered nurse. Health care organizations have not always demonstrated an understanding of how changes to the role of one health care worker invariably affects other associated roles and may not be prepared for the implementation of new roles. Questions about the quality of care associated with changes in skill mix in Australia remain largely unanswered. Additional research into the enrolled nurse scope of practice in a range of practice settings and the effect on quality of care and role ambiguity is required, using larger sample sizes and more robust designs. Exploration of models of care that utilize a range of skill mixes, whilst addressing economic concerns, is needed to resolve issues with overlap of care and quality of patient care. Whilst the impact of unregulated health care workers was not explored in this paper, the increased employment of this class of health care worker will compound the confusion over scope of practice and raise further issues of quality of care versus economic rationalism.

Despite the profession's best efforts, current approaches to scope of practice have failed to provide sufficient delineation between the enrolled and registered nurse role. This suggests that other broader, frameworks for analysis should be actively explored. These may include more holistic approaches to what and how nursing (as a profession) contributes to patient care and health outcomes within a multiprofessional context and a socio-political milieu that selectively advocates for health care reform. Differences in the educational preparation and scope of practice of the two levels of nurses should be explored and better defined to help reduce role confusion and ambiguity within nursing.

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* RESEARCH PAPER *

Australian registered and enrolled nurses: Is there a difference?

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Jacob E, Sellick K, McKenna L. *International Journal of Nursing Practice* 2012; 18: 303–307
Australian registered and enrolled nurses: Is there a difference?

There are two categories of nurse registered to practise in Australia, the degree-educated registered nurse and the certificate/diploma trained enrolled nurse (EN). While it is argued that the roles of the two categories of nurse in Australia are different, recent changes to the educational preparation and supervision requirements of ENs have narrowed these differences. This paper examines the existing literature to determine the perceived differences and similarities between registered and ENs in Australia. Differences identified included registration requirements, educational preparation, supervisory requirements and role expectation. Further research needs to be undertaken to examine the educational preparation of registered and ENs in order to obtain a greater understanding of role expectations on graduation. Supervision processes also require reviewing to demonstrate differences between indirect supervision and independent practice for ENs.

Key words: education, enrolled nurse, registered nurse, roles, supervision.

INTRODUCTION

Registered and enrolled nurses (ENs) practising in Australia are expected to meet national competency standards.^{1,2} One of these competencies requires that both category of nurse recognize the differences in accountability and responsibility between registered nurses (RN, also known as Division 1 Nurse in Australia), ENs (also known as Division 2 Nurse in Australia, Licensed Practical Nurse

or Licensed Vocational Nurse in the US) and unlicensed care workers.^{1,2} Although generally accepted as a universal right for all people, what nursing care entails is difficult to define due to varying role perceptions.³ For example, the role of the RN can range from being a generalist to being an autonomous practitioner. This leaves the nurse searching for a distinct professional identity.⁴ Francis and Humphreys⁵ have argued that having two grades of workers called 'nurse' only adds to the confusion. The addition of unlicensed care workers to the health-care mix has further complicated the debate on what nursing roles entail, although the issues of this category of worker will not be covered in this paper.

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While the role of EN has been disbanded in the UK due to perceived overlap and similarity in the roles of RN and EN,⁶ this category of nurse has been retained in Australia, Canada, Singapore and the USA. This has been in part due to strong opposition from nursing unions who have argued that there exists substantial differentiation between the two categories of nurse.^{5,7,8} Although the physical tasks of nursing can be easily documented, the knowledge base, professional judgement and problem solving skills are more difficult to articulate as they are largely intangible. Heartfield and Gibson⁶ suggested that the lack of a universal definition of nursing, and significant difference in training for the various levels of nurse across the world, makes it difficult to define the scope of practice (SOP) for all levels. This has led to differences in the configuration of the nursing workforce in different countries.⁸

The purpose of this paper is to identify differences and similarities between RNs and ENs in Australia based on a review of the literature. A literature search was conducted through the databases of CINAHL, Proquest and Medline using the keywords 'enrolled nurse', 'registered nurse', 'scope of practice', 'division 2 nurse' and 'role' entered singularly and in combination. The search of the literature located a total of 29 articles relevant to the topic: four literature reviews, eight research reports, seven discussion papers and 10 policy papers.

FINDINGS AND DISCUSSION

A review of the articles identified differences and similarities between registered and ENs across four major areas: registration, educational preparation, supervision requirements and role delineation.

Registration

All nurses are required to register as professionals in most countries.⁸ The purpose of registration is to regulate professional conduct, maintain standards and determine SOP. RNs in Australia have been regulated for over 80 years.⁹ In Victoria, registration commenced for RNs in 1924,¹⁰ and, for ENs, in 1958 when the new position was added to the Victorian Nurses Act¹¹ to enable them to be placed on the nursing register. Originally, each Australian State and Territory kept separate registers for general and psychiatric nurses, midwives and ENs, but with the introduction of generic nursing degrees in the 1980s, psychiatric nursing was incorporated under the general nursing category. Since July 2010, all RNs, ENs and midwives are registered to practice under the national registration scheme.

The educational criteria for gaining nursing registration have changed significantly over time. Registration for both categories of nurse initially depended upon successful completion of hospital training programs, with RNs also required to pass a state registration board entry examination.¹² Currently, the level of registration is dependent upon educational qualifications, with RNs completing the equivalent of a 3-year Bachelor of Nursing degree and ENs having to complete a minimum of a 1-year certificate or 18-month diploma.¹³ Registration enabled different practice criteria to be placed on each category of nurse in line with their educational preparation. For example, only RNs were allowed to administer medications. Changes were made to the registration criteria and SOP in Australia in the 2000s with practice opportunities no longer being restricted by registration criteria. Legislation was changed to allow medication administration by medication trained ENs and the registration requirement modified following completion of an approved course to address this increased SOP.

Educational preparation

Differences in education institution, length of training and length of clinical placement have been identified as major distinction between the two categories.^{5,14,15} RNs undertake tertiary level degrees which are usually undertaken over 3 years through a higher education provider, although, depending on previous qualification, some universities now offer shorter 18-month degree programs. The role of the RN includes not only responsibility and accountability for only their own actions but also the nursing care provided by other health staff which they supervise.¹⁶ Postgraduate education available for RNs is thought to lead to greater knowledge depth and expertise in many clinical areas such as midwifery, intensive care and emergency nursing.⁸ The EN is trained at the vocational education level consisting of between 12 and 18 months training at certificate or diploma level at an accredited training organization. Emphasis in EN training has traditionally been placed on technical nursing skills, although the increase in education to diploma level has seen the addition of higher-order skills such as physical assessment and research to the program.¹⁷ The amount of required clinical experience also varies significantly for each category of nurse, with RN students currently stipulating a minimum of 800 h and EN students 400 h of clinical placement during their education.^{18,19}

One major difference between RNs and ENs is the theoretical depth of education.^{5,14} Although the Australian Nursing and Midwifery Council course accreditation standards for both category of nurse require the similar course domains and standards to be met, there are some subtle differences. For example, the RN curriculum includes a focus on medication management and research knowledge, although both of these areas can be included in the EN curricula.^{18,19} The two education accreditation documents appear very similar with many of the standard requirements identical for both categories of nurse.

Major changes in the length of training for ENs have decreased differences in educational preparation between the two groups. Vistardis²⁰ suggests that since the introduction of the EN role in Australia in the 1960s, the theory component has increased from 300 h in 12 months to over 1500 h in 18 months which is closely aligned with the theory hours for RNs which averages around 1009 h of face-to-face teaching over 3 years, with an average of 1904 total hours in the nursing course workload identified by Leibbrandt, Brown and White in their curriculum evaluation study.²¹ While RN education may include more self-directed learning by students and different assessment techniques, the narrowing difference in face-to-face teaching suggests that despite RN training being spread out over 3 years vs. 18 months for ENs, there is little difference in the actual hours of training received between the two groups.

Deering²² argued that the educational needs of both the RN and EN are comparable due to similarities in the roles of both category of nurse. This is supported by Durdin¹⁵ who suggested that the EN curriculum was made similar to that of the RN in the 1970s in Australia in order to raise the standard of patient care. Additional changes to the educational requirements for ENs with the introduction of the National Health Training Package in 2007^{17,23} to increase the consistency and depth of training across Australia further narrowed any discernable difference in education between the two categories of nurse.

Cognitive and analytical processes were argued by Milson-Hawke and Higgins²⁴ in 2004 to be dissimilar between the two nursing categories due to the differing levels of educational preparation. Recent changes to the EN curriculum have narrowed the gap in cognitive and analytical skills. RN education has traditionally been seen to have a strong focus on critical thinking which is required for clinical decision making, analysis of health, planning, monitoring and evaluation of nursing care.

Since 2007, national standards for education in Australia have mandated the teaching of higher thinking skills for all ENs²⁵ resulting in both categories of nurse using such higher-order skills. The inclusion of elective units in EN training such as research, co-ordinating of care and mentoring further decreases the distinction between the knowledge of RNs and ENs.²⁵ No research was found which has investigated similarities and differences in the curricula and teaching methods used to teach the different categories of nurse, or how critical thinking skills are incorporated into the education.

Supervision requirements

Another difference identified in the literature between the two categories of nurse is that of supervision. The RN has a leadership and delegation role and is responsible and accountable for supervising other staff including ENs. ENs on the other hand are expected to practise under the guidance and supervision of a RN, although they retain responsibility and accountability for their individual actions and nursing care.^{1,2,7} ENs are seen as associates of the RN and were originally introduced into the nursing mix to assist with patient care under the supervision of a RN.²⁶ While there appears to be a clear distinction between the two categories of nurse, changes to the definition of supervision have resulted in an overlap in many parts of the roles. Supervision can be direct, where the supervisor is present and observing the work of the nurse, or indirect where the supervisor is reasonably accessible, but not necessarily present while the work is occurring.¹⁶ The issue of supervision has been discussed in Australia since the early 2000s due to a lack of specificity of the definitions enabling many different interpretations.²⁷ Allowing for different types of supervision dependent on work context has led to ENs in some situations, particularly in aged care, working effectively as the only registered practitioner in the facility, with the RN supervisor being available by phone as required. This ambiguity in determining levels of supervision and what it actually means to be supervised has led to ENs effectively working as independent practitioners while on duty with phone supervision, and further exacerbates the difficulty in determining differences in the roles.

Role differentiation

The Australian Institute of Health and Welfare highlights the differences in roles of ENs and RNs by suggesting that ENs undertake 'less complex' procedures than RNs.²⁸

Duffield *et al.*,²⁹ argues that the difference in roles for RNs and ENs in Australia has been well defined by the Australian Nursing and Midwifery Accreditation Council. This delineation in role is disputed by Brown¹⁴ who suggested that the UK identified problems in defining the actual roles of each category of nurse in the 1990s. Brown¹⁴ suggested that despite differing educational and registration requirements, the actual work undertaken by the two categories of nurses is often very similar. It is not surprising that role confusion between the two categories of nurses has emerged as a professional issue in Australia and with an ongoing debate over the distinction between the roles of the RN and EN.^{27,30}

The perceptions that ENs and RNs perform similar roles and have similar skills and knowledge despite different levels of education have prompted some countries to phase out EN training and encourage ENs to convert to RN qualifications.^{4,27,31} For example, Chang and Twinn⁴ claim that there is little empirical evidence to support the role differentiation between that of RN and EN. Likewise, an observational study by Chaboyer *et al.*³² found that much of the work undertaken by the two categories of nurse appear to be the same, although they acknowledge that observational studies do not discount the possibility of differences in decision making and patient surveillance.

CONCLUSION

Both categories of nurse in Australia play an important role in patient care and assessment. Similarities between the roles of the RN and EN in terms of patient care and skill requirements have resulted in confusion over the differences between the two roles. While they appear to undertake similar roles, differences may exist in the level of education, length of training and supervisory requirements. Educational advances for ENs have enabled them to undertake more advanced skills commonly associated with RN roles which has narrowed perceived difference in the roles and contributed to the existing ambiguity and confusion. Research is needed to investigate differences in educational preparation between the two categories in terms of philosophy of education, curriculum and clinical skills to validate the use of two categories of nurse and to clarify the differences between the two roles.

Due to the increasing similarity in education and skills training, it is imperative that studies be undertaken to examine decision making and problem solving skills to determine if these factors remain as differences between the two categories of nurse. Further work also needs to be

undertaken on the level of supervision required of ENs. Changes to supervision requirements enabling ENs to practise independently, with indirect phone supervision, further decrease the demarcation between the two categories of nurse. Indirect supervision is a vague term and requires clarification to justify its continuing use if ENs are not seen as independent practitioners even when working as the only nurse in a health facility. Delineating between the roles of the two categories of nurse in Australia is important to decrease the confusion and ambiguity surrounding the roles and make explicit differences in accountability and responsibility to enable the best use of available skills and knowledge.

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2.3 Discussion

EN's were introduced into the nursing workforce in Australia in the 1960s due to workforce shortages of RNs and economic demands (Francis & Humphreys, 1999). Historically, differences were recognised in supervision requirements, registration requirements, role expectations and educational preparation (type of institution, length of training and length of clinical placement) between RNs and ENs (Brown, 1994; Durdin, 1974; Francis & Humphreys, 1999). Registration requirements based on educational preparation enabled different practice criteria to be placed on each level of nurse in line with their education. For example, only RNs were allowed to administer medications.

Changes made to the registration criteria and SOP for ENs in the 2000s mean that practise opportunities are no longer restricted by registration criteria. The most significant practise change for ENs was the addition of medication administration to their SOP (Bellchambers & McMillan, 2007). This has enabled ENs to practise in clinical areas traditionally staffed solely by RNs and expanded practice areas to include clinical areas such as emergency, operating theatre and mental health (Nankervis, et al., 2008; Redden-Hoare & Mant, 2008). In response, educational preparation for ENs was increased to diploma level to include medication administration in pre-registration training. Supervision requirements, which traditionally required direct supervision of ENs by RNs, have also been relaxed to enable ENs to be supervised either directly, with an RN immediately available, or indirectly, where supervisors are reasonably accessible but may not be immediately available (ANMC, 2007). Although differences are thought to remain in depth of knowledge, and critical thinking skills of ENs and RNs, the graduate roles of both level of nurse are similar (Deering, 2007). The identified differences have decreased since the implementation of the expanded SOP, increase in the level of EN education and relaxing of supervision requirements in response to economic and

workforce issues. This has resulted in increasing role confusion and ambiguity between ENs and RNs (Chaboyer et al., 2008). Variations in SOP between individual nurses based on the context in which nurses practise, clients' health needs, level of competence, education and the needs of service providers (ANMC, 2007; Gibson & Heartfield, 2005; Nankervis, Kenny & Bish, 2008) make it difficult to distinguish roles based on registration level. Issues debated in the literature in response to SOP changes include, quality of patient care, organisational readiness for extended SOP and skill mix changes, increased role demands, and role confusion and overlap.

The change in SOP for ENs has been primarily driven by staff shortages and economic pressures. Health care organisations have eagerly picked up ENs who are cheaper to employ, yet may not be prepared for the implementation of new roles and fail to demonstrate consideration for how changes to the role of ENs invariably affects other health worker roles. Current approaches to SOP have failed to provide sufficient delineation between the role of the EN and RN. Questions about the quality of care associated with changes in skill mix in Australia remain largely unanswered. Exploration of models of care that utilise a range of skill mixes, whilst addressing economic concerns, is needed to resolve issues with overlap of care and quality of patient care.

2.4 Need for further research

The paucity of literature around this topic indicates that further research is needed to examine differences in educational preparation between the two levels of nurse in order to develop a greater understanding of how each is prepared for their graduate roles and responsibilities. Research is also needed to understand expectations of both graduates and employers for both

graduate ENs and RNs, in order to ascertain what differences exist in role expectations between the two levels of nurse.

Research is needed to determine if the differences in educational preparation between the two levels of nurse influences the decision making and problem solving skills of graduates and validates the use of two categories of nurse. Studies should be undertaken to clarify the differences between the roles of ENs and RNs as delineating between the roles is important to decrease the confusion and ambiguity surrounding the roles and make explicit differences in accountability and responsibility. Further investigation is also needed on the level of supervision required of EN's to justify the demarcation between ENs and RNs. Indirect supervision is an imprecise term and requires clarification to justify its continuing use if ENs are not seen as independent practitioners.

2.5 Summary of Chapter Two

This chapter has provided details of the literature review undertaken to provide background to, and inform, the research topic. The history of enrolled nursing in Australia was explained along with issues around scope of practice resulting from having two levels of nurse. Differences and similarities in educational preparation of RNs and ENs were outlined along with reasons why further research is required on this topic. The next chapter describes the methodology used in this multi-phased mixed methods study to examine the differences in the educational preparation and role expectations of graduate RNs and ENs.

Chapter Three: Methodology

3.0 Introduction

Following on from the literature review which provided the background and setting for the research, this chapter delivers an exploration and discussion of the chosen methodologies for this research. It outlines how the decision was made to use multi-phase mixed methods research and discusses broadly the use of triangulation in the research. Details of the research method, participants and data analysis are described along with the ethical issues relevant to the project.

3.1 Research Methodology

Research has traditionally been separated into one of two overarching paradigms, qualitative or quantitative. Quantitative researchers, utilising a positivist paradigm, employ systematic deductive reasoning to try to understand relationships between variables and generally understand a problem by addressing questions relating to “how often” and “how many” (Creswell & Plano Clark, 2007; Malina, Norreklit, & Selto, 2011; Polit & Beck, 2012). It is usually associated with numbers and statistics, and utilises methodologies such as clinical trials and observational studies to investigate a problem (Malina et al., 2011; Polit & Beck, 2012). By stressing the use of established procedures that de-emphasise individual judgement and incorporating large numbers of participants, quantitative research usually provides objective results that can be generalised to larger populations (Malina et al., 2011; Yeager & Steiger, 2013). While this enables generalisation of results, the individual’s perspective may

not be heard (Creswell & Plano Clark, 2007), and the full depth and understanding of responses may not be achieved.

In contrast, qualitative researchers, using a constructivist paradigm, aim to explore a problem or convey perspectives of participants, achieving more detailed understandings of particular phenomena (Polit & Beck, 2012). This research utilises methodologies such as phenomenology, grounded theory and ethnography to answer questions that address the “how” and “why” of the phenomenon under exploration (Creswell & Plano Clark, 2007; Malina et al., 2011; Yeager & Steiger, 2013). Such an approach brings meaning and understanding of lived experiences to the research question through rich description and strategic comparison across cases. It utilises human subjective judgement, and is usually associated with words and developing theories (Malina et al., 2011; Yeager & Steiger, 2013). As qualitative research studies usually only involve a small number of participants, the results are not generalisable to the greater population (Creswell & Plano Clark, 2007), but they add to deeper understanding of phenomena. Despite their difference, both research approaches are acknowledged to provide meaning and help understand the world (Creswell & Plano Clark, 2007; Malina et al., 2011).

Although most research requires specification of methodology being used, the difference between qualitative and quantitative research approaches has been questioned by Allwood (2012). Allwood (2012) argues that great variation in methods and philosophies available for research within the two methodologies results in much overlap between qualitative and quantitative research in many areas, including data analysis and sample sizes. He proposes that it is not necessary to be able to place research in one or the other approach as the need for distinction may repress development of new research methods.

3.1.1 Pragmatic approach

A pragmatist approach to research focuses on the question being researched, allowing for the use of a variety of methods of data collection to inform the study (Creswell & Plano Clark, 2007). The pragmatic approach rejects the idea that qualitative and quantitative methodologies are incompatible and argues that the research methods utilised should be those which best answer the research question (Gambrel & Butler, 2013). The decision on which methodology to use for the research was driven by the research aim. Whereas both methodologies provided information on the research in question, a complete picture of the aspect of nursing education under exploration and role expectations could not be drawn from one methodology alone (Malina et al., 2011). To meet the aim of the research and explore different aspects of nurse education and roles, a combination of qualitative and quantitative methodologies was chosen to provide a better understanding of the research topic. This mixing of different paradigms to find methods that best answer research questions is the basis of mixed methods research (Creswell & Plano Clark, 2007).

3.1.2 Mixed methods

Mixed methods research has been defined as “research combining quantitative and qualitative research techniques, methods, approaches, concepts or language into a single study” (Johnson & Onwuegbuzie, 2004, p. 17). Although used by researchers earlier, mixed methods research began to be accepted as a legitimate means of research enquiry from the late 1980s (Creswell & Plano Clark, 2007). The paradigm underpinning mixed methods research is that the researcher should choose the combination or mix of methods and procedures that is best able to answer the research question/s (Johnson & Onwuegbuzie, 2004). It utilises multiple

research methods to provide a more complete picture of the research question when one method alone would provide insufficient understanding of the issue (Creswell & Plano Clark, 2007; Gambrel & Butler, 2013). It has been argued to be both a research philosophy, that guides the direction of the research and how the data is mixed, and a research method, where both quantitative and qualitative data are mixed in a study (Creswell & Plano Clark, 2007).

The greatest strength of mixed methods research is seen as its ability to capitalise on the strengths of both qualitative and quantitative methodologies in answering the question/s being asked (Creswell & Plano Clark, 2007; Östlund et al., 2011). It is also thought to help overcome the weaknesses inherent in using one approach alone. Personal biases found in qualitative research are offset by the objective nature of the quantitative component of the research (Creswell & Plano Clark, 2007). This approach enables recognition of both the physical natural world, as well as the importance of reality and depth of human influence gained from experience, providing researchers with the ability to explore complex happenings from multiple perspectives (Gambrel & Butler, 2013; Johnson & Onwuegbuzie, 2004).

Mixed methods research is considered to be useful in highlighting differences and similarities between a phenomenon (Östlund et al., 2011) and hence, was seen to be very appropriate to the current study. A major advantage of blending research methods is that “it enables the researcher to simultaneously answer confirmatory and exploratory questions, and therefore verify and generate theory in the same study” (Teddlie & Tashakkori, 2003, p. 15). Mixed methods research is also thought to help ‘close the gap’ between clinicians and researchers by using research methods applicable to different aspects of human experience accessible by diverse professionals (Gambrel & Butler, 2013). Problems identified with mixed methods studies are that they require expertise in both qualitative and quantitative methodologies, and they may be costly and time consuming due to the need to utilise different data collection and

analysis methods (Creswell & Plano Clark, 2007; Gambrel & Butler, 2013). Issues can also occur when submitting mixed methods research for publication (Malina et al., 2011). Integration of methods often leads to lengthy manuscripts, and authors may elect to publish the different study parts as separate papers rather than as a complete mixed methods study (Malina et al., 2011).

3.1.3 Mixed methods versus multi-method studies

Mixed methods studies are considered different from multi-method studies by some authors (Gambrel & Butler, 2013). In mixed methods studies, the data are mixed, whether it be during design, data collection or analysis, whereas multi-method studies utilise different methods, both qualitative and quantitative, but they are analysed separately so the results remain distinct (Gambrel & Butler, 2013). Other authors disagree with this distinction, arguing that mixed methods may utilise independent studies (or phases), where the data from the different methods are collected and analysed separately, yet the mixing of the two strands in drawing conclusions at the end of the study enables it to be considered mixed methods (Creswell & Plano Clark, 2007). Mixed methods research, using multiple phases, was utilised in this study.

3.1.4 Triangulation

The term 'triangulation' was originally derived from navigational strategies where multiple reference points were used to determine an exact location (Azulai & Rankin, 2012). In research, triangulation refers to the use of more than one research methodology, method, participant group, analysis method or investigator in order to determine a more accurate

picture of the research question being studied (Azulai & Rankin, 2012). Triangulation enables the researcher to examine questions from multiple perspectives, using multiple methods, to attain a comprehensive and in-depth understanding of the topic. This decreases the deficiency of any single research strategy to provide more complete results. This current research used multiple research methods (questionnaires and interviews), data sources (course coordinators, nursing students, senior nurses, regulatory personnel) and methods of analyses (thematic analysis, statistical analysis, content analysis utilising multiple investigators) to enable triangulation to be performed. Figure 1 demonstrates the multiple phases, participant groups, and methods used to answer each of the research objectives. The use of questionnaires as a quantitative approach helped to reflect and contextualise data from interviews, one of the limitations of using narrative enquiry alone (Gerrish & Lacey, 2010). This provided a balance between reflecting on cultural and social location of nurse educators in influencing nursing education and contextualising current practices in nurse education. The use of multiple research methods, data sources and methods of analyses provided a basis for triangulation, enabling extension of knowledge gained through the research, rather than the traditional aim of corroboration of data (Flick et al., 2012). “Triangulation should produce knowledge on different levels, which means they go beyond the knowledge made possible by one approach and thus contribute to promoting quality in research” (Flick, 2008, p.41).

Triangulation enabled the current research to address various perspectives of different interest groups, students, educators, senior nurses in health services and other key stakeholders. This aimed to address the issue being investigated from different perspectives, supporting the use of mixed methods for data collection and analysis. In doing so, the study incorporated data from a range of sources:

- Curriculum documents to determine theoretical and practical content of nursing courses;
- Course coordinators to validate information from curricula and provide their insights into differences in education levels and philosophies;
- Graduating nurses, both ENs and RNs, to determine perspectives on their practice roles following completion of their education;
- Senior RNs (nursing managers, administrators, educators and researchers) and other key stakeholders to determine their expectations of graduate nurses, both ENs and RNs, on commencement to practice.

The data collected in the study required mixing to enable findings from the different perspectives and research methods to be collated to inform a more complete picture on teaching and learning approaches, teaching content and the roles of nurses on commencement to practice. Data were mixed in several stages: at the design level, where qualitative data were embedded within the larger quantitative questionnaires; during data collection, where the results of one data set were built upon for the following phase; and during interpretation at the end of the research, in order to draw inferences that reflect on what was learnt through all the phases (Creswell & Plano Clark, 2007).

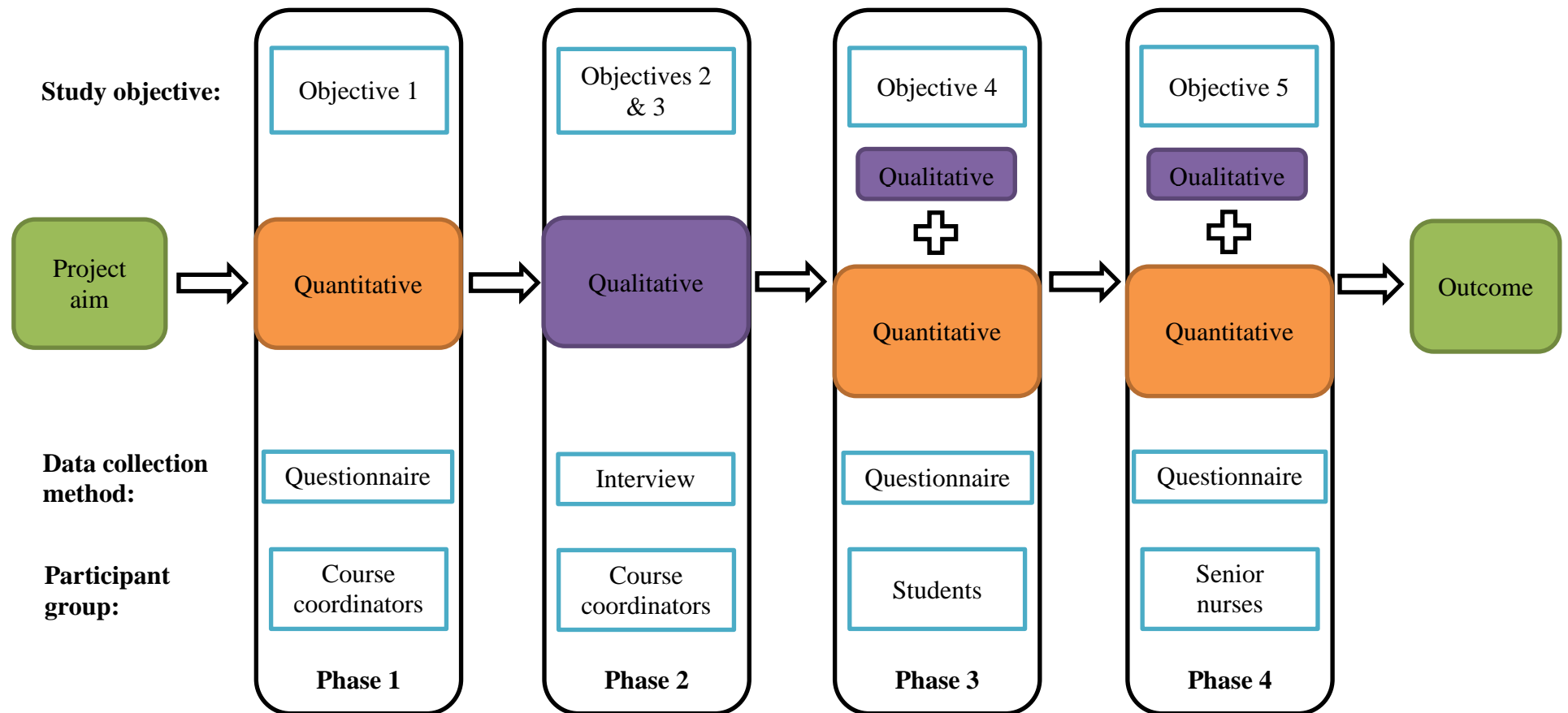


Figure 1: Flow plan of research using mixed combination timing for multi-phase mixed method research.

3.2 Research Plan

3.2.1 Multi-phase design

The study incorporated use of multi-phase typology as described by Creswell and Plano Clark (2007). A multi-phase design, also known as a sandwich design, is used when the researcher wishes to use multiple studies which alternate quantitative and qualitative approaches across different stages to answer several questions requiring different levels of data collection and analysis (Creswell & Plano Clark, 2007). The main purpose of this design is to address incremental research questions that are focused on answering the main research aim. Whereas most multi-phase research is conducted as a method of program analysis over several years, it can also be conducted as multiple studies with different participant groups to address the research objective (Creswell & Plano Clark, 2007). Therefore, this method of design was seen as the most appropriate for this study.

Multi-phase studies enable each individual study (phase) to address specific research objectives that combine to address the overall project aim. This enables a combination of both concurrent and sequential mixed methods approaches over several phases, with both qualitative and quantitative data collected during each phase (Creswell & Plano Clark, 2007). Figure 1 depicts the different phases of this doctoral study. The strengths of multi-phase design include the flexibility to utilise multiple methods to address interconnected research questions, individual studies can be published whilst contributing to the overall research aim, and the design provides the framework for studies to be undertaken over a period of time (Creswell & Plano Clark, 2007). The main challenges with multi-phase design include the need for sufficient resources, time and effort to undertake the research, the need for individual ethics applications for each phase of the research, the requirement to collaborate if different teams are undertaking the individual studies, the need for consideration of how to integrate

the individual studies and the need to translate findings into meaningful practical applications (Creswell & Plano Clark, 2007).

3.2.2 Research phases

The research was designed to be undertaken in four distinct phases: quantitative, followed by qualitative, followed by two mixed qualitative and quantitative phases. This design required the researcher to first collect and analyse quantitative data. The second phase involved the use of qualitative data collected which was used to help explain and elaborate on the quantitative results found in the first phase, as well as providing extra data. This was followed by two mixed quantitative and qualitative phases which built upon results from the first two phases in order to further clarify and explain the findings. The four phases built upon each other and are connected in the final discussion chapter. The rationale for this approach was that the combination of both quantitative and qualitative data provided both a general understanding of the research problem and explained the findings through use of participants' perspectives. The results of Phase One were employed to inform development of Phase Two (sequential data collection), enabling the use of both independent (research method independent from other phases as in the questionnaire in Phase One) and interactive (where the data from the questionnaire was used as a basis for the interviews in Phase Two, and both Phase One and Two were used in informing the questionnaires in Phases Three and Four) relationships between the phases (Creswell & Plano Clark, 2007).

3.3 Phase One: Nursing educational approaches

Phase One of the study was designed to address the first research objective, that is:

- Compare RN and EN pre-registration curricula to identify educational philosophies, curriculum design and content, and teaching approaches used in the educational preparation of RNs and ENs.

This phase required collection of quantitative data to develop an overall picture of the status of nurse education in Victoria at the time of the study. Summative (concerned with outcome) quantitative data were required to enable comparison of educational methods and philosophies, curriculum content and graduate skill and knowledge expectations for RNs and ENs by nursing course coordinators. This was obtained through questionnaires which requested quantitative data on curricula and programs.

3.3.1 Ethics

Ethical approval for Phases One and Two of this project was obtained concurrently from the Monash University Human Research Ethics Committee (MUHREC) (number CF11/0664 – 2011000318) (Appendix 1). Organisational approval from the Head of School (HOS) or Chief Executive Officer (CEO) for each educational facility was obtained prior to the distribution of questionnaires. Most HOS/CEOs required a copy of the MUHREC ethics approval, and several required further ethical approval from their own ethics committee and appointment of local organisational champions prior to permission being given. Following organisational approval, participants' (course coordinators') names were supplied to the researcher by the HOS/CEO. Recruitment of participants by the researcher, rather than the HOS/CEO, ensured

that participants did not feel coerced into participating. Most participants were unknown to the researcher and no power imbalance was identified between the researcher and the participants. Course coordinators were then sent an explanatory letter outlining the study aims, what their involvement would entail, and provided assurances that all information would be treated in strict confidence. The curriculum survey was sent to participants with a reply paid envelope to facilitate return of the completed survey. Participants had the choice of returning the survey anonymously or supplying their names and contact details when returning the survey if they were interested in participating in an interview. Assurances were also given that no organisation or participant would be identified in any reports arising from the study and that participants were free to withdraw from the study at any time. To protect the identity of participants, pseudonyms were used in writing the reports. Participants who agreed to a follow-up interview were also asked to provide written consent.

Obtaining permission from each organisation was required, since the research had the potential to expose sensitive details of course curriculum to competing organisations. Anonymity of responses, and grouping of data were used to ensure that no individual educational facility or person could be identified in the results or linked to their data. The influence of the researcher on the interviewees was also seen as a potential ethical issue. This may occur with the researchers' questions and opinions having the potential to influence participants' responses (Gerrish & Lacey, 2010). To ensure this did not happen, the researcher undertook the interviews using an interview schedule specifically designed for the semi-structured interviews. This enabled similar questions to be asked of each participant. As the researcher was a nursing peer with no position of power over the participants, the ability of the interviewer to influence participants' responses was seen as minimal.

3.3.2 Sampling strategy and participants

Convenience sampling was used to obtain participants for all phases of this study (Schnieder et al., 2010). This sampling strategy works well when participants need to be recruited from specific organisations, utilising the most readily accessible persons who self-select to participate (Polit & Beck, 2012). Limitations of this method include obtaining a sufficient number of participants who meet the selection criteria to participate in the study. Small numbers of self-selecting participant means that the risk of bias is greater than other methods of sampling as those persons who select to participate may not be representative of the target population limiting the generalisability of the findings (Polit & Beck, 2012; Schnieder et al., 2010).

Participants for this phase were recruited from Victorian educational organisations which prepared either RNs or ENs for practice. CEO/HOS from all Victorian nursing educational organisations were invited to participate in the research. Participant inclusion criteria required that the individual was from a facility that undertook education of RNs or ENs; ran the course in Victoria, Australia; and ran the course for pre-registration students. In 2010, there were 121 EN and 95 RN programs accredited to deliver nurse education in Australia (Nursing and Midwifery Board of Australia, 2010). Victoria was chosen as the state in which to undertake the project as it had a history of employing the most ENs in Australia (Australian Institute of Health and Welfare, 2009) and had a high percentage (22%) of all EN courses accredited in Australia in 2010. Victoria had 30 educational providers accredited to provide nursing preparation, with nine offering RN degree courses and 26 providing certificate or diploma level training for ENs (Australian Institute of Health and Welfare, 2009). Five educational facilities provided pre-registration education for both RNs and ENs. Those courses accredited for re-entry to practice, overseas nurses' initial registration, post-graduate entry, double

degree courses and post-graduate courses were excluded from the study. Course coordinators were identified as key participants in the research as they were believed to have greatest knowledge of overall course structure and understanding of teaching practices and methodologies within their courses. Fifteen CEO/HOS provided permission for course coordinators to be contacted regarding the study, of whom eight (five from RTOs and three from universities) chose to participate.

3.3.3 Data collection

Consistent with a multi-phase mixed methods approach, Phase One involved collection of quantitative data that would form the basis of the study. The strategy involved use of a questionnaire, completed by course coordinators. This provided predominantly quantitative information on courses to prepare RNs and ENs for initial registration. The questionnaire was developed specifically for this study, based on information gained from a review of the literature, the Nursing and Midwifery Board of Australia competency standards for RNs and ENs, Australian Nursing and Midwifery Accreditation Council (ANMAC) course accreditation standards for RNs and ENs, and the Australian Qualification Framework (AQF) standards for ENs (Australian Nursing and Midwifery Council, 2002; Department of Education Science and Training, 2007; Nursing and Midwifery Board of Australia, 2006; Ryan, 2009a, 2009b). These standards were used as they specified the criteria by which competencies of beginning graduate nurses were judged and courses were accredited. They also enabled a generic questionnaire to be developed that could be completed for RN or EN programs and thus allowed direct comparisons of the data.

A comprehensive self-report questionnaire with questions on 21 items was designed to obtain details of the particular institution (university, RTO), program (e.g. name, level, length, number of theoretical and practical hours, staff numbers), and information on the curriculum that included educational and nursing philosophies underpinning the curriculum, teaching and assessment methods, and theoretical and skills content. Also included in the questionnaire were three open-ended questions that sought opinions on how the curriculum and expectations of students on graduation differed for RN and EN courses. The final item on the questionnaire asked coordinators to indicate their availability for a follow-up telephone interview for Phase Two.

Prior to distribution, the questionnaire was reviewed by three experienced academics from an interstate university, a local university and a TAFE college to determine appropriateness of content and review the questionnaire format. Based on their reviews, several changes were made to the original questionnaire format and content. The survey items were coded during development to enable easy input into SPSS software for later analysis of results.

3.3.4 Procedure

Following ethical approval, initial contact was made with each educational institution by phone, and then by a follow-up email, to either the HOS or CEO to gain permission to undertake the research at the institution. Sixteen HOS/CEOs agreed to participate in the study and three declined due to lack of time. Course coordinators of programs in these organisations were each invited to complete a questionnaire and participate in a brief interview. The questionnaire (Appendix 2), along with an explanatory statement (Appendix 3), and a reply paid self-addressed envelope were sent via mail to course coordinators at those facilities

where the HOS/CEO had agreed to participate. Postal questionnaires were used as they were seen to be the only financially viable option for collecting the data due to the large, geographically dispersed area in which nursing education is delivered across Victoria (Edwards et al., 2002). In order to increase the response rate, participants were contacted before the surveys were sent to inform them of the study and letters were directly addressed to the course coordinators. Follow-up reminder phone calls and emails were made to course coordinators who had not responded two weeks after questionnaires had been distributed to encourage individuals to participate.

3.3.5 Data analysis

Data from the questionnaires were analysed using SPSS software. The comparison of RN and EN nurse education occurred across a range of variables including length of the course, method of education, clinical skills taught and knowledge expected of each level. Demographic information such as qualifications of educators, student to staff ratios and philosophy of the organisation, were used to determine differences between educators and other organisational factors that may influence the education of nurses.

Comparisons were made between RN and EN courses using the criteria outlined for RN competencies outlined by the Nursing and Midwifery Board of Australia (Nursing and Midwifery Board of Australia, 2006). Direct comparisons between programs enabled differences to be identified in content and curriculum method. This involved descriptive statistical analysis of the nursing courses as reported by the course coordinators. Descriptive statistical analysis enables the researcher to 'describe what is' (Thompson, 2009) for each of the programs which provided a basis for comparison between the different programs. This

involved the use of frequency distributions to describe nominal data collected for each program through the surveys. This phase was then written up as a journal article for publication, as is common for multi-phase research studies (Creswell & Plano Clark, 2007).

3.4 Phase Two: Course coordinator interviews

The second phase of the research involved interviews with nursing course coordinators to understand contexts of the education environments in which nursing education occurred and illicit the views of nurse educators as to differences between the different levels of nurse. This phase was developed to explore objectives two and three, that is:

- Compare nursing course coordinators' expectations of knowledge and skills of RNs and ENs on graduation.
- Explore nursing course coordinators' opinions about role, SOP and differences in educational preparation of RNs and ENs.

Although Phase One provided valuable insight into both the programs and graduate outcomes from nurse education, formative (concerned with process) qualitative data were required to inform a better understanding of how content was delivered in the different programs, and understand what course coordinators believed were the differences in education and graduate roles of both ENs and RNs. Data were obtained through interviews with course coordinators. Information obtained from the curriculum surveys in Phase One assisted in developing the interview schedule. Obtaining such qualitative data from both EN and RN educators enabled a broader picture of nurse education to be developed and facilitated a better understanding of information collected in the quantitative study.

3.4.1 Sampling strategy and participants

Participant selection for this phase was the same as in Phase One, using convenience sampling of nursing course coordinators in Victoria (Australia) who chose to participate. Those participants from Phase One who, in their returned questionnaires, had indicated willingness to take part in an interview regarding nurse education, were contacted by telephone to obtain consent and arrange interviews. Eight course coordinators were interviewed for the study, five from RTOs and three from universities.

3.4.2 Data collection

The strategy for Phase Two was to conduct semi-structured interviews with course coordinators to clarify responses in the questionnaire from Phase One and obtain more depth on their views around differences in RN and EN education. Semi-structured interviews, which were conducted at mutually agreed times and lasted 15-45 minutes, were digitally audio-recorded with the permission of participants. Prior to each interview, data from the individual participant's curriculum survey were analysed to identify areas that required clarification. Interview questions were loosely structured to allow participants to express a full range of opinions; and enabled the researcher to clarify responses on the questionnaire they did not understand (see Appendix 4 for a copy of the interview schedule). The interviews were transcribed by the researcher as verbatim accounts and returned to interviewees for member checking to verify the accuracy of the content and ensure credibility of the data (Endacott, 2008; Polit & Beck, 2012). Member checking involves returning transcripts of interviews to

participants to read, to ensure that the interviews have been accurately recorded and hence were credible records of the interview (Houghton, Casey, Shaw, & Murphy, 2013). Interviews were conducted between July and September 2011. Data saturation occurs when “a sense of closure is attained because new data yield redundant information” (Polit & Beck, 2012, p. 742). New information and ideas were obtained from the first four interviews, with subsequent interviews reinforcing or further explaining information provided by previous interviews. As participants were providing information on their programs, which were all subject to the same accreditation procedures, this is not surprising. Hence, data saturation was achieved, as no new information was obtained from the last four interviews, and any further interviews were likely to provide the same information.

3.4.3 Data analysis

Interview data were analysed using qualitative thematic analysis. Thematic analysis involves organising, labelling and grouping related data together into themes, using participant quotes to illustrate themes (Gerrish & Lacey, 2010). This provided a structured approach utilising a systematic, verifiable process to ensure a clear procedure for data analysis and minimise potential research bias during analysis and interpretation (Polit & Beck, 2012). Data were thematically analysed using the process outlined by Ezzy (2002) of open coding, axial coding and selective coding. Open coding was undertaken as categories for coding the data were developed after several of the transcripts had been read and re-read through (Polit & Beck, 2012), and reoccurring themes were identified. The transcripts were firstly read as a whole to give a broader overview. Following this, the transcripts were analysed separately by the student researcher and supervisors to identify themes, and then compared to identify

commonalities and differences between transcripts. Subsequent meetings were held to ensure a high degree of consistency in the interpretation and reliability of the emergent themes. This inter-coder reliability was used for the data analysis to ensure dependability (Endacott, 2008). Axial coding was used to explore coded themes and examine relationships between them. These were then compared to pre-existing theories on nursing education. Selective coding involved identifying a core coded theme and examining relationships between this theme and other elements. Final coded themes were compared with existing theories to identify similarities and differences. A code book was developed to describe the exact definition of categories used to code the data. The student researcher coded the entire data set to ensure consistency across the interviews (Polit & Beck, 2012).

Data were examined to establish course coordinators' opinions on similarities and differences in educational programs, expectations between the educational sectors, and to develop understandings of different values, opinions and approaches to nurse education. The context and knowledge of nursing and education cultures by the researcher were essential in understanding interview content (Gerrish & Lacey, 2010). The insider knowledge of the student researcher, as a fellow nurse educator, helped build trusting relationships with the research participants, and enabled her to gain a better sense of participants' reasons for providing the answers to interview questions, as they shared common language and knowledge in the area. Because of this strong nursing background, the student researcher needed to be aware of 'investigator bias', as expectations of the outcomes of the research may have influenced how the outcomes of the research were interpreted. Researcher bias and subjectivity are commonly understood as inevitable and necessary by most qualitative researchers (Mehra, 2002). The student researchers' personal beliefs were reflected not only in the topic chosen, but in the decisions regarding methodological approaches and analysis

methods. As such, it was important for the student researcher to be aware of the influence of her own bias on the research and set in place structured analysis processes to ensure biases were both acknowledged and managed.

3.5 Phase Three: Graduating student surveys

The third phase of the research utilised surveys to further investigate differences in role expectations between graduating EN and RN students. This phase of the study was designed to answer research objective four, that is, to:

- Compare RN and EN students' expectations of their nursing roles within the health care team at the time of graduation.

To achieve this objective, final year EN and RN students were surveyed to ascertain their expectations of their roles on graduation. This data was used to ascertain perceived differences in role expectations and SOP of the two nursing student groups on graduation.

3.5.1 Ethics

Further ethical approval was obtained for the nursing student survey from MUHREC. Permission was sought from HOS/CEOs of educational institutions to enable the questionnaire to be distributed to students. Using an electronic survey enabled the identity of participants to remain unknown to the researchers, and hence ensured no breaches of confidentiality or identification of participants. Participation was voluntary and participants were able to elect not to complete the survey. Completion of the survey demonstrated implied consent to participate in the research.

Published findings do not contain names or identifying characteristics of participants or organisations. All data collected will remain in the department for at least five years in a secure area only accessible to the student researcher. The data will be destroyed after five years as per the Monash University protocol.

3.5.2 Sampling strategy and participants

Participants for Phase Three of the research included RN and EN students who were in the final year of their pre-registration program. HOS/CEOs from fifteen educational facilities had provided approval for the study. Course coordinators from these facilities who agreed to participate in the study were contacted to request assistance with the distribution of the surveys to students. Convenience sampling was used with students self-selecting whether to participate in the study. Approval was received from course coordinators of two universities and three registered training organisations to distribute the questionnaire to students. These facilities had a total of 576 students undertaking their final year nursing studies. The letter of introduction (Appendix 5), explanatory statement (Appendix 6) and questionnaire (Appendix 7) were distributed either electronically via their relevant learning management platform (Moodle or Blackboard), or in hard copy. Two educational institutions requested hardcopies which were sent as packs that included reply paid envelopes to facilitate the return of surveys. Fifty seven students completed surveys, giving a response rate of 10%. The response rate was lower than anticipated, but this may have been due to pressures on the graduating students. Final year students were under pressure to complete graduate program applications and interviews, complete final assignments and undertake clinical appraisals at the time of the survey. One university coordinator also stated that their students had been oversaturated with

surveys at the time of the research, and this may have impacted on their willingness to participate.

3.5.3 Data collection

Data from nursing students were collected through a questionnaire which aimed to gather basic demographic information and determine if understandings and expectations of respective roles, SOP and the types and levels of skills of nurses on commencement in the health services varied between the different levels of nurse. The questionnaire was developed using the Qualtrics[®] survey software program, and incorporated check-box, scales and open-ended questions to allow for collection of specific data whilst incorporating space for individual opinions.

The questionnaire for nursing students was developed to identify role expectations using items related to graduate competencies, skills and knowledge expectations. The survey utilised the findings of Phase One, the Australian Nursing and Midwifery Accreditation Council competencies for RNs (Nursing and Midwifery Board of Australia, 2006), and drew on the work of Lu, While and Barriball (2008) and Barnett (2013) in defining specific role requirements and graduate attributes. The questionnaire was divided into three sections. The first section provided a list of predetermined nursing competencies where students were asked to rank perceived importance of each competency to graduate nurse roles on a 5-point Likert scale, where 1 represented 'very important' and 5 represented 'not at all important'. The second section of the questionnaire also used the same 5-point Likert scale to determine how well graduating nurses felt their program had prepared them for their graduate nurse role. A predetermined list of graduate attributes was used against which a 4-point Likert scale was

used to rank preparedness for that attribute, where 1 represented 'not prepared' and 4 represented 'well prepared'. The third section incorporated open-ended questions to allow for collection of individual opinions and enhance understandings. The survey was piloted with 10 students who had either recently completed the diploma program or were completing the degree program. Feedback from the pilot survey resulted in the wording of two of the questions being modified to ensure understanding and ease of survey completion.

3.5.4 Data Analysis

The IBM SPSS statistics program (version 20) was used to undertake statistical data analysis. As the data were not normally distributed due to the nature of Likert scales responses, a non-parametric statistical test was used to analyse the numerical data. Non-parametric statistics make no assumptions about the probability distribution of, in this case, the mean Likert scale scores. In this part of the study, Mann-Whitney tests were used to identify significant differences between role expectations of the student cohorts. The mean was used as the measure of central tendency (Thompson, 2009) from which to compare the student role expectations of the different levels of nurse. Variations in expectations of the different levels of nurse were matched against the levels of participants. Differences in role expectations for graduate RNs and ENs from the different participant groups were compared. The questionnaire also included open-ended questions to enable participants to describe their views of graduate nurse roles and education. Open-ended questions were analysed using content analysis. Content analysis is a method of studying responses to open-ended questions by coding the written words into categories and patterns (Chambers & Chiang, 2012). The most common method for content analysis in qualitative research is by counting the frequency

of the most-used keywords to detect the important communication content (Chambers & Chiang, 2012). Hence, for this study, coded word frequency counts were used to identify themes important to participants. Findings from the open-ended questions were used to support and extend understanding of the quantitative data from the questionnaire.

3.6 Phase Four: Senior nurse survey

The fourth phase of the research utilised surveys to further investigate differences in role expectations of graduate ENs and RNs from the viewpoints of senior nurses and policy makers. This phase of the study was designed to answer research objective five, that is, to:

- Compare nursing administrators', graduate nurse coordinators', senior clinical nurses' and nurse regulators' expectations of the roles of graduate RNs and ENs within health care teams, at the time of graduation.

To achieve this objective, data were collected from senior nurses at health services that employed graduate nurses and at nursing regulatory authorities. This was to provide a better understanding of the role expectations of graduate nurses from each of these interest groups. The data were used to ascertain differences in role expectations and SOP of the two nursing student groups on graduation.

3.6.1 Ethics

Further ethical approval was obtained for the senior nurses' survey from MUHREC. Participants were contacted through publically listed email contacts obtained from public

health services websites. As the email contacts were in the public domain, there were no privacy issues involved with contacting these participants, although one organisation requested specific ethical approval from its own ethics committee before further emails could be distributed. Using an electronic survey enabled the identity of participants to remain unknown to the researchers, and hence ensured no breaches of confidentiality or identification of participants. Participation was voluntary and participants were able to elect not to complete the survey. Completion of the survey was taken as implied consent.

Published findings do not contain names or identifying characteristics of participants or organisations. All data collected will remain in the department for at least five years in a secure area only accessible to the student researcher. The data will be destroyed after five years as per the Monash University protocol.

3.6.2 Sampling strategy and participants

Participants for Phase Four of the research included different interest groups involved in the employment and regulation of graduate nurses in Victoria. Searches for senior RNs were conducted via health service websites of every health service in Victoria listed on the Department of Health Website (118). As described above, convenience sampling was used with participants self-selecting whether to participate in the survey. Snowball sampling, as discussed below, was also used to increase numbers of potential participants. Senior RN status was defined for this study by the employed position of the RN. RNs employed by health services in administration, ward management, education or research were considered as senior. Key regulatory stakeholders (such as Chief Nursing Officers, ANMAC representatives, Nursing and Midwifery Board of Australia representatives) were also requested by email to

participate in the survey. They were surveyed to understand their perspectives on differences in roles of the different levels of nurse in Victoria. Four groups were identified for analysis, nurse administrators, nurse educators, clinical nurses and nurse regulators. Although the survey was sent to the board members of the Nursing and Midwifery Board of Australia, Australian Nursing and Midwifery Accreditation Council of Australia, Chief Nursing Officers, and the nurses listed on the Victorian Department of Health website, only one participant identified themselves as part of a regulatory group in the responses so they were removed from the analysis as they could not be used in statistical analysis.

3.6.3 Procedure

A search of all Victorian health services (both public and private), and nursing regulatory authorities' websites was undertaken to identify email addresses of senior nurses. One hundred and eighteen health services were identified from the Department of Health website. Emails were sent to publically available email addresses for senior nurses identified at the health services requesting their participation in this research (Appendix 8). An explanatory statement (Appendix 9) and web-link to the online survey (Appendix 10) were included in the email. People interested in participating were requested to forward the email to other senior nurses who may be interested in participating, enabling a 'snowballing' effect. Snowballing involves data collection through targeting known persons in the area of interest and requesting them to refer the survey to other potential participants (Campbell, Cooke, & Streeton, 2004). This is a method used to target participants who are members of different networks relevant to the research. In this research, snowballing was undertaken by using publically available contact details for individuals at Victorian health services and requesting they both

participated in the study and passed the survey on to other persons who may have had an interest in participating.

3.6.4 Data collection

The senior nurse survey was based on the student survey from Phase Three, utilising the same list of predetermined competencies, skills and knowledge. It was developed to compare expectations of senior nurses and representatives from nurse regulatory authorities on the roles of graduate RNs and ENs within the health care team at the time of graduation. They were asked to identify whether each of the listed predetermined nursing competencies were the roles of the RN, EN, both or neither. It was pilot tested with six senior nurses (Associate Nurse Unit Manager, graduate educators and academics) and changes made to the wording and formatting to enable ease of understanding of the questions and survey completion. The questionnaire was delivered online via Qualtrics[®] survey software (version 44586) to facilitate easy completion by participants.

3.6.5 Data Analysis

IBM SPSS statistical software (version 20) was used to undertake statistical analysis of the numerical data (response frequencies for the four response options – RN only, EN only, both and neither). Chi-square tests were used to identify whether differences existed between the senior nurse cohorts (administrators, clinical nurses, educators) in their responses to the role expectations of graduate RNs and ENs. Chi-square tests enable comparison of two data variables to determine any relationship between them (Maltby, Williams, McGarry, & Day,

2010). A 3×4 contingency table was drawn for each survey item representing the two variables – the senior nurse cohorts and the responses relating to role expectations (Table 1).

Table 1. Example of the table used to show results of the chi squared tests used to examine differences between respondent responses for role of graduate nurses. An example of the 3×4 contingency table is represented by purple highlighting, and the two variables – the senior nurse cohort and the responses relating to role expectations – are represented with orange and green text, respectively.

Competency	Role of	Admin (n=38)	Clinical (n=35)	Educator (n=73)	Average	Pearson Chi squared p value
Identify normal and abnormal assessment results	Graduate RN					
	Graduate EN					
	Both grads					
	Neither role					
Insert naso-gastric tubes	Graduate RN					
	Graduate EN					
	Both grads					
	Neither role					

The null and alternate hypotheses (Ho and Ha, respectively) to be tested with the chi-square test were:

Ho: The different senior nurse cohorts did not have different role expectations from the graduating RNs and ENs.

Ha: The different senior nurse cohorts had different role expectations from the graduating RNs and ENs

The null hypothesis was rejected and the alternate hypothesis was accepted when the p value from the chi square test was less than 0.05.

Variations in expectations of the different levels of nurse were matched against the levels of participants (educator, administrator, clinician). Descriptive statistics were used to present the majority of data where no statistical difference was found between the participant levels when undertaking statistical analysis. The mean response ratio was used as the measure of central tendency from which to compare the role expectations of the difference levels of nurse (Thompson, 2009). The questionnaire also included open-ended questions to enable participants to describe their views of graduate nurse roles and education. Open-ended questions were analysed using content analysis. As for Phase Three, content analysis involved coding and word frequency counts to determine common themes among respondents (Chambers & Chiang, 2012). Findings from the open-ended questions were used to support and extend understanding of the quantitative data from the questionnaire.

3.7 Interpretation of multi-phase research

Interpretation of the study as a whole used a triangulation method in which both qualitative and quantitative data were given equal weight in the outcomes of the study. This approach allows for reporting of outcomes that are complementary, convergent or divergent (Östlund et

al., 2011). Triangulation of data across different participant groups enabled the views of different key stakeholders who each had an interest in the topic to be heard, providing a more complete picture of the current educational preparation of both RNs and ENs and role expectations of all the interested parties involved in their employment and registration. As these views were often different, the complementary, convergent or divergent views were able to be heard.

3.8 Summary of Chapter Three

This chapter has provided details of mixed methods research and justification of why this approach was used to undertake the research. The research methods, participant groups, data analysis methods and ethical issues have been discussed to provide an understanding of the overall research. By providing an outline of the research plan and methodology, a foundation for the research has been provided and framework outlined to demonstrate organisation of the research and provide the reader with an understanding of how the research proceeded. The following chapter provides the results of the first phase of the research. This phase involved surveys exploring nursing curricula undertaken with nursing course coordinators.

Declaration for Thesis Chapter Four

Declaration by candidate

In the case of Chapter Four, paper titled “Similarities and differences in educational preparation of registered and enrolled nurses in Australia: An examination of curricula content “, the nature and extent of my contribution to the work was the following:


Nature of contribution	Extent of contribution (%)
I was the main contributor for concept development, key ideas, development and writing up	80%

The following co-authors contributed to the work:

Name	Nature of contribution	Extent of contribution (%) for student co-authors only
Lisa McKenna	Contributed to concept development, key ideas, development and writing up	10%
Angelo D’Amore	Contributed to concept development, key ideas, development and writing up	10%

The undersigned hereby certify that the above declaration correctly reflects the nature and extent of the candidate’s and co-authors’ contributions to this work*.

Candidate’s Signature

	Date 8/02/2014
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Main Supervisor’s Signature

	Date 8/02/2014
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Chapter Four: Phase One – Curricula Content Survey

4.0 Introduction

By conducting research through a multi-phase mixed methods approach, the intended outcome of the study was to produce research that capitalised on the strengths of both qualitative and quantitative approaches (Creswell & Plano Clark, 2007; Östlund et al., 2011). This approach enables the importance of the physical reality of what exists to be recognised with the human influence upon the experience. This chapter reports on the results of the first phase of the research which aimed to identify similarities and differences in the educational philosophy, curriculum design and content and educational preparation of RNs and ENs in Victoria. This phase was undertaken using a quantitative survey of curricula with nursing course coordinators.

Phase One of the study involved curriculum and program analysis to identify similarities and differences in educational approaches and curricula between the different levels of nurse. Descriptive statistical analysis of the surveys identified differences in educational methods. Although both the diploma and degree programs utilised many of the same educational methods of instruction, using lectures, tutorials and laboratory sessions, the way these were used varied between the programs. Registered Training Organisations (RTOs) which educated ENs incorporated face-to-face teaching as their main educational approach whereas universities which educated RNs relied heavily on self-directed learning. There were also differences noted in qualifications of teaching staff, with universities mostly employing educators with masters and doctoral qualifications and RTOs mostly employing staff with degrees as their highest qualifications. Student-teacher ratios were much lower in RTOs

compared to universities. The number of hours of professional placement experience was much higher for degree students.

Theoretical topics and skills taught also varied between the programs. The numbers of theoretical topics and skills taught increased with the program level. Whereas some areas of theory and clinical skills were covered in the curricula of all three programs, greater alignment was found in theory and skills taught between the diploma and degree programs. Basic nursing skills were similar across the programs, with the number and level of skills increasing with program level. Higher level skills, such as application of cervical collars, were only taught in degree programs. The results of the first phase are reported in the following manuscript which is currently under review:

4.1 Article 4: Similarities and differences in educational preparation of registered and enrolled nurses in Australia: An examination of curricula content

Submitted as:

Jacob, E., McKenna, L., & D'Amore, A. (submitted November 2013) Similarities and differences in educational preparation of registered and enrolled nurses in Australia: An examination of curricula content, *Contemporary Nurse*.

Title: Similarities and differences in educational preparation of registered and enrolled nurses in Australia: An examination of curricula content.

Abstract:

Variations exist internationally in the types and numbers of nurses registered to practice. Whilst the United Kingdom has phased out second level nurses, countries such as New Zealand, Singapore and the United States have maintained a two level system. In Australia, two levels of nurse are authorised to practice, the registered nurse whom complete an undergraduate nursing degree, and the enrolled nurse who complete either a certificate or diploma program. Recent changes to educational preparation and resulting scope of practice for enrolled nurses have resulted in increased confusion between roles and expectations of graduates of the different levels. This paper reports on findings of a study aimed at identifying differences in educational preparation of the different levels of nurse in Australia. Course coordinators from organisations offering pre-registration nursing programs completed self-reporting questionnaires. Comparative analysis of survey responses identified similarities and differences between the two levels of nurse programs.

Keywords: Registered nurse; enrolled nurse; nursing education; skills; role.

Introduction

Variations in nursing workforce configurations throughout the world make it difficult to determine the most appropriate skill mix to ensure safe and effective patient care whilst maintaining healthcare costs (Ayre, Gerdtz, Parker, & Nelson, 2007). Although countries such as Australia, Canada and the USA have maintained a two-tiered system involving registered nurses (RNs) and second level nurses (called enrolled nurses (ENs) in Canada and Australia and licensed practical nurses in the United States), others countries such as the United Kingdom have phased out ENs and utilise only one level of nurse (Heartfield & Gibson, 2005). The perception that both levels of nurse perform similar roles, yet have different recognition for the role, was the rationale given for phasing out EN training in the United Kingdom (Blay & Donoghue, 2006; Chang & Twinn, 1995; Dearnley, 2006; Gibson & Heartfield, 2003).

Currently, in Australia, individuals can register to practice as RNs or ENs, with each level requiring specific knowledge, skills and outcomes for the qualification (Australian Qualifications Framework Council, 2011). To meet these requirements, the RN must successfully complete an undergraduate or graduate entry degree and the EN, a certificate or diploma-level qualification (Nursing and Midwifery Board of Australia, 2010). Though it has been argued that the roles of RNs and ENs differ based on educational preparation and supervision they receive (Francis & Humphreys, 1999; Kenny & Duckett, 2005), changes to educational preparation of ENs have enabled them to work at higher levels and undertake work that was previously only performed by RNs. Introduction of enhanced scope of practice for all Australian nurses in 2006, in response to economic challenges and RN shortages (Milson-Hawke & Higgins, 2003), enabled both RNs and ENs to practice skills in any field in which they are educated, authorised and competent to perform (Australian Nursing and Midwifery Council, 2007; Nursing and Midwifery Board of Australia, 2007). The role of ENs has since expanded to include many areas traditionally the domain of RNs, such as emergency departments, operating theatres and management (Heartfield & Gibson, 2005; Nankervis, Kenny, & Bish, 2008). Consequently, the national curriculum for ENs was redeveloped to address increasing knowledge and skills required (Department of Education Science and Training, 2007). This subsequently narrowed differences between the two levels of nurse, resulting in role overlap and confusion (Chaboyer, et al., 2008; Deering, 2007). Deering (2007) suggests that the educational needs for RNs and ENs are similar as they both undertake many of the same functions.

Changes to educational preparation and roles of ENs have led to discourse within the discipline over differences between the two nursing levels. Whilst generally, RN degrees are undertaken at universities, and EN diplomas and certificates undertaken at Technical and Further Education Colleges (TAFEs) or registered training organisations (RTOs), there are several institutions (both university and TAFE) which offer RN degrees, and EN diplomas and certificates in Australia (Nursing and Midwifery Board of Australia, 2011). Requirements for accreditation of education programs leading to nursing qualifications are set by the Australian Nursing and Midwifery Accreditation Council (Ryan, 2009a, 2009b). These requirements include key educational content, program lengths and minimum hours of clinical experience required. The main differences in educational requirements for the two levels of nurse are duration of education, (36 months for RNs versus 12-18 months for ENs), amount of

clinical experience (minimum of 800 hours for RNs and 400 hours for ENs), and type of institution (generally higher education provider for RNs versus TAFE or RTO for ENs).

No published research could be identified that compared educational curricula for RNs and ENs in Australia. This study aimed to identify similarities and differences in educational preparation of RNs and ENs in Victoria, Australia. It was expected the findings would provide better understandings of the skills and knowledge of the two levels of nurse on graduation and contribute to role expectations when using these nurses in the skill mix to meet health sector needs.

Methods

A cross-sectional survey design was used to compare educational preparation of RNs and ENs offered by Victorian (Australia) education providers. The survey was designed to gather data on program lengths, teacher education, teaching and assessment methods, curriculum content and nursing skills included in the different educational programs.

Participants

Participants were recruited from all Victorian educational providers accredited to offer nursing programs to prepare RNs or ENs for practice. Selection criteria were: the program was undertaken in Victoria and run for pre-registration students. Victoria was chosen as the state in which to undertake the project as it has a history of employing the most ENs of every state in Australia (Australian Institute of Health and Welfare, 2009; Nursing and Midwifery Board of Australia, 2013) and has 22% of all EN courses accredited in Australia (Nursing and Midwifery Board of Australia, 2011). At the time of the study, Victoria had 30 educational providers accredited to provide nursing education, nine offering undergraduate degrees for RNs, and 26 certificate or diploma level courses for ENs. Five organisations provided undergraduate education for both RNs and ENs. Courses accredited for re-entry to practice, overseas nurses' initial registration, postgraduate entry, double degrees and postgraduate courses were excluded. From the 16 education providers who agreed to participate, nine completed the survey, with one education provider completing the survey for two programs. The final response rate was 56%.

Procedure

A self-report questionnaire was developed to obtain details of the educational provider (type and nursing programs offered); program details (e.g. teaching hours, teaching and assessment methods); and curriculum content (e.g. theoretical units, professional practice, clinical skills). Item selection and design of the curriculum content section was developed according to the Nursing and Midwifery Board and Australian Nursing and Midwifery Council (ANMC) competency standards for registered and enrolled nurses, Australian Nursing and Midwifery Accreditation Council curriculum accreditation standards, and Australian Qualification Framework (AQF) standards for enrolled nurses (Australian Nursing and Midwifery Accreditation Council, 2011; Australian Nursing and Midwifery Council, 2002; Department of Education Science and Training, 2007; Nursing and Midwifery Board of Australia, 2006). These standards were chosen as they are the ones designated by the Nursing and Midwifery Board of Australia against which competency to practice for beginning graduate nurses is assessed for graduate nurses. They include broad aspects of nursing care such as: professional practice; critical thinking and analysis; collaborative and therapeutic practice; and provision and coordination of care. Specific areas of nursing care are listed in Tables 1 and 2. To ensure appropriateness of items in collecting data on course and curriculum data and confirm appropriateness of overall design, the questionnaire was reviewed by experienced academics and by course coordinators at an interstate university, a local Victorian university and a local TAFE college. Feedback resulted in refinement of the original questionnaire to ensure clarity of questions and extra content was added to the survey to ensure it reflected the aims of the study. The final version enabled the same tool to be sent to educational providers that offered both pre-registration RN and EN programs.

Prior to conducting the survey, written permission was obtained from the Head of School or Chief Executive Officer of each organisation agreeing to participate; we obtained ethics approval from xxx University Human Research Ethics Committee. Questionnaires, along with an explanatory statement outlining the purpose of the survey, were forwarded to the coordinator of each pre-registration nursing program. Return of the completed questionnaire to the researcher was taken as consent to participate.

Data analysis

Comparison of education methods, curriculum content and skills was expected to provide data by which to determine differences in educational preparation and outcomes of the different programs. Educational methods are the means by which depth of knowledge and critical thinking skills are taught to students, so the researchers were keen to investigate whether differences existed in the educational and assessment methods. The educational background of educators is another factor which may influence the ability of the educator to teach higher order critical thinking skills, so this area was another examined by the research. Descriptive statistics were used to provide a depiction of participating educational providers and pre-registration programs offered, and detailed comparisons of RN and EN curriculum across a range of variables including length of course, method of education, clinical skills taught and knowledge expected of each level. In addition, organisational factors (e.g. qualifications of educators, student-staff ratios) that may influence students' preparation was examined. As scope of practice and hence skill mix in Australia is influenced by the skills that nurses are authorised to perform, the skills taught to each level of nurse were compared.

Results

Surveys were returned from three universities, five TAFE colleges and one RTO, located in both regional and urban centres. One university offered both a degree and a certificate program whilst the other two universities offered degree programs only. The RTO offered the certificate IV in nursing only, whilst two TAFE colleges were teaching both the certificate IV in nursing and the diploma of nursing. This demonstrated variations in educational programs taught by comparable educational institutions. Significantly higher student enrolments and numbers of educators were found in universities compared to other providers. Reported student-to-teacher ratios were much higher in the RTO and universities, with an average ratio of one teacher per 22 students in the RTO and one teacher per 20 students in universities versus an average ratio of one teacher per four students in TAFE colleges. Student-teacher ratios have been linked with quality of education and may have an influence on the ability of students to refine critical thinking and analysis skills.

Educator qualifications differed between education providers with a much higher level expected for university staff than for other providers. Only universities employed doctorally-

qualified staff. Universities also had a much higher proportion of staff with Masters-level qualifications (28 staff out of 89) compared with only three staff in TAFEs and no staff at the RTO having Masters qualifications. The numbers of educators employed by universities with postgraduate qualifications (excluding Masters) was 13 compared with eight and two for TAFE colleges and RTO, respectively. Eighty-two per cent of TAFE educators and sixty per cent of RTO staff held bachelor degrees as their highest qualifications. This may again reflect on the education level of the nurses, with higher qualified staff employed in universities to enable degree students to develop a greater degree of critical thinking and depth of knowledge than second level nurses. This is also reflected in the accreditation standards for nurses in Australia, where educators are expected to hold a qualification higher than the one they are educating the students to.

Program details

Major differences were found in total theoretical hours between EN and RN programs (see Figure 1). Whilst lengths of certificate, diploma and degree programs differed (12 and 18 months versus 36 months respectively), both diploma ENs and RNs had similar hours of face-to-face on-campus contact. Degree students undertook nearly 70% of their course through self-directed study, which significantly increased required theoretical content hours stated for the programs. Self-directed study included preparation of assignments and study for examinations. EN programs also required students to undertake self-directed study, but this time was not recorded as required theoretical content hours. The certificate program had fewer contact hours than the other two programs. Professional placement experience hours for the degree programs were double those reported for the certificate or diploma programs.

Insert Figure 1 here

Common teaching methods included use of lectures, laboratory work, quizzes, directed group work and use of media such as compact discs (CDs) and data video discs (DVDs).

Worksheets, student presentations and simulation exercises were used by all except one diploma program. Notable differences in teaching methods were found between the EN (both certificate and diploma) and RN programs, with fewer EN programs using tutorials (43%), reading lists (43%), and on-line resources (57% for online modules and 29% for on-line discussions) compared to all RN programs utilising these methods (100% for each method).

The use of on-line resources and self-directed learning by all RN programs was seen as a main difference between the RN and EN programs.

A variety of assessment methods were common to all programs, including assignments/essays, group presentations, clinical reports, oral presentations and practical exams. Also common to degree and diploma programs was use of theoretically focused examinations. The main differences between programs were that 33% of RN programs used individual presentations and worksheets compared to 86% of EN programs, and one certificate and one diploma program used on-line discussion as an assessment option compared to all Degree programs using on-line discussions (29% of the EN programs versus 100%).

Curriculum content

Most core units in the nursing curricula were common to all three programs, with all teaching anatomy and physiology, pathophysiology, pharmacology, mental health, nursing care, professional practice, legal and ethical studies, and communication and interpersonal skills. Health promotion, indigenous health and interprofessional practice were included by most programs. Also common to 100% of degree and diploma programs, but only 33% of certificate programs, was nursing research. Differences were also noted for specific topics areas such as family and gender health, transcultural nursing, and children and adolescents which were identified by participants as being covered by an average of 25% of the RN programs versus 68% of the EN programs. Psychology and population health were not identified as being included in most programs by participants, but could have been incorporated into other topics.

As shown in Table 1, an extensive list of theoretical content was common to all three programs. Seven critical thinking and analysis content areas relating to documentation, quality assurance, reflective practice and evidence based practice were common to all three programs. Collaborative and therapeutic practice content was very similar across all three programs, with only minor variation on some topics.

Insert Table 1 here

Greater consistency was identified in content covered by degree programs than either EN program. Whilst most 'critical thinking and analysis' areas were reported as common to degree and diploma programs, large differences were noted between certificate and diploma/degree programs across all areas (see Table 2). No certificate program included clinical audits, critical analysis and application of research findings, preceptorship or research methods and only one program covered the development of clinical practice guidelines, nursing education, leadership or student supervision.

Insert Table 2 here

Clinical Skills

An extensive array of general nursing care skills were taught across all programs including management of chest pain, tracheostomy care, and basic life support (see Table 3). A total of nine oral medication skills were taught by all three programs as were assessment of major systems (e.g. cardiac, respiratory, integumentary, neurological). Care of a stoma was the only 'wound management skill' reported as common to all programs. 'Communication and interpersonal skills', apart from counselling, were consistently covered across all programs. Clinical skills are listed under six sub-headings for ease of comparison: assessment, nursing care, specialist nursing, medication management, wound management, and communication and interpersonal skills.

Insert Table 3 here

Variations in skills taught were identified with increasing skill being taught with the increasing level of education. For example, ECG rhythm interpretation was taught in 33% of certificate programs compared to 50% of diploma programs and 100% of degree programs (Table 4). Whilst 'general nursing care' was consistently taught across all programs, two differences were identified between the programs: male catheterisation was not taught in certificate programs, and bladder scanning was taught in 75% of the diploma programs compared to 33% of the certificate programs and none of the degree programs.

Major differences were identified in the specialty nursing skills taught between the EN and RN programs. No 'specialist nursing skill' areas were common to all three programs. With the

exception of mastectomy care, the majority of students in degree programs were consistently taught the other specialty skills listed.

‘Medication management’ differences were identified between certificate and diploma/degree programs. Certificate programs did not include and intravenous medications (IV) and only a percentage of the programs covered oral medications IV cannulation was only taught in the RN programs and not in any of the EN programs.

Insert Table 4 here

Discussion

Results from this study identified similarities and differences between EN certificate and diploma programs, and RN degree programs offered by participating Victorian educational providers. Similarities between programs included teaching and assessment methods. The wide variety of teaching methods used in all programs support the work of McAllister (2001) who states that nursing curricula need to cater for a variety of learning styles and levels of students. This is due to the increasing variation in students entering nursing programs, with increasing numbers of mature age and students from non-English speaking backgrounds (Carr, 2008). This variation in student entry is seen in both EN and RN programs. The need to balance practical skills with academic demands also requires educators to use multiple methods of teaching and assessment (Carr, 2008). Other areas of similarity included specific content areas such as core theory units; general and specialist nursing skills; professional, collaborative and therapeutic practice; provision and coordination of care; and communication and interpersonal skills. Despite similarities in assessment methods, the focus of assessment for the different sectors is seen to differ. The TAFE assessment system for ENs is viewed as criterion-based (outcomes based) and the degree programs in higher education as norm-based (learning based) (Mitchell, 2011). The need to balance the teaching of practical skills and patient care along with academic thinking and an ability to challenge established healthcare norms may be an influence in the difference in assessment focus. Whilst ENs work as associates to RNs and undertake patient care under RN’s supervision, the movement of RN education to the tertiary level was aimed to assist in their ability to influence the development of nursing as a profession and thereby improve their status in healthcare (Carr, 2008).

Common to diploma and degree programs were critical thinking and analytic skills; application of research findings; additional theory units that included health education, organisational policy, clinical supervision, and leadership; and advanced nursing skills such as venepuncture, IV therapy, care of UWSD, seizure management and medication administration. Close alignment between these two programs reflects recent changes to the diploma program to give greater emphasis to critical thinking, leadership, supervision and more advanced clinical skills (Department of Education Science and Training, 2007). Although the results identified similarities in course content, the present study did not determine if there were any differences in critical thinking skills nor depth of teaching of program content, which has been argued to be the main difference between the different levels of nurse (Keogh, Myers, Kimberley, Twigg, & Davis, 2004), although differences in educator qualifications, teaching foci and program lengths, may lead to differences in these areas. Nursing curricula in Australia traditionally provide aims and objectives for each unit offered in the program, but do not specify the depth of knowledge to be taught. As critical thinking is thought to be developed through self-directed learning, this may be influential on outcomes of the RN programs which have a higher focus on teaching life-long learning skills (Cadorin et al., 2012). The number of clinical hours has also been found to have an influence on the metacognitive skills of nurses (Jacob, Sellick & McKenna, 2012), and as this study found, the degree has double the number of clinical hours to the diploma, it may be one means of RNs developing greater critical thinking.

Comparison of the three programs identified a number of differences, particularly between the two types of EN programs. Some of these differences can be attributed to variations in length of programs (EN certificate 12 months, EN diploma 18 month, and RN degree 3 years), and organisational factors such as teaching (including self-directed study) and clinical hours (Jacob, Sellick, & McKenna, 2012). The main difference between the two types of EN programs was knowledge and skills covered in the diploma but not the certificate program. Of particular note is the absence of IV administration and therapy, organisational policy, supervision, research, critical thinking and analysis, information technology (IT) skills and spiritual care. These exclusions may, in part, be due to stronger focus of the certificate program on basic patient care (e.g. assisting with activities of daily living, monitoring health status, undertaking 'less complex' procedures) which is in line with the traditional role of the

EN to assist with patient care under the supervision of a registered nurse (Australian Institute of Health and Welfare, 2006).

Variations in training for ENs have resulted in different skill and knowledge levels for nurses accredited at the same level. This has resulted in greater confusion over role expectations, which has been found by several authors in Australia (Chaboyer et al., 2008; Gibson & Heartfield, 2003; McGilvray, 2012). Having both a certificate and a diploma program for the one registration level produces a second level of EN (Hoodless & Burke, 2009), with one level more closely aligned to the traditional EN role and the other to that of the RN. The Australian Government has recently released a plan to fund government-subsidised places for EN training at diploma level only (McGilvray, 2012). Accreditation of programs to educate nurses to certificate level has been ceased in Australia which will see all future ENs educated at diploma level as certificate programs accreditation expire (Ryan, 2009a). This will help to decrease confusion over ENs' scope of practice, but whilst ENs with different educational preparation remain in the workforce, difficulty will likely be experienced by employers in determining skill mix for patient allocation. However, consequently this may increase confusion between the roles of diploma and degree prepared nurses.

Similarities in educational skills and knowledge identified in this study generally support the view of Deering (2007) who argued that both levels of nurse have similar educational needs as the roles are often comparable. The expanded EN role is being used in Australia to respond to the shortage of RNs, particularly in rural areas (Hoodless & Burke, 2009). This substitution of RNs with ENs was one reason for the demise of the EN in the UK, as similarities in roles and responsibilities, despite decreased career pathways and status, were seen as exploitation of ENs (Dearnley, 2006). Despite these similarities, differences that exist in RN degree programs due to the qualifications of educators, program lengths, increased clinical placement and emphasis on self-directed learning must have an influence on the depth of knowledge and critical thinking skills of these nurses. When determining skill mix in health services, employers must be aware of the differences that exist in education of the different levels of nurse, and the resulting differences in skills, depth of knowledge and critical thinking skills.

Limitations

Despite receiving approval from organisations for the study, only half of the course coordinators chose to participate in the study. This both increases the chance of sample and researcher biases, and limits the extent to which the findings may be generalised to a wider audience. As such, the findings may not reflect the views of educators at other institutions. However, by comparing the results with the wider literature, some similarities and differences have been identified that reinforce the trustworthiness of the findings, whilst also demonstrating the contribution this study offers in terms of better understanding the educational preparation of the two levels of nurse educated in Australia. Although EN education has a standardised training package for the whole of Australia, this study was undertaken in only one state in Australia, and hence it may not be representative of the wider population. Furthermore, responses were dependent on respondents having good understanding of the whole of their educational programs.

As mentioned previously, whilst the study examined curriculum content, it did not investigate differences in depth of learning and critical thinking which may be a significant difference between different nursing levels, although it did identify areas in the programs that may result in these differences. Expectations of student learning during clinical experience were not explored, which may also contribute to differences in depth of learning and critical thinking of graduate nurses.

Conclusion

Changes to scope of practice guidelines and educational preparation have greatly enhanced abilities of enrolled nurses to function at higher levels within the health care system, undertaking aspects of nursing roles previously only held by RNs. The results of this study indicate greater similarity in curricula content between degree prepared RNs and ENs educated at diploma and degree nursing programs than previously existed with EN educated at certificate level. Whilst RN programs continue to cover more high acuity skills than diploma ENs, increasing similarities in education suggest that both nursing levels are being prepared for closer comparison of roles on graduation. Another major issue identified from this study was difference between certificate and diploma programs, both of which prepare individuals for EN registration. Such difference has important educational and manpower

implications. Whilst both level of ENs are employed in health services, supervising clinical RNs must be able to identify differences in scope of practice for the various levels of EN to enable safe patient allocation and effective workload distribution.

Recommendations

As critical thinking, patient assessment and high acuity skills are seen to be at higher levels in graduate RNs, care must be taken when changing skill mix to ensure that patient deterioration and complex care needs continue to be met. While ENs provide a supporting role to RNs in providing nursing care, the responsibility for supervision, critical thinking, managing complex and deteriorating patients remains with RNs. With the Australian Government's emphasis on caring for patients in their homes, the majority of patients being admitted to acute health services are at a high level of acuity. Further research is needed to assess how changes to skill mix in Australia influences patient care outcomes.

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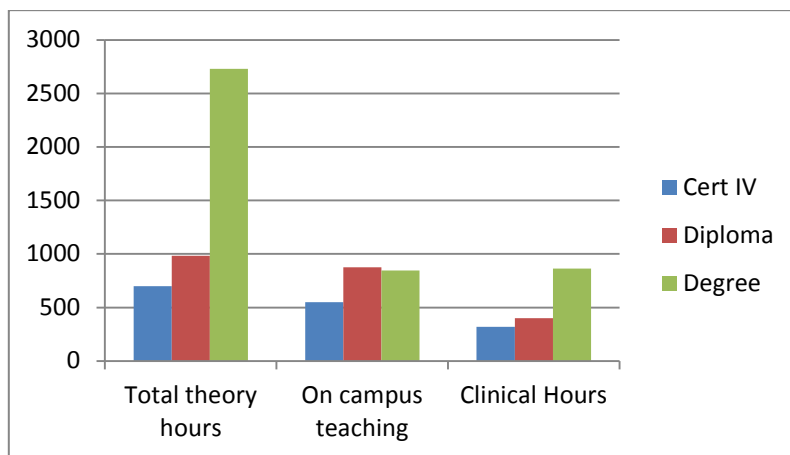


Figure 1: Comparison of teaching hours between programs

Table 1: Theoretical content taught in all programs

Professional practice areas	
ANMAC competency standards	Incident monitoring and reporting
Collaboration in multidisciplinary teams	Cultural competence
Comprehensive and accurate assessment prior to providing care	Cultural and religious sensitivity
Delegation of care – accountability and responsibilities	Professional code of ethics
Legal requirements for medication administration	OH&S legislation
Legal responsibility in duty of care, confidentiality, privacy acts	Patient rights in relation to health care
Legal studies – common law and nursing practice	Professional code of conduct
Lifelong learning and professional responsibility	Resolving issues of moral conflict
Refusal of care/ change of care request processes	Social Determinants of health
Requirements of statutory and professional regulation	Professional development needs
Strategies for promotion and protection of patient rights	Scope of practice
Responsibility and accountability for RN, ENs and unlicensed workers	
Critical thinking and analysis areas	
Accurate documentation	Quality improvement processes
Seeking feedback on practice	Development of nursing expertise
Evaluation of nursing activities	Evidence based practice
Reflective practice	
Collaborative and therapeutic practice areas	
Alternative communication methods for non-verbal patients	Continuity of care
Development of therapeutic relationships	Dealing with bullying/harassment
Environment factors influencing patient comfort	Cultural identity in health care
Effective communication techniques	Disability care
Facilitating individual decision making	Professional boundaries
No-lift/ manual handling policies	Mental health

Maintaining dignity during self-care deficits

Safe medication administration

Situations individuals may find threatening, undignified

Independence promotion

Use of open and closed questions

Rehabilitation needs

Strategies to involve family in care

Standards of infection control

Team work and negotiation skills

Provision and coordination of care areas

Assisting with activities of daily living

Emergency management and routines

Implementation of care

Patient assessment techniques

Stress management – self-control in difficult conditions

Patient education including illness prevention

Collaborative interventions with other health team members

Identification of normal and abnormal assessments

Documentation of care

Health promotion

Nursing history

Palliative care

Pain management

Medication administration

Evaluation of nursing care

Confidence and capability

Table 2: Percentage of programs covering specified units (Cert = certificate, Dip = diploma)

Professional practice areas	EN Cert	EN Dip	RN Degree
	(n=3)	(n=4)	(n=3)
Alternative intervention strategies	67	100	100
Coordination of nursing and health care	67	100	67
Current developments that impact nursing practice	67	100	100
Individual health determination	67	100	100
Monitoring of other staff	67	50	100
Policy and guideline development	33	50	100
Organisational policies and guidelines	67	100	100
Resource allocation	67	75	67
Skill mix requirements for effective care	67	75	100
Undertaking clinical supervision	33	100	100
Critical thinking and analysis content	EN Cert	EN Dip	RN Degree
Case reviews	67	75	100
Clinical audits	0	75	67
Critical analysis and application of research findings	0	100	100
Current knowledge of research in own field	67	100	100
Development of clinical practice guidelines	33	50	67
Nurse education of students, staff or others	33	50	100
Nursing support networks	67	75	100
Participating in meetings	100	100	33
Performance review processes	67	100	100
Preceptoring/coaching/ instructing and mentoring	0	100	100
Academic writing	67	100	100
Writing literature reviews	0	100	100

Research methods	0	100	100
Role of nurse in contributing to research	67	100	100
Role models in nursing	67	100	100
Student supervision	33	100	33
Undertaking staff/student orientation	67	100	67

Collaborative and therapeutic practice content	EN Cert	EN Dip	RN Degree
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Information technology skills	67	100	100
Information provision to enable control of own health	100	75	100
Interprofessional practice	67	75	100
Providing spiritual care	67	100	100
Role of interpreters	67	100	100
Strategies to affirm individuals	67	100	100
Support networks for individuals/groups	67	100	100

Provision and coordination of care content	EN Cert	EN Dip	RN Degree
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Agencies to assist with continuity of care	67	75	100
Clinical judgement	67	100	100
Crisis intervention	33	75	100
Development of goals for individual patient conditions	100	75	100
Development of nursing care plans	100	75	100
Epidemiology	67	75	100
Evaluation of individual health status and function	67	100	100
Gender health development	33	75	100
Identification of resources needed to achieve outcomes	100	75	100
Incorporating knowledge and research into care plans	33	100	100
Initiation of support services	100	75	100
Interpretation of data to identify health problems	67	75	100
Leadership	0	75	100

Lifespan education	67	100	100
Models of care delivery	67	100	100
Patient advocacy in planning nursing care	67	100	100
Referrals to other health providers	100	75	100
Supplementary information for nursing assessments	67	75	100
Technology in nursing and its uses	100	100	100
Time management skills	67	100	100
Use of quantitative and qualitative data to assess patient needs	33	75	100

Table 3: Nursing skills taught in all programs

Assessment skills	
Cardiac assessment	Neurological assessment
Nutritional assessment	ECG (12 lead) taking
Neurovascular observations	Pulse oximetry
Blood glucose monitoring	Vital sign measurement
Integumentary assessment	Respiratory assessment
Urinalysis/Interpretation	Weight measurement
Nursing care skills	
Asepsis, hand hygiene and standard precautions	Activities of Daily Living hygiene
Range of movement exercises	Pre and post operative care
Feeding assistance –oral	Feeding – enteral
Management of PEG tubes	NG tube insertion and removal
Breathing exercises	Bed making
Catheter care	TED stocking application
Patient positioning	Manual handling techniques
Management of chest pain	Fluid balance charts
Skin and pressure care	Ambulating patients
Tracheostomy suctioning/ care	Basic life support
Specialist nursing skills	
Nil common to all	
Medication management skills	
Subcutaneous & intramuscular injection	Drug chart documentation
Enema and suppository administration	Insulin administration
Topical medication administration	Checking S8 and other drugs
Inhalant therapy	IV site assessment

Oxygen therapy

Wound management skills

Ostomy care

Common communication/interpersonal skills

Effective communication

Management of personal stress and self-care

History taking

Handover techniques

Conflict management

Documentation

Report writing

Table 4: Percentage of programs which teach specified skills (Cert = certificate, Dip = diploma)

Assessment skills	EN Cert	EN Dip	RN Degree
Abdominal assessment	67	75	100
Geriatric assessment	67	100	67
Paediatric assessment	67	50	100
Patient assessment techniques	67	100	100
Primary and secondary survey	67	75	100
ECG rhythm interpretation	33	50	100
Chest X-ray interpretation	0	25	33
GCS assessment	67	100	100
Health screening	67	50	67
Triage	0	25	33
Arterial blood gas collection	0	25	67
Nursing care skills	EN Cert	EN Dip	RN Degree
Bladder Scanning	33	75	0
Bladder washout	67	50	33
Catheterisation female	67	100	100
Catheterisation male	0	50	67
Nasal suctioning	100	75	100
Oxygen humidification	67	100	100
Specialist nursing skills	EN Cert	EN Dip	RN Degree
Advanced life support	0	0	100
Cervical collar application	0	0	67
CVAD access and management	0	0	67
Cytotoxic spill management	33	50	100
CPAP ventilation management	0	0	67

Mastectomy care	33	50	33
Seizure management	67	100	100
Oral and pharyngeal suctioning	33	75	100
UWSD management	67	100	100
Venepuncture	67	100	100

Medication management skills	EN Cert	EN Dip	RN Degree
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Blood product transfusion	33	75	100
CVAD medications	0	50	67
Intra-osseous infusions	0	25	33
IV additives	0	75	100
IV cannulation	0	0	100
IV medication administration	0	100	100
IV therapy & IV pumps	0	100	100
Narcotic infusions	33	100	100
Parenteral medications	33	100	100
Patient-controlled analgesia	33	100	100
Peak flow measurement	67	100	100
Syringe drivers	67	100	100

Wound management skills	EN Cert	EN Dip	RN Degree
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Aseptic dressing technique	100	75	100
Wound dressing selection	100	75	100
Care and removal of sutures, staples and drain tubes	100	75	100
Removal of plaster	0	0	67
Plaster care	33	50	100
Donning sterile gloves	100	75	100
Plaster cast application	0	0	2 of 3

Communication/interpersonal skills	EN Cert	EN Dip	RN Degree
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Interviewing techniques	67	100	100
Counselling	33	50	33

4.2 Summary of Chapter Four

This chapter provided results from the first phase of the multi-phase mixed methods research. It investigated the educational curricula of RNs and ENs in Victoria, Australia. Curricula for Certificate IV EN programs were found to have large differences to the diploma EN program, lacking many of the clinical skills of the latter. Although similarities were found in curricula content and basic nursing skills between the diploma and degree prepared nurses, diploma courses did not cover high level skills required to care for acute patients covered in the RN programs. Depth of knowledge and critical thinking skills were not covered in this part of the research. The next chapter presents the results of interviews with nursing course coordinators from both EN and RN programs, that is, Phase Two of the study.

Declarations for Thesis Chapter Five

Declaration by candidate

In the case of Chapter Five, paper one, titled “Comparison of the educational preparation of registered and enrolled nurses in Australia: The educator’s perspective”, the nature and extent of my contribution to the work was the following:

Nature of contribution	Extent of contribution (%)
I was the main contributor for concept development, key ideas, development and writing up	80%

The following co-authors contributed to the work:

Name	Nature of contribution	Extent of contribution (%) for student co-authors only
Lisa McKenna	Contributed to concept development, key ideas, development and writing up.	10%
Angelo D’Amore	Contributed to concept development, key ideas, development and writing up.	10%

The undersigned hereby certify that the above declaration correctly reflects the nature and extent of the candidate’s and co-authors’ contributions to this work*.

Candidate’s Signature

	Date 8/02/2014
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Main Supervisor’s Signature

	Date 8/02/2014
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In the case of Chapter Five, paper two, titled “Educators’ expectations of career pathways for registered and enrolled nurses in Australia”, the nature and extent of my contribution to the work was the following:

Nature of contribution	Extent of contribution (%)
I was the main contributor for concept development, key ideas, development and writing up	80%

The following co-authors contributed to the work. If co-authors are students at Monash University, the extent of their contribution in percentage terms must be stated:

Name	Nature of contribution	Extent of contribution (%) for student co-authors only
Lisa McKenna	Contributed to concept development, key ideas, development and writing up	10%
Angelo D’Amore	Contributed to concept development, key ideas, development and writing up	10%

The undersigned hereby certify that the above declaration correctly reflects the nature and extent of the candidate’s and co-authors’ contributions to this work*.

Candidate’s Signature

	Date 10/02/2014
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Main Supervisor’s Signature

	Date 8/02/2014
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Chapter Five: Phase Two – Course Coordinator

Interviews

5.0 Introduction

Following the first phase of the study examining differences in curricula between the different levels of nurse, the second phase aimed to compare nursing course coordinators' expectations of the knowledge and skills of Victorian RNs and ENs on graduation and gather their opinions on roles and SOP of the different levels of nurse prior to graduation. Interviews were conducted with nursing course coordinators of both RN and EN programs to enable comparisons of opinions on the education, skills, knowledge and role expectations between the cohorts. Thematic analysis of interview transcripts from Phase Two identified two main themes related to the two different objectives. These were that '*the educational approach varies based on the award being undertaken*' and '*students undertaking different awards are prepared for different roles and career expectations*'. Findings related to each objective are discussed in two separate manuscripts which are presented as part of this chapter.

5.1 Theme 1: Educational approach

5.2 Article 5: Comparison of the educational preparation of registered and enrolled nurses in Australia: the Educator's perspective.

5.3 Theme 2: Roles and Career Expectations

5.4 Article 6: Educators' expectation of career pathways for registered and enrolled nurses in Australia

5.5 Summary of Chapter 5

5.1 Educational approach

Curriculum and teaching approaches varied between the programs. This was seen as a result of the commencing levels of students with RTO students requiring extra help to 'learn how to learn' at the start of their programs. RTO programs focused largely on didactic face-to-face teaching approaches. University students commenced their RN programs having already proven their academic abilities through secondary school completion or other tertiary level study. The RN curriculum reflected this prior knowledge through different academic approaches. Degree students were taught using more self-directed learning approaches, which was thought to assist in developing critical thinking skills and set students up for life-long learning. Academic expectations varied between the programs with requirements for referencing and academic writing increasing with AQF level. Similarly, the level of skills taught increased with program levels, with certificate programs teaching basic nursing skills, and degree programs incorporating skills for caring for patients with a higher acuity. Although the skills of the diploma and degree students were seen to be increasingly similar, ENs were expected to hand over the care of complex, deteriorating or highly acute patients to RNs due to their greater level of knowledge and critical thinking skills. Supervision expectations varied depending on the graduating level of the student. Although both levels of nurse were expected to be accountable for their decisions, RNs were expected to take on greater leadership and management roles. ENs were expected to be supervised at all times and have RNs available for assistance, advice or help at all times.

Findings from the first theme emerging from the interviews are presented in the following manuscript that is currently in press:

5.2 Article 5: Comparison of the educational preparation of registered and enrolled nurses in Australia: The educator's perspective

Submitted as

Jacob, E., McKenna, L., & D'Amore, A. (In Press 2014) Comparison of the educational preparation of registered and enrolled nurses in Australia: The educator's perspective, *Nurse Education in Practice*.

Manuscript Number:

Title: COMPARISONS OF THE EDUCATIONAL PREPARATION OF REGISTERED AND ENROLLED NURSES IN AUSTRALIA: THE EDUCATORS' PERSPECTIVES

Article Type: Full length Original Research Article

Keywords: nurse education; enrolled nurse; registered nurse; qualitative.

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Manuscript Region of Origin: AUSTRALIA

Abstract: Similar to the USA, New Zealand and Singapore, Australia registers two levels of nurse, the degree or postgraduate entry prepared registered nurse and diploma or certificate-prepared enrolled nurse. Over the past decade, significant changes have occurred in educational preparation of enrolled nurses. This has resulted in enrolled nurses undertaking many roles and responsibilities previously undertaken only by registered nurses. An exploratory qualitative research study using interviews with educators of both registered and enrolled nurses was undertaken to investigate differences in educational preparation of registered and enrolled nurses in Australia. This paper describes perceptions around how participants viewed educational approaches and different cohorts, types and levels of students. Similarities included topics covered and the majority skills taught, although high acuity skills remain a difference between the levels of nurse. Differences were also found in type of student, educational background and teaching methods.

Key words: nurse education; enrolled nurse; registered nurse; qualitative.

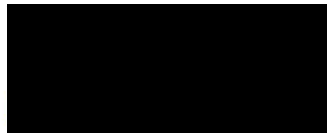
COMPARISONS OF THE EDUCATIONAL PREPARATION OF REGISTERED AND
ENROLLED NURSES IN AUSTRALIA: THE EDUCATORS' PERSPECTIVES

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INTRODUCTION

Different countries employ different nursing skill mixes to deliver patient care. Whilst the United Kingdom has ceased training second level nurses (Heartfield and Gibson, 2005), Australia, New Zealand, Singapore and the United States have continued with two levels of nurse (Ayre et al., 2007; Francis and Humphreys, 1999). Enrolled nurses (ENs) were introduced into the skill mix in Australia in the 1960s in response to economic constraints, and a shortage of registered nurses (RNs) (Russell, 1990). Whilst all nurses were originally educated in hospitals, nursing education has since moved from hospital training into mainly university-based education for RNs, and registered training organisations (RTOs) for ENs. In 2007, EN training moved from being state-based to a national training package (NTP) to provide recognised and dependable training standards across the country (Nankervis et al., 2008; Victorian Health Service Management Innovation Council, 2010). Although currently ENs are educated at either certificate IV or diploma level, further accreditation of all EN programs has been restricted to diploma level to reflect increasing skills and knowledge required by these nurses (Australian Nursing and Midwifery Accreditation Council (ANMC), 2011). Although educational preparation of RNs and ENs differs due to length and level of education, ENs are perceived to undertake similar activities and roles to RNs in clinical practice (Chaboyer et al., 2008). Compounding this blurring of roles is comparability in national competency standards for both levels of nurse (ANMC, 2002, 2006). This paper presents findings from a larger study examining educational preparation of the different levels of nurses in Victoria, Australia. The focus in this paper is on nurse educators' perceptions of differences and similarities in educational preparation of degree RN and EN programs.

RESEARCH DESIGN

Semi-structured interviews were conducted with nursing course coordinators working in both universities and RTOs to determine their views on educational preparation of RNs and ENs. Ethical approval was obtained from the relevant university human research ethics committee. In addition, school heads gave permission for their staff to participate. All 30 educational facilities registered at the time with the Australian Nursing and Midwifery Board to undertake nurse education, and located in the State of Victoria, were invited to participate. Eight course coordinators agreed to telephone interviews; three university and five RTO coordinators. Interviews, averaging 30 minutes in length, were recorded and transcribed verbatim. Transcribed interviews were returned to participants for member-checking prior to analysis.

Data Analysis

Data analysis was undertaken using a thematic analysis approach of open coding, axial coding and selective coding as described by Ezzy (2002). Open coding was undertaken by all members of the research team as data were read and re-read to identify reoccurring themes achieving inter-rater reliability. Data were then coded based on these themes and constant comparisons made to find different categories that emerged. Axial coding was used to explore coded themes and examine relationships between them. These were then compared to pre-existing theories on nursing education. Selective coding involved identifying core coded themes and examining relationships between these themes and other elements. Final coded themes were compared with existing theories to identify similarities and differences and checked between research team members to ensure validity.

FINDINGS

Two central themes emerged from the data: ‘educational approach varies based on the award being undertaken’ and ‘students undertaking different awards are prepared for different career expectations’. The first of these themes will be discussed in this paper¹.

All participating educators were RNs. University educators also held masters degrees as national regulations stipulate that all nursing educators should hold a qualification higher than those they are educating (ANMC, 2011). Many RTO educators had prior employment as educators in hospital settings (60%) whilst some had previously worked in universities (40%) (Table 1). University educators also had strong backgrounds in hospital education (60%) although none had previously worked in RTO settings. The average length of time educators worked in the RTO sector was 8.2 years and 7 years for the university sector.

Insert Table 1. Here

The theme ‘educational approach varies based on the award being undertaken’ was central to the results. This theme involved different opinions on how to educate nurses at different levels, and included two sub-themes; ‘curriculum and teaching approaches’ and ‘academic expectations’.

Curriculum and Teaching approaches

Educators consistently agreed that different nursing award programs aimed to meet needs of different student groups. Degree programs were targeted at students who met specified university admission criteria with a majority of students completing the Victorian Certificate of Education (VCE) (final year of secondary school). Alternatively, EN programs were targeted at students who had lower academic backgrounds. Many students entering EN

programs had not completed final year of secondary school, nor did they obtain required university entry scores. This difference in academic background between the student groups was expressed by an RTO educator who had previously taught at university level:

We have a very different population of students compared to university students. Our students are usually low socioeconomic, they usually do not have higher education; they usually don't always have a VCE [year 12] pass. (R3)

Considerable differences were perceived in approaches to teaching the two student groups, despite similarities in curricula content and teaching models. Face-to-face delivery was seen as necessary in the EN program as mandated nominal teaching hours are set for each RTO unit by the NTP. This was believed to result in less flexibility in teaching approaches.

Curricula approach was seen as a major difference between programs:

Education at universities is curriculum and we train from a training package. (R2)

All educators suggested that how they taught was dependent on ability and level of students. RTO educators felt teaching EN students was vastly different to degree students, requiring them to 'spoon feed' their students who often did not have high school completion.

You're looking at a cohort (EN) that requires a lot more support than a cohort that would traditionally go to an undergraduate program... because of that I think it has to be very hands-on and very teach in the class face-to-face...I want spoon feeding stuff...So, there's a limit to how else we could teach because of the ability and the level of students that we are accepting. (R3)

In contrast to this didactic method of learning, undergraduate degrees involved a significant amount of self-directed learning, utilising up to 70% of total course hours. This was seen as an important method for educating RNs to become life-long learners and enable them to identify and deal with problems independently. It was seen to aid in developing critical thinking skills:

[RN] nurses are being taught right from the start how to actually unpack a problem and to develop skills in looking into issues and coming up with solutions after investigating that...they do have that capacity to be self-directed in investigating issues and to drill down to what's going on behind things and then to work out what can be. (U2)

Since the move of EN education to diploma level, RTOs have started introducing self-directed learning, although this was not generally included in curriculum teaching hours. RTO programs varied considerably in amounts of self-directed learning they utilised. Some required none or small amounts, with others requiring students to undertake significant hours studying outside of course hours. The NTP requires educators to justify their teaching practices and provide evidence that students have met specified learning objectives. The ability to use self-directed learning, and still provide evidence that students had met the requirements, was seen as area of concern.

Twenty people in the classroom will have twenty different ways of interpreting your information, and at the end of the day, that's quite normal, but have they actually taken on board the element that you wanted them to get out of that piece of information, and if so, how can you actually have evidence to show that they have actually done that. (R1)

Several university and RTO educators felt that the amount of self-directed learning utilised in courses differed with individual student abilities and learning styles. Both EN and RN students, at the beginning of their programs, were thought to require more direction to 'learn to learn' than experienced students.

I found that teaching at the tertiary level, it was no different to teaching at the VET sector level in relation to academic papers..... You have to learn how to document and do research and write an academic paper. (R1)

All educators consistently agreed that basic clinical nursing skills of all nurses were similar at the end of their programs despite their educational preparation, although degree students were expected to have increased higher acuity skills. Clinical skills were seen to be taught in similar ways regardless of the level, with several RTOs using the same clinical skills competency textbook used by universities. One educator stated:

I've taught undergraduate, postgraduate and EN courses and from a teacher's point of view you deliver it in a very similar way. You give them the information, you give them the theory and then you allow them to practise skills and you assess the skills...But the actual competency part of it is all very similar. And then they go on placement and they tend to have to be signed off on almost exactly the same skills. (R3)

Clinical staff expectations of roles and knowledge of different levels of nursing students influenced students' opportunities to practise skills and consolidate knowledge. This was particularly relevant to diploma ENs who were treated the same on placement as certificate ENs, despite having greater knowledge and skills. This was thought to be due to poor

understanding by clinical nurses of the increase in skills and knowledge taught to diploma ENs.

I then think it's maybe expectations when they're out on clinical placement of what they actually are expected to do and what they do and how that actually works to how much experience they get there. What's expected of them when they're out on clinical placement, I think that actually has quite a large role on how they actually cement all their knowledge (R4)

Academic expectations of programs

Despite differences in admission criteria for the different awards, no differences were identified in curriculum models used by the different programs. Curriculum content was also seen to align closely between diploma and degree programs in most areas although the cert program was considerably different. Skills and theory taught were comparable, with the largest difference seen between the EN certificate and diploma programs. One RTO educator with previous university experience suggested that curriculum content of diploma and degree programs were similar, despite being presented differently:

When you look at curriculums [for RNs and ENs], they are written in such a different way that they look like they're worlds apart. But when you actually deliver... it is very, very, very similar. You know their skills...and learning is almost exactly the same...Probably since we've moved to the diploma it's much more similar but even prior to that... basic nursing is basic nursing, and you can call it what you like but it is all the same. (R3)

Academic expectations of students varied between programs and educators in regards to academic writing, research skills and analysis of nursing assessments. All university educators felt academic expectations of RNs were considerably higher than ENs, with one suggesting that this was due to difference in focus and required course outcomes. Several RTO educators assumed that length and depth of education for RNs gave them greater understanding and knowledge compared to ENs.

... the undergraduates for the degree, being a longer course they do have more knowledge and breath of information than our enrolled nurses. (R4)

Academic writing was a major area of difference identified by educators. All universities and several RTOs required students to write academic papers. Most educators felt it was their responsibility to teach students how to improve their academic abilities. One RTO educator stated:

We're always giving critical feedback on how to do things better, we make it very clear, so ... they've got a really good grounding on how to actually write an academic paper... You have to learn how to document and do research and write an academic paper. (R1)

In contrast, other RTO educators did not require students to use correct referencing style when preparing assignments or use correct grammar. They felt the emphasis for EN education was on clinical skills and knowledge rather than academic writing.

I think when you're talking about nursing you can make it as academic as you like but if they cannot provide those hands-on clinical skills in a reasonable time appropriate way in the workplace, then their academia is not going to help them. (R3)

These differences in academic expectations between RTOs suggested that, despite national accreditation for EN courses, considerable differences remained between educational facilities. University educators noted differences in entry standards between students from different RTOs, suggesting that whilst some RTOs graduated students at a level appropriate for university study, other providers graduated students with lesser skills, knowledge or academic ability.

Not every EN course is the same...they're just not at that same standard, they're not even close and it's a huge difference between some. (U1)

Variances in EN education were thought to be caused by differences in expectations of students on graduation, educational level and experience of educators and academic abilities of students admitted into the programs. One RTO educator suggested:

That's going to be different from TAFE to TAFE. I mean, some of the Melbourne TAFE's have got a completely different cohort; some... TAFE's have got an even more difficult situation than what we have because most of their students have English as a second language and they've got enormous issues with how they deliver the program. So, I think that it is very cohort dependent. (R3)

Depth of knowledge was identified as different between all nursing programs due to variations in program length, educator qualifications and expectations of students on graduation. The certificate EN program was seen to have less depth of knowledge than the other programs, particularly in areas of anatomy, physiology, pathophysiology, physical assessment, research and management. Diploma prepared ENs were seen by most RTO educators to be at a similar level as RNs in all areas except nursing management, workplace

supervision and high acuity nursing skills, such as triage. Education for the RN management role was seen as a major difference between programs with one RTO educator suggesting:

It is not until you get into specialised units or into more managerial type roles of a registered nurse that it starts to change. (R3)

Recent changes to EN education have seen differences between ENs and RNs narrowing. As one RTO educator stated:

The Division 1 nurse has got the ultimate responsibility and the supervisory rights...they do have... a more extensive level of knowledge, in relation to their workplace and their responsibilities. But I do feel that the gap is actually closing. I can say that that's what it feels like and seems like to me, and I think it will close over time. (R1)

This 'closing of the gap' between degree and diploma students' knowledge and skill levels was supported by most educators, suggesting that changes to diploma education for ENs have decreased differences between ENs and RNs.

I think the diploma of nursing has actually changed quite a lot, so it's actually probably become much more in line with the undergraduate program with some of the content of what the registered nurses are doing...Things that were not part of the scope of practice for enrolled nurses are now part of their scope of practice, so it's definitely increased. (R4)

Critical thinking skills were thought by most educators to be more developed in RNs. Many expressed that managerial roles of RNs required them to think 'outside the square' and come

up with solutions to problems. One university educator suggested that critical thinking was enhanced by the self-directed learning emphasis of RN education:

... that's what sets RNs up for being so good at what they do. They do have that capacity to be self-directed in investigating issues and to drill down to what's going on behind things and then to work out what can be done to... deal with it right now, but then if there is a pattern that's emerging, then how can that pattern be addressed. (U2)

Whilst certificate-prepared ENs were not expected to have developed critical thinking skills, the addition of increased pathophysiology, critical thinking and reflective practice units into the diploma program was seen to subsequently increase their abilities to problem solve and think critically.

... they've [Diploma prepared ENs] got a lot more skills and knowledge,....they do have an increased knowledge of pathophysiology...a lot of the subjects generally have increased in hours so it will allow for a bit deeper knowledge base. It's also got additional subjects...allocated for reflective practice, critical thinking and analysis in health, palliative care, research, the intravenous medication module will become part of the undergraduate diploma course, domiciliary help, emergency nursing. (R5)

Several EN educators felt there was little difference in critical thinking skills of ENs and RNs as holistic health care required nurses to look at the entire patient picture. They believed that holistic care required using critical thinking to assess and respond to patients' needs, with one educator stating:

We teach holistic care so we look at the big picture. If they were doing wound care they would be looking at other morbidities, things like how diabetes would affect wound healing, they look at nutrition, how nutrition affects wound healing, circulation. (R5)

Research skills were also linked by educators to critical thinking skills, enabling students to identify issues and find answers. One university educator believed the research base of RN studies was a major factor in developing their abilities to problem solve as nurses.

That capacity to research as well I think is a big thing, so they [RNs] actually have the academic skills and whatever, at least the understanding about what research is and where it fits, and they can identify an issues that probably should be researched and become part of evidenced base, even if they don't necessarily have the skills to create that whole research themselves. (U2)

Evidence-based practice was taught to all students to enable them to find and interpret evidence on nursing care and incorporate it into patient care. This was considered the research component of the certificate EN program, although the Diploma EN program has an additional elective research unit at some RTOs. It was perceived this was included to promote research skills in finding and interpreting evidence. One EN educator stated:

Hopefully it will make enrolled nurses more aware that research isn't just for registered nurses, it's also for enrolled nurses. (R4).

DISCUSSION

Educators of both levels of nurse consistently agreed that educational programs were set up to deliver education to very different student groups. Generally, EN students were considered to have had little prior academic background, and hence required more assistance with academic and learning skills, often requiring 'spoon feeding' of information they needed to learn. RNs, on the other hand, were expected to undertake a large amount of self-directed learning, which was seen to enable them to act as independent learners following graduation. Self-directed learning is becoming recognised internationally as an important skill for nurses due to the speed of sociological and technical change occurring in health care (Cadorin et al., 2012). Cadorin et al. (2012) further suggest that, incorporating self-directed learning into undergraduate curricula is important in teaching students independent learning skills and setting them up for life-long learning. As life-long learning is also a requirement for EN registration (ANMC, 2002), EN curricula have also begun to include more self-directed learning, although this is only a small part of the programs. EN programs used self-directed learning as just one education tool, rather than a major tool as used by universities. Self-directed learning was not seen to fit all students in any program. Hylton (2005) suggests that in NZ some ENs had difficulty adapting to the role of independent learner, limiting their ability to undertake self-directed learning. Caution was observed by some EN educators as they felt self-directed learning made it difficult for educators to assess students' progress. This concern is supported by Mallaber and Turner (2006) who suggest that educators who utilise self-directed learning can only assume that students are completing learning tasks and are limited in their ability to identify and assist students with learning issues prior to grading of assessments. This inability to identify student learning problems early could be seen as a weakness in university education, as only students who are resourceful and able to seek help will get the required assistance.

The majority of educators believed that academic content of EN education provided a solid preparation for undergraduate study. This is consistent with Jacob et al. (2011) who found that students entering undergraduate study via EN pathways were as successful in course completion as students entering from other pathways. Undergraduate course completion has been found to be influenced by many factors such as age, gender, academic engagement, employment status and personality, with admission qualification being only one of many influencing factors (Pitt et al., 2012). In contrast, Cubit and Leeson (2009) suggest that scholarship and enquiry is not promoted in EN education. This may be a result of differences found within EN programs of academic levels required of students or due to the differences in levels of education of the educators themselves.

Depth of knowledge was also seen to be a difference between programs, particularly between the EN certificate and undergraduate RN program, a traditional area of difference between levels of nurse (Brown, 1994; Francis and Humphreys, 1999). Differences in depth of knowledge were thought, by educators, to be in the areas of anatomy, physiology, research and management. The increase to diploma level for ENs has brought greater depth of knowledge in areas such as pathophysiology (Australian Qualifications Framework, 2010) although whether it is now at a similar level as an RN is not clear. Content previously only found in RN curricula in areas such as medication management and research knowledge are now part of EN diploma programs (Australian Qualifications Framework Council, 2011; Ryan, 2009a, b) but differences still exist in specialist areas such as central venous access device management, and introduction to advanced life support and ventilation. Whilst management was seen as a significant difference between the levels of nurses, it was not a compulsory unit in most RN curricula.

Despite all university educators stating they were unaware of curriculum content of EN programs, they felt critical thinking skills were lacking. Shields et al. (2011) argue that critical thinking, evidence generation and research are not considered to be part of RTO education. Whilst it has been argued that cognitive and analytical processes are dissimilar between certificate ENs and RNs, due to the differing levels of educational preparation (Milson-Hawke and Higgins, 2004), the inclusion of these aspects in EN diploma education has narrowed these differences. RTO educators argued that higher order and critical thinking skills were being taught to ENs as mandated by the national standards for education in Australia for all ENs since 2007 (Department of Education Science and Training, 2007). The level of educator may also influence the ability to teach critical thinking skills, although the influence of the higher masters level educators in university sectors, compared to degree qualified educators in RTO sectors, on teaching these higher order thinking skills is not clear. Clearly further research is warranted in determining the effect of the education level of the educator in the development of thinking skills in learners.

Limitations

Although Australia has a national program for EN education and national accreditation of university programs, this research was undertaken in one state of Australia and therefore findings may not be transferable to other areas. Participants were drawn from universities and RTO institutions agreeing to participate (8 from 30), whereas opinions of those who did not participate may differ. However, findings do provide some understandings of how diploma preparation for ENs has evolved. Further research should seek to examine differences further along with practice implications.

CONCLUSION

Progression of EN education to diploma level has resulted in significant changes to ENs' skills, knowledge and critical thinking abilities. Whilst certificate-trained ENs remain very different in terms of skills and knowledge compared to RNs, the diploma EN program has narrowed this difference. Inclusion of self-directed learning into many EN programs is further narrowing differences in educational approach between the two levels of nurses. Differences may remain in depth of knowledge in anatomy and physiology, management and research and high acuity clinical skills. Further research should be undertaken to determine differences in depth of knowledge between different levels of nurse and how this affects nursing role expectations and patient care. This is important to ensure that employment of ENs in the Australian workforce is based on quality of patient care and not just economic factors. Research is also warranted into the effect of the different levels of education of the educators themselves on the teaching of critical thinking and depth of knowledge.

Notes

¹ Titles for nurses in Victoria have recently changed with RN and EN previously termed Division 1 (Div 1) and Division 2 (Div 2) nurses, respectively. This is reflected in quotations where participants alternate between these terms. RTO (also referred to as TAFE) and university participant quotes are identified using R and U, respectively.

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Table 1: Educators' backgrounds

	RTO (n=5)	University (n=3)
Educator in hospital	3 (60%)	2 (67%)
University lecturer	2 (40%)	3 (100%)
RTO lecturer	5 (100%)	0 (0%)

5.3 Career expectations

Career expectations for diploma and degree students were seen as very different. Whereas career progression to higher levels of responsibility and management were expected for RNs, ENs were expected to remain in basic patient care roles for the duration of their careers, with limited career progression available. Despite the increase in knowledge and skills of diploma ENs compared to certificate ENs, health services were not seen as ready to utilise and support diploma ENs in utilising their increased range of skills. Health services staff were seen to be unaware of the changes to educational preparation of ENs. Staff were unable to utilise the changed skill levels due to organisational policies and procedures, which stipulated that only RNs were able to undertake certain procedures. Levels of responsibility were also seen as considerably different between the levels, with RNs undertaking greater roles in managing other staff, taking a big picture approach to the health of patients, and caring for higher acuity patients. ENs always had the opportunity to hand over the care of deteriorating or complex patients to RNs if they felt it was out of their SOP, but RNs were expected to manage highly acute patients.

The findings emerging from this second theme are presented in the following manuscript that is currently under review.

5.4 Article 6: Educators' expectations of career pathways for registered and enrolled nurses in Australia

Submitted as:

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Article Type: Full length Original Research Article

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Abstract: In Australia, like other countries, two levels of nurse are registered for entry to practice. Educational changes for second level nurses in Australia have led to questions regarding roles and career options. This paper reports on interviews with nursing course coordinators to examine educator expectations of roles and career pathways of registered and enrolled nurses. Coordinators of eight degree (registered) and diploma (enrolled) nursing programs were interviewed to determine their opinions on roles and careers that students were prepared for. Transcripts were thematically analysed.

Educators reported similar graduate roles, although high acuity care was primarily the role of registered nurses. Career expectations differed with enrolled nurses having limited advancement opportunity, and registered nurses greater career options. Health organisations were unprepared to accommodate increased practice scope of enrolled nurses and limited work practice through policies stipulating who could perform procedures. Organisational health policies need to accommodate increased enrolled nurse skill base. Education of practising nurses is necessary regarding increased scope of enrolled nurse practice to ensure they are used to their full potential. Increasing patient acuity requires more registered nurses, as enrolled nurses are unprepared to care for complex or deteriorating patients.

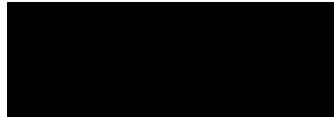
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***Title Page (including article title, word count, full author details and all acknowledgements)**

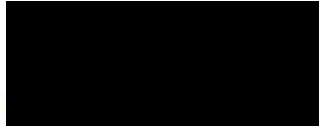
Educators' expectations of roles, employability and career pathways of registered and enrolled nurses in Australia

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AUSTRALIAN EDUCATORS' EXPECTATIONS OF ROLES AND CAREER PATHWAYS OF REGISTERED AND ENROLLED NURSES

ABSTRACT

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Key words: enrolled nurse, registered nurse, career, organisational readiness, role, workforce

INTRODUCTION

Similar to the USA, Canada, Singapore and New Zealand, two levels of nurse are registered for entry to practice in Australia (Jacob et al. 2012). Educational requirements for registered nurse qualification are diverse and vary between countries, ranging from four-year bachelor degrees to three-year diplomas (D'Amore et al. 2012). Nursing registration began in Australia early in the twentieth century to enable public protection from untrained nurses, with registered nurses (RNs) initially responsible for all patient care (Nelson 1999). Whilst originally hospital trained, RN education in Australia moved into higher education in the 1980s, and RNs now obtain degrees prior to registration (Jacob et al. 2012).

Second level nurses, (Enrolled nurses (ENs) in Australia, New Zealand and Singapore, and licenced practical nurses (LPNs) in USA) were introduced in the 1960s into Australia in response to RN shortages, to provide assistance and perform lower level tasks under RN supervision (AIHW 2006; Russell 1990). Changes in 2008, which increased EN educational preparation across Australia to diploma level (ANMAC 2011), have resulted in increased role confusion between different levels of nurse (Conway 2007). Perceptions that both perform similar roles, yet with different recognition and reward, influenced phasing out ENs in the UK (Blay & Donoghue 2006; Dearnley 2006).

BACKGROUND

Scope of practice for RNs and ENs was enhanced in Australia in 2005 to enable practise of any skill they had been educated for, deemed competent with, and authorised by their employer to undertake (ANMC 2007). This was in response to economic and workforce pressures (Conway 2007; Nankervis et al. 2008) and resulted in increased opportunities for ENs to practise in broader clinical areas. Increased scope of practice has seen ENs employed in positions previously reserved for RNs, such as emergency departments, operating theatres,

and acute medical and surgical wards (Heartfield & Gibson 2005; Nankervis et al. 2008). One large metropolitan health service reported increased EN employment from 6.5% of nursing staff in 2002 to 18.3% in 2012 (Bull & Hickey 2012). Following scope of practice changes, preregistration EN education increased to diploma level enabling practise at higher levels and undertaking of more advanced skills, including medication administration (Australian Qualifications Framework 2010). This increased educational preparation has resulted in debate over what roles ENs are being educationally prepared for, and what differences remain between degree-prepared RNs and diploma-prepared ENs.

RESEARCH DESIGN

This research examined course coordinators' opinions regarding graduate roles and career expectations for different levels of nurse on graduation in Victoria, Australia. The research utilised an interpretative qualitative approach incorporating semi-structured interviews.

Participants

The project was undertaken in the state of Victoria as it has a history of employing the most ENs in Australia (AIHW 2009) and accommodated 22% of all EN courses accredited in Australia at the time of the study. Ethical approval was granted from XXXX Human Research Ethics Committee, and approval obtained, from both educational organisations and Heads of Schools, to undertake the interviews. From 30 Victorian nursing educational facilities, 15 Heads of School gave permission for their course coordinators to be contacted by phone and/or email. Eight course coordinators, three from universities delivering RN qualifying programs and five from Registered Training Organisations (RTOs) delivering EN qualifying programs, agreed to be interviewed and provided written consent.

Data collection

Semi-structured interviews were undertaken with course coordinators. Development of key questions was informed by a literature review and focused on educators' educational backgrounds and their views on educational preparation and role expectations of the two levels of nurse (Figure 1). Interviews averaged 40 minutes in length and data saturation was reached (Polit & Beck 2012).

Insert Figure 1 here

Data analysis

Interview transcripts were thematically analysed, using open coding, axial coding and selective coding informed by Ezzy (2002). Final themes were identified through multiple coding, where each research team member separately undertook analysis and then coding frames and themes were reviewed together, to ensure reliability of emergent themes.

Interviews were transcribed verbatim and returned to participants for validation ensuring content validity (Barbour 2001). Member checking, involving return of transcripts to participants ensured that interviews have been accurately recorded and hence are credible records of the interview (Houghton et al. 2013). Theme identification by each research team member ensured reliability of emergent themes.

RESULTS

Backgrounds and qualifications of course coordinators varied between institutions. University educators had higher qualifications with two having masters degrees and one a doctorate.

Whilst all RTO educators were RNs, only one had an education degree and another an education based diploma. Average teaching experience in respective programs was similar. University educators had an average of 7.3 years of degree teaching experience (range 5-8 years), and none had formally taught ENs or had worked with ENs in the previous five years. RTO educators had an average of 8 years teaching ENs (range 5-15 years) and had not taught RNs since commencement of EN teaching. Whilst two university educators had extensive clinical experience (>15 years) and had taught ENs in clinical practice, one university educator reported no experience in educating ENs. Four RTO educators had experience preceptoring RNs and one reported no experience with RN teaching.

Two central themes emerged. The first, 'educational approach varies based on the award being undertaken', explored methods of education for different nursing levels and is reported elsewhere due to the volume of data collected. The second theme, 'students undertaking different awards are prepared for different roles, and career expectations', is the focus of this paper. Under the latter theme sub-themes of 'role expectations', 'career progression', 'organisational acceptance' and 'role confusion' evolved. RN and EN titles have recently changed in Victoria, with RNs previously referred to as Division 1 registered nurses (Div. 1) and enrolled nurses as Division 2 registered nurses (Div. 2) (Jacob et al. 2013). These titles were used interchangeably by participants during interviews and are reflected as such in following quotes. Participants also discussed differences in certificate and diploma ENs and degree prepared RNs. The abbreviations 'Uni' and 'RTO' are used to denote quotes from university and RTO course coordinators, respectively.

Role expectations

Most participants felt that whilst the original role of the certificated EN was considerably different to that of RN, changes to EN education to diploma level had resulted in many similarities between roles of diploma EN and degree prepared nurses. On graduation, both roles were considered comparable with both diploma and degree prepared nurses assuming full patient loads and responsibility for entire patient care, including medication management, patient assessment, planning care, wound care and documentation. Participants felt development of EN skills to diploma level had narrowed differences between roles and responsibilities of ENs and RNs, reflected in comments such as:

With increasing scope of practice, ENs are doing much more what RNs used to be only trained to do. So, in terms of skills and scope of practice they have changed quite a lot, they're a lot more similar... and sometimes it is hard to spot the difference. (RTO2)

Whilst roles of diploma and degree cohorts appear similar, differences were thought to emerge as RNs gained experience and assumed leadership and management roles. These roles were seen to require higher critical thinking skills that were more developed in RNs through use of self-directed learning in university education.

I think probably when nurses [RNs] first come out of uni[versity] ... they're still working to a recipe. But things that we teach them here [university] about what goes on apart from just doing a series of tasks is what really ends up becoming the big difference between being a RN and a Div 2.... RNs do a lot more in health than just doing dressings etc. and that they do those things in a really wide variety of settings... It's about understanding the health care setting and being able to work in different aspects of that. (Uni3)

Despite similarities in clinical skills on graduation, several university and RTO participants felt roles, and hence career prospects, for ENs were limited by their ability to care for acutely unwell patients. They felt patients who were acutely unwell or deteriorating should be cared for by RNs. For example:

ENs can look after post-op (operative) patients and technically a post-op patient would be unstable. But I think if a post-op patient suddenly became acutely unwell and in distress... then a RN needs to really take over their care. The enrolled nurse can work in conjunction with the registered nurse, but I don't think they have the knowledge and skills really to... deal with someone who's acutely unwell and unstable on their own. (RTO3)

Other EN educators felt that diploma ENs should be able to care for any patient, despite how acutely ill, as all nurses were educated to look after sick patients, and this would be reflected in their ability to be employed in all acute areas. This is seen as, in part, due to increasing knowledge and ability of ENs to administer medications, referred to as 'medication endorsement' for certificate ENs.

A stable patient can become unstable at any moment, and I think that it's a very difficult stipulation to place on a person's work role, because there's so many variables that we need to deal with as a nurse... If the nurse is endorsed medication wise and they've got the knowledge they should be able to look after any patients on that ward... And then how do we work out the criteria of who's more stable and less stable than the other, it just doesn't make sense to me. (RTO4)

Career prospects

RNs were felt to have greater opportunities for career advancement than ENs. Opportunities for career advancement were seen to be dependent upon the type of pre-qualification education received. Opportunities were available for RNs, particularly in recognised management and education roles that were unavailable for ENs.

If you want a management role or an education role... you need to have a RN degree behind you and that's the most significant difference between enrolled nurse and graduate RN, that the RN has the capability of actually climbing the ladder whereas the EN doesn't. (Uni1)

Despite differences in career expectation for both groups, many participants felt that because of greater skills and knowledge, particularly in medication administration, there was increased industry demand for diploma EN employment. The increase in EN scope of practice made a significant difference to their employability and opened up practice areas previously unavailable.

They would all like to work in acute. Sometimes you get students who say I really love mental health and want to do that. There are openings now for community because they are able to administer medication, so that has opened up that as an employment avenue. (RTO2)

Economic factors were seen to play a role in increased employment of ENs as they could take on similar clinical roles, yet were cheaper to employ. Participants felt that as the EN role had increased to being similar to that of clinical RNs, the RN role would change in future to more management, with direct patient care being left for ENs.

I think what's going to happen down the track, say 10-15 years time, is there'll be lots of Division 2 nurses employed, economically because it's

cheaper, and ... the Division 1 nurse will actually be in a more supervisory role, management role, where they won't be that kind of hands-on as much as now. (RTO4)

Despite requirements for EN supervision by RNs, participants thought that RNs took longer to settle into the workforce and initially required a higher level of supervision on graduation through a graduate year, to ease transition from student to practitioner. ENs were seen to have very few available graduate year places. Some RTO participants thought this to be due to their course providing them with all the skills required to commence practice enabling them to become 'work-ready':

When enrolled nurses finish their diploma... they're actually probably more hands-on so that they're often more job-ready to work than maybe a graduate registered nurse...that's probably one of the biggest differences, but those basic skills are definitely more job ready. (RTO1)

The physical hands-on care is better in the enrolled course. (Uni2)

Other participants felt that increased skills and knowledge required with the diploma program had led to a need for graduate programs for ENs. Whilst several Victorian hospitals were reported to have commenced EN graduate programs, most ENs were expected to enter the workforce work-ready without any further support. Several participants expressed the need for graduate programs for diploma ENs to help them assimilate into the workforce.

... with their scope of practice being enhanced, they'll probably need a bit more support... grad programs because they are coming out with the same sort of skills that registered nurses are coming out with and yet not getting the support that registered nurses receive... They need additional support

having those extra skills to become work-ready, especially if they want them to utilise those extra skills. (RTO1)

Organisational acceptance

Despite increased education and clinical skills of diploma ENs, acceptance of them undertaking specialty roles was seen as controversial. Several RTO participants felt the abilities of diploma ENs to administer all forms of medications enabled them to practise in high specialty areas, such as emergency departments, although the ability of ENs to undertake these new roles was not readily accepted by clinical RNs.

... there's a big difference in acceptance of Division 2 nurses... in relation to taking on roles in specialty areas as well. ...if you've got a Division 2 nurse here in Victoria that is medication and IV endorsed... why can't they be employed in an emergency department or specialty area like, for example, renal dialysis, those sorts of things, so I think that there might need to be a bit of a change in the mind-set. (RTO4)

Lack of education for practising RNs around increased skills and knowledge of diploma ENs, and lag in updating health service policies and procedures, were also seen as reasons why increased skills of diploma nurses were not being effectively used in health services.

The most important influence on that [use of ENs in acute care] is the... policies and procedures of employing organisation. I can cite some organisations whose policy did not allow anyone other than RNs to administer medications. So regardless of whether they had the notation on their registration listed or not they could not do it in that workplace... And

others of course, particularly in aged care, have just welcomed it with open arms, because they just can't get enough registered nurses anyway. (RTO2)

Role confusion

The fast pace of change in educational preparation of ENs from certificate to diploma level was felt by participants to have led to confusion within healthcare regarding skills of graduating ENs. The change in base level education for ENs has increased their skills and knowledge levels and resulted in ENs with different skill and knowledge levels to those currently employed in nursing. These changes mean there are actually different levels of ENs currently in practice likely adding to workplace confusion.

There is a lot of confusion ... because a lot of people don't realise how much scope of practice has increased... that Div. 2s can now take blood and do things like that... At the moment it is very confusing because there are different levels of Div. 2s out there. And that's making it very difficult for people to understand within industry what's going on. Some enrolled nurses can't even administer oral medications because they haven't done an upgrade, whereas you've got other enrolled nurses that can do all the whole works, including all the complex care things, IV medication administration. So at the moment there is big gap in the qual[ification]s enrolled nurses have. (RTO3)

The importance of understanding differences between roles of the two levels of nurse (EN and RN) was seen as vital by some university participants. They felt that breaking down nursing into a skills list to justify employing ENs was 'belittling' to the RN role and did not value critical thinking and depth of knowledge required to function in a high-stress clinical

environment. One university educator felt ENs were easier to direct to undertake tasks than RNs who were expected to work autonomously and undertake decision making.

You pay them [ENs] less, they're also less trouble because they tend to... just beaver away at whatever task you set them. They don't tend to agitate as much because they're not thinking through things as much... Where RNs, because we teach them to look into issues and to be autonomous and to be the patient advocate, tend to be a bit more vocal about what's going on and about their place in things, and they actually want to be included as opposed to just being directed. (Uni3)

DISCUSSION

Participants identified similarities and differences between expected roles of different nurses on graduation. Similarities included basic clinical skills and knowledge. Disagreement was found between participants regarding abilities of ENs to manage acutely ill patients. Literature was similarly contradictory surrounding clinical roles of ENs, with some authors acknowledging similarities in clinical skills and roles of the two levels of nurse (Chaboyer et al. 2008; Deering 2007) and others arguing that significant differences still exist (Cubit & Leeson 2009). Changes to roles and education of diploma ENs have further encouraged debate. Such differences in opinions regarding role expectations of ENs have led to confusion within health services (Conway 2007).

Educators had different opinions around complexity of clinical skills that ENs undertook. Similar to the Australian Institute of Health and Welfare (2009) that argues ENs undertake 'less complex' procedures than RNs, some educators felt complex tasks should be

relinquished to RNs. With evidence that higher educated workforces produce better patient outcomes (Aitken et al. 2002), argument can be made for increasing numbers of RNs in clinical care, rather than less educated ENs. Differences remain in high acuity skill-sets as management of central venous access devices and high acuity patients are not included in EN curricula (DEST 2007). Despite this, some RTO participants felt ENs should be able to undertake any procedure they had been trained in, including skills such as venepuncture and catheterisation. Whilst these skills may be undertaken by ENs, some authors reaffirm that critical thinking (e.g. interpretation of blood results) and depth of knowledge remain with RNs who have greater scholarship and enquiry skills (Cubit & Leeson 2009; Showman 2012). Some RTO participants lamented that hospital personnel were not keeping abreast of changes to educational preparation of diploma ENs, thereby limiting their practice. Increased skills expected of diploma ENs have led to a call by educators for EN graduate programs to enable consolidation of learning. Whilst recognised that graduate year programs assist RNs to transition from student to RN, and assist with managing stress and anxiety when commencing clinical practice (Cubit & Leeson 2009; Ostini & Bonner 2012), such programs are in their infancy for ENs, who are generally expected to be work-ready on graduation (Bull & Hickey 2012).

Career progression for ENs was seen by participants as limited, with most common progression occurring as ENs undertook further education to become RNs. Whilst the diploma was seen as a good basis for undertaking an RN degree, no formal agreement exists in Australia for recognition of EN qualifications, with university credits provided on an individual basis, although some universities have developed formal articulation agreements (Cubit & Leeson 2009). Postgraduate study opportunities for ENs are limited in Australia, with options for advanced diplomas in specialty areas still in their infancy, although competency standards for advanced EN nursing practice have been developed (Australian

Nursing Federation 2005). In contrast, career progression was seen as an expectation for RNs who can work in all fields of nursing with many opportunities to undertake postgraduate studies, and progress to management and education positions (Adeniran et al. 2012; Fusilero et al. 2008).

Despite limited opportunities for EN career progression, many health services are increasingly employing ENs to deliver care in acute medical and surgical wards, and even high acuity areas such as emergency, anaesthetics and operating theatre (Heartfield & Gibson 2005; Nankervis et al. 2008). However, participants felt organisations were unprepared for enhanced scope of practice of diploma ENs. This is supported by Nankervis et al. (2008) and Bellchambers and McMillan (2007) who found incongruences between preparation of ENs and organisations' readiness to implement changes to practice roles. Health organisation policies and procedures have been seen as limiting ENs' abilities to utilise their skills by only authorising RNs to perform certain skills (Gibson & Heartfield 2005).

Limitations

There are some limitations with this study. This paper reports interviews with nursing course coordinators in one state of Australia and may not necessarily be transferrable to the wider population. The small sample size increases the chance of sample and researcher biases, and limits generalisability of findings. As such, views of educators at other institutions may not reflect these findings. However, by comparing results with wider literature, some similarities and differences have been identified that reinforce trustworthiness of findings, whilst also demonstrating the contribution this study offers in terms of better understanding educators' role expectations for different nurses educated in Australia. Furthermore, responses were dependent on respondents having good understanding across their educational programs. Lack of understanding by participants regarding curricula of other levels of nurses (EN or

RN) may limit their ability to reflect on education of these nurses. Despite this, course coordinators were able to provide insight into their own courses to enable comparison of different programs and expected student outcomes. Higher participation of EN coordinators may indicate their direct interest in results of changes to EN education. Further research is warranted to determine if outcomes of this research are applicable nationwide and internationally.

CONCLUSION

Registered and enrolled nurse preparation is undertaken with different expectations for career pathways and progression in nursing. Despite differences in educational approach, increasing similarity in graduate skills and knowledge and limited exposure of nursing staff to changes in diploma EN preparation have resulted in confusion within the nursing workforce about expectations of diploma ENs. Current multiple levels of ENs (certificate, medication endorsed and diploma) working in healthcare adds to confusion around their roles. Role confusion and ambiguity around scope of practice for ENs is seen as both limiting their practice and encouraging them to practise at levels for which they are unprepared. For ENs to be utilised to their practice scope and provide safe nursing care, practising nurses need education regarding ENs' graduate skills and knowledge to enable appropriate care delegation.

Increased EN employment is expected to occur as a result of their increased skills and knowledge, and lower costs of employment compared to RNs. Review of organisational policies and procedures is needed to utilise skills of both levels of nurse to their potential. Nursing managers need to be aware that care of complex or deteriorating patients is not part of EN scope of practice, and RNs are required to care for these patients. As acuity of patients admitted to health services increases, a higher RN skill-mix will be needed to safely care for

them. This requires further research to assess how changes to skill mix affect quality of patient care and patient outcomes in practice, and ensure that ENs are not exploited as lower paid alternatives to RNs. Diploma ENs may benefit from graduate programs to help transference of increased skill base into clinical practice.

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Figure(s)

Figure 1. Interview prompts

What is your educational background and experience in teaching nurses?

Have you taught both levels of nurse educated in Australia?

What areas do you feel are similar in the education of both levels of nurses?

What do you believe is the main difference in education between the two levels of nurses in Australia?

How does the education of the two levels of nurse prepare them for their roles on graduation?

What do you believe is the main difference in role between the two levels of nurses?

5.5 Summary of Chapter Five

This second phase of the study has shown that nursing courses educated the different levels of nurse using different methods of teaching based on the entry level of the students and the roles they were expected to undertake after graduation. Although basic knowledge and skills topics were similar between diploma and degree nurses, degrees were seen to prepare RNs for undertaking critical analysis and leadership in clinical practice for employment in all practice areas. Educators felt that the diploma preparation for ENs was closely aligned to the RN degree, and was a solid basis for progressing to a degree qualification. The next chapter builds further on this project and presents results from student surveys aimed at determining their role expectations on graduation.

Declaration for Thesis Chapter Six

Declaration by candidate

In the case of Chapter Six, paper titled "Graduate role expectations of Australian registered and enrolled nursing students: A mixed method approach", the nature and extent of my contribution to the work was the following:

Nature of contribution	Extent of contribution (%)
I was the main contributor for concept development, key ideas, development and writing up	80%

The following co-authors contributed to the work:

Name	Nature of contribution	Extent of contribution (%) for student co-authors only
Lisa McKenna	Contributed to concept development, key ideas, development and writing up	10%
Angelo D'Amore	Contributed to concept development, key ideas, development and writing up	10%

The undersigned hereby certify that the above declaration correctly reflects the nature and extent of the candidate's and co-authors' contributions to this work*.

**Candidate's
Signature**

	Date 8/02/2014
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**Main
Supervisor's
Signature**

	Date 8/02/2014
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Chapter Six: Student surveys

6.0 Introduction

Following the review of curricula from the different nursing programs and interviews with educators to determine educational methods and expectations of graduates, the third phase aimed to ascertain completing RN and EN students' views on their skills and abilities on graduation, and how prepared they felt to meet set graduate attributes (see Article 7). This phase was undertaken by surveying RN and EN students in the final semesters of their nursing programs.

Student surveys on graduate role expectations identified many similarities in most basic skills and competencies to be undertaken as part of the graduate role for both diploma- and degree-prepared nurses. Both cohorts believed they were educated for research, leadership, education and administrative roles involved in basic patient care. Despite these similarities, higher order skills remained the role of the RN, and ENs reported feeling less prepared than RNs by their education to achieve the graduate outcomes identified by Barnett, et al. (2013), used in this survey. Content analysis of open-ended questions identified that whilst graduate ENs were expected to use similar skills and competencies to graduate RNs, graduate RNs were expected to have greater depth of knowledge and wider range of clinical skills to care for acute patients. This enables graduate RNs to have a broader SOP and undertake roles in supervision and leadership not available to ENs. Results of this phase of the research are presented in the following manuscript that is currently under review:

6.1 Article 7 Graduate role expectations of Australian registered and enrolled nursing students: A mixed method approach

Submitted as

Jacob, E., McKenna, L., & D'Amore, A. (under review, submitted Sept 2013) Graduate role expectations of Australian registered and enrolled nursing students: A mixed method approach, *Nurse Education Today*

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Title: GRADUATE ROLE EXPECTATIONS OF THE DIFFERENT LEVELS OF NURSE REGISTERED TO PRACTICE IN AUSTRALIA: A MIXED METHODS APPROACH

Article Type: Research Paper

Keywords: role, nurse education, preparedness, registered nurse, enrolled nurse

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Abstract: Background: Changes to the roles of nurses have seen the evolution of different levels of nurse in many countries. Australia has two levels of nurse registered to for entry to practice; registered and enrolled nurses. Recent changes to increase the educational level of enrolled nurses have resulted in increasing similarities in skills and knowledge being taught to these and degree-prepared registered nurses. These changes have resulted in increased role ambiguity and confusion over differences in the roles of the two levels of nurse. The challenge of defining roles is not unique to Australia, with studies from many countries identifying role confusion and overlap as issues with employing two levels of nurse. An understanding of roles of different levels of nurse is paramount to ensure optimal utilisation of the different skill sets.

Objective: This study aimed to explore graduating registered and enrolled nurses' perceptions of what their roles would include.

Design: A cross-sectional study with a mixed methods approach was adopted.

Setting: Nursing educational facilities in Victoria, Australia.

Participants: Completing nursing students (n= 57) from both registered and enrolled nursing programs

Method: A cross-sectional survey utilising both Likert scales and open-ended questions was undertaken. Analysis involved both Mann Whitney U tests and content analysis.

Results: Whilst similarities were reported between the two levels of nurse in terms of basic patient care skills, registered nurse graduates were expected to have higher acuity nursing skills and take on increased levels of responsibility than enrolled nurses.

Conclusion: Despite similarities in graduate roles, differences remain in the practice roles of registered and enrolled nurses.

***Title Page (including article title, word count, full author details and all acknowledgements)**

**GRADUATE ROLE EXPECTATIONS OF THE DIFFERENT LEVELS
OF NURSE REGISTERED TO PRACTICE IN AUSTRALIA: A MIXED
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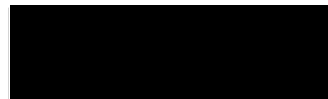
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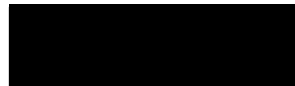
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Graduate role expectations of the different levels of nurse registered to practice in Australia: A mixed methods approach

ABSTRACT

Background: Changes to the roles of nurses have seen the evolution of different levels of nurse in many countries. Australia has two levels of nurse registered to for entry to practice; registered and enrolled nurses. Recent changes to increase the educational level of enrolled nurses have resulted in increasing similarities in skills and knowledge being taught to these and degree-prepared registered nurses. These changes have resulted in increased role ambiguity and confusion over differences in the roles of the two levels of nurse. The challenge of defining roles is not unique to Australia, with studies from many countries identifying role confusion and overlap as issues with employing two levels of nurse. An understanding of roles of different levels of nurse is paramount to ensure optimal utilisation of the different skill sets.

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Conclusion: Despite similarities in graduate roles, differences remain in the practice roles of registered and enrolled nurses.

Keywords: role, nurse education, preparedness, registered nurse, enrolled nurse.

INTRODUCTION

The role of the nurse has changed significantly over time, from being a sickroom attendant to a professional in their own right (Chernenko, 2013). The progression of nursing to professional status has seen alterations to the role from basic carer to include patient assessment and diagnosis, specialist patient care, history taking, interprofessional collaboration and teamwork, research, management, education, and health surveillance (Chernenko, 2013). These role expansions, along with an increase in healthcare knowledge worldwide, has resulted in development of specialty nursing areas to enable nurses to be proficient in their areas of practice. The result of this segregation of roles has seen nurses divided into different levels, based on education and experience, to provide patient care.

BACKGROUND

Whilst the traditional nurse registered to practise has different levels assigned to them (e.g. nursing manager, clinical nurse specialist or ward nurse), a second level has been implemented in many countries including the USA, New Zealand, Canada and Singapore, to take on traditional nursing roles, such as assisting patients with basic hygiene and care needs (Heartfield & Gibson, 2005; Russell, 1990; Smith, 2009; White et al., 2008). The second level of nurse (titled enrolled nurse (EN) in Australia and NZ, and Licenced Practical Nurse (LPN) in the USA and Canada) was introduced into these countries due to economic pressures and shortages of RNs (Ayre, Gerditz, Parker, & Nelson, 2007; Duffield et al., 2006; Goryakin, Griffiths, & Maben, 2011). The two levels of nurse are educated at different

qualification levels and at different types of institutions. In Australia, a three-year Bachelor of Nursing degree is required for an individual to become an RN and a minimum eighteen-month diploma to become an EN (Australian Institute of Health and Welfare, 2003; Ryan, 2009a, 2009b). ENs are educated at Vocational Educational and Training (VET) institutions whilst RNs undertake their education generally at universities (Nursing and Midwifery Board of Australia, 2011). Similar variations in qualifications and educational facilities which undertake education for the different levels of nurse are also seen in the USA, although requirements are not consistent across states or institutions (Smith, 2009). Nurses in the USA can be prepared at Licenced Practical Nurse (LPN) diploma, RN diploma, RN associate degree, or RN baccalaureate degree level and education is provided at junior college or vocational school level for LPNs and junior colleges, diploma schools, or universities for RNs (Smith, 2009).

Disagreement was found in the international literature regarding the clinical capabilities of the two levels of nurse, with some authors acknowledging increasing similarities in roles of RNs and ENs (Brown, 1994; Chaboyer et al., 2008; Chang & Twinn, 1995; Deering, 2007) and others arguing that scope of practice and roles of the different levels of nurse are very different (Cubit & Leeson, 2009). These differences have led to confusion within industry worldwide as to the role expectations of the second level of nurse (Conway, 2007). This variation in expectations of roles demonstrates increasing overlap and confusion that currently exists around the different nurses' roles. Whilst, traditionally, second level nurses worldwide have undertaken roles requiring less critical thinking and skill, significant changes to scope of practice and educational preparation of ENs in Australia has recently enabled them to undertake higher level roles, such as supervising other staff. The resulting role

overlap and ambiguity between RNs and ENs has made the roles of the two levels of nurse more difficult to differentiate (Francis & Humphreys, 1999; Heartfield & Gibson, 2005; Jacob, Sellick, & McKenna, 2012). Such role overlap was cited as one reason for phasing out ENs in the UK (Ayre et al., 2007). The aim of this study was to examine perceptions of final year nursing students, both registered and enrolled, of their expected roles within the health care team and career expectations upon graduation.

METHODS

Heads of school or Chief Executive Officers of five Victorian nursing educational institutions were approached for permission to allow their students to participate in a cross-sectional questionnaire. Approval was received from heads of school of two universities and Chief Executive Officers of three registered training organisations (RTOs). Ethical approval was obtained from XXXX University Human Research Ethics Committee. A faculty champion in each organisation distributed questionnaires to all final year students either electronically via their online learning platform, or in hard copy via mail or after classes. Two institutions requested hard copies that were sent as packs, which included a letter of invitation, explanatory statement, questionnaire and reply paid envelope to facilitate return of the questionnaires.

The questionnaire gathered basic demographic information and students' self-reported expectations of their respective roles, scope of practice, and types and levels of nursing skills on commencement in health services. The online questionnaire was undertaken using the Qualtrics® online survey software

program (version 44586; <http://www.qualtrics.com/>) and incorporated check-box questions (to collect demographic data), Likert scales and open-ended questions to allow for collection of specific data whilst incorporating individual opinions. The questionnaire was developed to identify role expectations using a list of predetermined nursing responsibilities including nursing competencies and graduate attributes required on commencement of practice. The questionnaire was divided into these two parts.

The nursing competencies section was adapted from both Nursing and Midwifery Board of Australia competencies for RNs (Nursing and Midwifery Board of Australia, 2006) and the work of Lu, While, and Barriball (2008). The work by Lu et al. (2008) had previously been tested for reliability with a reported Cronbach alpha coefficient between 0.78 and 0.93. This section provided a list of 88 predetermined nursing competencies. Students were asked to rank their perceived level of agreement with each competency to the graduate nurse role on a 5-point Likert scale (with 1 being very relevant and 5 being not at all relevant).

The graduate attributes section was adapted from the work of Barnett et al. (2012) and provided a list of nine predetermined graduate attributes. Here, students were asked to rank how prepared they felt to fulfil each attribute on a 4-point Likert scale (with 1 being not prepared to 4 being well prepared). The competencies are listed in Tables 1 and 2 and graduate attributes in Tables 3 and 4.

The questionnaire was piloted with 10 students who had either recently completed the diploma program or were completing the degree program.

Feedback from the pilot questionnaire was used to enhance phrasing and hence the potential interpretation of the questions.

Due to the non-normally distributed Likert scale responses, a nonparametric statistical test was used. The statistical program, IBM SPSS Statistics (Version 20), was used to undertake the Mann Whitney U Test to compare RN and EN students, and determine the Cronbach alpha coefficients for the two sections of the questionnaire (nursing competencies and graduate attributes). Statistical significance was accepted at $p < 0.05$. The adapted questionnaire had a Cronbach alpha coefficient of 0.955 and 0.931 for the nursing competencies and graduate attributes sections, respectively. Items that were statistically significant were considered to be different between RN and EN students, whereas items that were not statistically significant were considered to be similar between the two groups.

Open-ended questions enabled participants to comment on differences in perceived graduate nurse roles between different levels of nurse. Content analysis of written comments from open-ended questions was undertaken by allocating codes to the comments and ranking them by frequency counts (Chambers & Chiang, 2012). Some comments contained more than one code resulting in more codes than responses. From 57 survey respondents, 50 responded to the open-ended questions, which generated 94 codes (Table 5). Comments were further coded as RN or EN to denote which type of nurse made the comment and numbered. Codes were categorised to identify common elements amongst responses and percentage of respondents commenting on a code determined to ascertain levels of agreement amongst participants.

RESULTS

The five participating institutions had a total of 576 students undertaking final year nursing studies. Fifty-seven students completed the questionnaire, giving a response rate of 10%. All students who completed questionnaires were either degree-prepared RN students (n=38) or diploma-prepared EN students (n=16) in their final year of pre-registration education. Three respondents did not indicate which program they were completing so their responses were excluded from the analysis.

Nursing competencies

Nursing competencies were divided into five sections: patient care, administration, leadership/supervision, education and research. From the thirty-eight competencies listed for patient care, twenty-six were rated between very relevant and relevant on the 5-point Likert scale, to their graduate nurse roles by both RN and EN students (Table 1). Patient care competencies rated as very relevant to both graduate roles included most basic nursing skills such as assisting patients with activities of daily living, physical assessment, developing and implementing nursing care plans and evaluating outcomes of nursing care. Skills recently included in the EN diploma program, such as venepuncture, undertaking female catheterisation, inserting nasogastric tubes and medication administration, were rated as very relevant to the graduate role by both levels of nurse. Caring responsibilities such as providing support to emotionally upset patients and families, assisting patients with refusal of care requests, and consulting with patient/family around planned care, were also seen as part of the roles for both. Differences between perceived graduate RN and graduate EN

roles were found mostly in patient care competency areas, with thirteen competencies having statistically significant differences. As listed in Table 2, these competencies were largely higher acuity skills.

Administrative competencies were similarly rated as relevant to the graduate roles of both levels for fourteen of the sixteen competencies listed (Table 1). These included coordinating nursing and other health care, identifying resources needed to provide nursing care, monitoring and reporting incidents, and utilising organisational policies and guidelines. Ordering stores and ward supplies, and supervising cleaning of patient environments were rated lowest by both student groups for relevance to graduate roles. Two administrative competencies were found to be significantly different between the levels of nurse, although both groups of students rated them as very relevant to their graduate roles (Table 2).

All but one competency listed under teamwork were rated as very relevant to graduate roles for both EN and RN students. These included participating in quality improvement and unit/team meetings, working collaboratively with other members of the health care team and using conflict management techniques. Significant differences were found in understanding roles of different members of the health care team.

Competencies related to supervision and leadership were rated the same between student groups with no statistically significant differences identified. Despite similarities in competency ratings, written comments identified leadership skills as a perceived difference between the roles by both levels of nurse. Differences were stated as “*management, some education*” (EN54) and “*I see the main differences as leadership and knowledge deficits*”

(RN24). One RN student felt the only difference was in leadership as *“very little (differences) actually, except ENs are unable to ‘run’ shifts”* (RN21).

Similarly, educational competencies were rated the same between both levels of nursing student, with no significant differences identified (Table 1). Research competencies were also rated similar by both levels of student except for two areas of difference, identifying topics for nursing research and participating in research studies (Table 2). Neither student groups’ comments identified differences in roles around education or research areas with one student suggesting that: *“at times, have been unable to really tell (differences in roles)”* (RN3) and *“Increasingly there are less and less (differences) it seems. The only differences I can see are the endorsements of ENs (medications, IV etc.)”* (RN31).

Insert Table 1 here

Insert Table 2 here

Graduate attributes

The second section of the questionnaire asked students to rate how well they felt their program had prepared them according to a pre-determined list of graduate attributes. Whilst all students felt their programs had prepared them for the listed attributes, RN students consistently rated themselves as more highly prepared across all areas (Table 3). Several areas of significant difference appeared in expressed level of preparation by the different student groups (Table 4).

Insert Table 3 here

Insert Table 4 here

Content analysis of written comments identified variations in opinions of differences in roles between RNs and ENs (Table 5). Both levels of nurse identified supervision/leadership as the greatest difference, consisting of 47% of RN student comments and 71% of EN student comments. This was supported by comments such as, *“RNs have a more managerial and administrative role, and also have greater clinical knowledge and decision making skills”* (RN21).

Whilst 42% of comments from RN students identified differences in clinical skills between the levels of nurse: *“different skills, different assessment techniques”* (RN9), only 28.5% of EN students’ comments suggested similar difference with *“RNs take more responsibility and have the ability and education to perform more complex tasks, assessments and techniques than ENs”* (RN14). Medication administration was seen as a difference by 22% of RN students but by no EN students.

Insert Table 5 here

DISCUSSION

This study sought to identify similarities and difference in role expectations of RN and EN students on graduation. Findings suggest that both student groups recognised many similarities and differences in their roles. Similarities have been recognised for many years. Chang and Twinn (1995) identified difficulty in determining differences in the roles in Hong Kong nurses. This is supported by White et al. (2008) who found that insufficient role delineation for Canadian

nurses resulted in some nurses feeling devalued. Similarities in expected clinical skills have some authors suggesting that little difference remains in the education of both levels of nurse (Deering, 2007). Whilst the majority of patient care skills were rated the same by participants in this study, higher acuity skills remained different between the two levels of nurse. This is consistent with the Australian Institute of Health and Welfare (2006) who suggest that ENs undertake less skilled work than RNs. This is further supported by findings from both Canada and the USA which found that ENs listed assessment skills in terms of tasks, whereas RN took a more holistic approach (Showman, 2012; White et al., 2008). The study findings demonstrate that RNs are still expected to take on higher levels of responsibility, and have deeper knowledge and increased clinical skills than ENs. While this is the traditional approach, changes to scope of practice for both levels of nurse in Australia have led to increased overlap between roles as ENs are able to 'up-skill' to undertake some higher acuity skills post-registration if supported by their health service (Heartfield & Gibson, 2005; Nankervis, Kenny, & Bish, 2008). This ability for ENs to practise at higher levels has resulted in blurring of roles between the different levels of nurse (Chaboyer et al., 2008). This is similar to the Canadian experience where White et al. (2008) showed difficulty in differentiating roles between degree and diploma prepared nurses. Increasing role overlap and ambiguity may in part be responsible for this inability to define nursing roles. Such frustration with role overlap is a common theme in countries that employ two levels of nurse and one reason for phasing out the second level of nurse in the UK (Ayre et al., 2007; Esparza, Zoller, White, & Highfield, 2012).

Whilst administration, supervision/leadership, research and education are traditionally seen as differences between the levels of nurse (Australian Nursing and Midwifery Council, 2002; Gibson & Heartfield, 2003; Nursing and Midwifery Board of Australia, 2006), this was not expressed by students. Each of these areas was similarly ranked in importance regardless of student type. This may be due to the increased level of EN education including units in research skills, co-ordination of wards and mentoring (Department of Education Science and Training, 2007). In some areas, particularly aged care, ENs are expected to take on management and leadership roles, particularly when required to support other health care workers (Gibson & Heartfield, 2003). Despite this, content analysis of open-ended questions demonstrated that leadership was seen by both groups as a main difference in roles. Leadership, critical thinking and management skills have also been seen as differences between levels of nurse in other countries such as the USA, Canada and New Zealand (Showman, 2012; White et al., 2008). Although identified as a role difference between the nursing levels, research suggests that RNs are not well prepared, as undergraduates, for leadership roles (Phillips & Byrne, 2013).

Surprisingly, whilst ENs are often believed to be more work ready on graduation due to their task focus, EN students in this study felt less prepared by their pre-registration programs for the specified graduate attributes. This may be due to the lesser number of clinical hours undertaken in diploma programs (400 hours) compared to degree programs (800 hours) (Ryan, 2009a, 2009b), or shorter length of educational program for diploma ENs to achieve competency in the large range of skills, 18 months compared to the three-year RN degree. The lower confidence levels expressed by EN students may indicate a need for EN

graduate years to help ease transition into the workforce (Ryan, 2009b). Currently, few, of these exist. Whilst RN students felt they were prepared for their graduate attributes, international studies have shown that many still struggle with managing full workloads and fitting into ward environments on commencement of clinical practice (Feng & Tsai, 2012; Gill, Deagan, & McNett, 2010).

There are some limitations to this study. The questionnaire was only distributed to a proportion of nursing students in Victoria, Australia and as such may not be representative of other contexts. In addition, the number of educational institutions participating may not represent students from different programs. The small number of respondents may be due to the questionnaire being undertaken during the final semesters of pre-registration programs when students were preparing for final exams, applying for graduate years and completing final assessments. Staff at one institution felt their students had questionnaire fatigue as they had recently been asked to complete several research questionnaires. This may have influenced response rates there. Regardless, the study sheds light onto an aspect not previously explored in nurse education and so enhances our understandings of differences where role confusion has been previously reported. This is important given the changing nature of education for both types of nurse in many countries. In addition, it is important to note that data reported is based on student perceptions and only particularly motivated students may have chosen to participate.

CONCLUSION

The move to diploma-level education for ENs has increased the overlap in education and perceived roles between the two levels of nurse. Despite this, RNs continue to have higher acuity skills and are expected to work in more responsible positions than ENs. Clarification of the roles of each level of nurse is required so students undertaking the different nursing programs are educated regarding different roles, enabling them to work in effective interprofessional collaborative teams. A decrease in confidence levels of ENs on commencing practice may indicate need for graduate programs to ease diploma ENs into the workforce.

Further research is needed to explore how graduate experience compares to students' perspectives prior to graduation as reported in this paper. Worldwide research into the differences in nursing levels and how education prepares each for practice roles is necessary to better understand complexities of utilising different levels of nurse. Research into benefits and limitations of graduate year programs for ENs would also be beneficial to aid their transition into the workforce.

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Table(s)

Table 1: Similarities in perceptions of nursing competencies between the RN and EN nursing levels

Competencies	Mean Likert Score \pm SD		Percentage Difference	P value
	RN	EN		
Patient care				
Administer basic life support	1.22 \pm 0.42	1.13 \pm 0.35	2.25	0.471
Administer advanced life support	2.33 \pm 1.20	2.20 \pm 1.15	3.25	0.732
Administer oxygen therapy	1.08 \pm 0.28	1.27 \pm 0.59	4.75	0.208
Administer prescribed medications	1.00 \pm 0.00	1.06 \pm 0.26	1.50	0.116
Assess dietary intake	1.11 \pm 0.31	1.20 \pm 0.56	2.25	0.743
Assist patients with activities of daily living	1.08 \pm 0.28	1.07 \pm 0.26	0.25	0.861
Assist patients with refusal of care requests	1.46 \pm 0.84	1.53 \pm 0.99	1.75	0.980
Assist patients with rehabilitation needs (e.g. post-operative physiotherapy)	1.75 \pm 0.84	1.60 \pm 0.74	3.75	0.595
Be a patient advocate	1.03 \pm 0.16	1.07 \pm 0.26	1.00	0.505
Consult with patient/ family around planned care	1.35 \pm 0.72	1.67 \pm 1.11	8.00	0.399
Develop and implement nursing care plans using analysis of assessment data	1.41 \pm 0.50	1.40 \pm 0.63	0.25	0.766
Extract blood by venepuncture	1.22 \pm 0.42	1.40 \pm 0.63	4.50	0.327
Evaluate outcomes of nursing care	1.31 \pm 0.67	1.33 \pm 0.62	0.50	0.748
Identify normal and abnormal assessment results	1.14 \pm 0.35	1.13 \pm 0.35	0.25	0.986
Insert nasogastric tubes	1.30 \pm 0.46	1.43 \pm 0.51	3.25	0.380
Provide non-pharmacological pain management	1.31 \pm 0.52	1.60 \pm 0.91	7.25	0.303
Provide palliative care	1.39 \pm 0.55	1.27 \pm 0.46	3.00	0.488
Provide pressure area care	1.16 \pm 0.55	1.06 \pm 0.26	2.50	0.635
Provide spiritual care	2.11 \pm 1.05	2.40 \pm 1.30	7.25	0.541
Provide support to emotionally upset patients and families	1.14 \pm 0.42	1.33 \pm 0.49	4.75	0.065
Undertake aseptic wound dressings	1.05 \pm 0.23	1.00 \pm 0.00	1.25	0.363
Undertake female catheterisation	1.59 \pm 0.60	1.73 \pm 0.80	3.50	0.654
Undertake routine physical assessments	1.00 \pm 0.00	1.00 \pm 0.00	0.00	1.00
Using ergonomic aids to prevent injuries	1.43 \pm 0.60	1.47 \pm 0.74	1.00	0.934
Administrative				
Conduct admission interviews including patient history	1.27 \pm 0.61	1.47 \pm 0.64	5.00	0.178
Coordinate nursing and other health care	1.57 \pm 0.77	1.80 \pm 0.86	5.75	0.347
Document patient progress in notes	1.08 \pm 0.28	1.07 \pm 0.26	0.25	0.861
File patients test results	2.03 \pm 0.99	2.07 \pm 1.03	1.00	0.899
Identify resources needed to provide nursing care	1.27 \pm 0.56	1.47 \pm 0.52	5.00	0.110
Initiate support services for patient discharge	1.70 \pm 0.91	1.53 \pm 0.74	4.25	0.612
Monitor and report incidents	1.38 \pm 0.76	1.40 \pm 0.51	0.50	0.452
Order stores and ward supplies	2.86 \pm 1.16	2.53 \pm 0.99	8.25	0.380
Organise admission and discharge paperwork	1.54 \pm 0.77	1.60 \pm 0.63	1.50	0.546
Refer patients to other health professionals	1.59 \pm 0.76	1.53 \pm 0.74	1.50	0.777
Supervise the cleaning of patient environments	2.73 \pm 1.10	2.47 \pm 0.99	6.50	0.378
Take specimens to the laboratory	2.46 \pm 1.10	2.13 \pm 0.99	8.25	0.362
Utilise computer technology in nursing	1.22 \pm 0.48	1.47 \pm 0.52	6.25	0.054
Utilise organisational policies and guidelines	1.08 \pm 0.28	1.20 \pm 0.41	3.00	0.228
Teamwork				
Participate in quality improvement	1.25 \pm 0.55	1.40 \pm 0.51	3.75	0.178
Participate in unit/team meetings	1.25 \pm 0.60	1.27 \pm 0.46	0.50	0.613
Utilise conflict management techniques	1.14 \pm 0.35	1.33 \pm 0.49	4.75	0.115
Work collaboratively with members of the	1.03 \pm 0.17	1.07 \pm 0.26	1.00	0.519

health care team				
Supervision and leadership				
Assist in developing organisational policies and clinical practice guidelines	2.41 ±0.93	2.60 ±1.30	4.75	0.749
Chair meetings	3.35 ±1.01	3.00 ±0.93	8.75	0.236
Clarify and question patient care	1.28 ±0.51	1.47 ±0.52	4.75	0.159
Deal with inappropriate delegation of care	2.54 ±1.10	2.47 ±1.30	1.75	0.739
Disseminate changes and new information to colleagues	1.84 ±1.12	1.73 ±0.80	2.75	0.930
Liaise with management over staffing needs	2.73 ±1.26	2.20 ±1.01	13.25	0.176
Maintain duty of care, confidentiality, and privacy	1.03 ±0.16	1.00 ±0.00	0.75	0.524
Perform staff reviews	3.38 ±1.23	3.0 ±1.41	9.50	0.384
Plan and coordinate workloads and staff allocations	3.16 ±1.19	3.0 ±1.31	4.00	0.755
Provide leadership to nursing colleagues	2.17 ±0.94	1.87 ±0.92	7.50	0.328
Undertake clinical audits and patient case reviews	2.76 ±1.23	2.67 ±1.18	2.25	0.819
Undertake Occupational Health & Safety audits	2.39 ±1.27	2.13 ±0.83	6.50	0.637
Understand skill mix requirements for the ward	2.08 ±0.98	1.93 ±1.03	3.75	0.579
Undertake student appraisals	2.68 ±1.25	2.80 ±1.21	3.00	0.592
Work in charge on shifts as required	2.95 ±1.25	2.53 ±1.19	10.50	0.271
Research				
Apply research findings to nursing practice	1.40 ±0.55	2.00 ±1.20	15.00	0.068
Assist in the collection of research data	2.08 ±0.87	2.47 ±0.99	9.75	0.158
Have a current knowledge of research in own field	1.51 ±0.73	1.80 ±0.68	7.25	0.107
Keep abreast of developments that impact nursing practice	1.35 ±0.54	1.53 ±0.64	4.50	0.314
Education				
Discuss discharge care needs with patient and family	1.17 ±0.38	1.07 ±0.26	2.50	0.349
Explain procedures and investigation to patients	1.22 ±0.48	1.13 ±0.35	2.25	0.585
Inform the patient of their diagnosis	2.49 ±1.25	2.47 ±1.13	0.50	0.983
Orientate new staff or students to the ward	1.83 ±0.97	1.87 ±1.13	1.00	0.982
Preceptor nursing students	2.42 ±1.40	2.27 ±1.33	3.75	0.804
Provide clinical supervision/ monitor other staff	2.69 ±1.35	2.60 ±1.12	2.25	0.966
Provide education for students, staff or other health professionals	2.03 ±1.13	2.47 ±1.36	11.00	0.261
Provide health education to patients	1.08 ±0.28	1.13 ±0.35	1.25	0.588

Table 2: Differences in perceptions of nursing competencies between RN and EN nursing levels

Competencies	Mean Likert Score \pm SD		Percentage Difference	P value
	RN	EN		
Patient care				
Administer BIPAP to patients	1.84 \pm 0.76	2.64 \pm 0.93	20.00	0.004
Administer blood transfusions	1.42 \pm 0.55	3.07 \pm 1.44	41.25	0.000
Administer intravenous infusions	1.05 \pm 0.23	1.46 \pm 0.64	10.25	0.002
Apply cervical collars	1.62 \pm 0.72	3.00 \pm 1.41	34.50	0.001
Care for patients with tracheostomies	1.50 \pm 0.61	2.20 \pm 1.15	17.50	0.025
Escort patients to and from theatre	1.24 \pm 0.60	1.80 \pm 0.86	14.00	0.004
Feed patients via nasogastric tubes	1.32 \pm 0.63	1.80 \pm 0.77	12.00	0.017
Insert intravenous cannulas	1.73 \pm 1.12	3.47 \pm 1.51	43.50	0.000
Instigate nurse initiated medications	1.32 \pm 0.53	2.00 \pm 1.18	17.00	0.027
Interpret pathology reports/respond to abnormal results	1.81 \pm 0.91	2.60 \pm 1.30	19.75	0.027
Remove plaster casts	1.86 \pm 0.98	3.33 \pm 1.29	36.75	0.000
Take and interpret arterial blood gas samples	2.09 \pm 0.98	3.33 \pm 1.29	31.00	0.001
Undertake male catheterisation	2.46 \pm 1.28	3.73 \pm 1.53	31.75	0.006
Undertake mental status assessments	1.46 \pm 0.73	1.93 \pm 0.88	11.75	0.037
Administrative				
Liaise with doctors re patient conditions	1.16 \pm 0.44	1.40 \pm 0.51	6.00	0.045
Prioritise care based on patient assessment	1.05 \pm 0.23	1.33 \pm 0.49	7.00	0.008
Teamwork				
Understand the roles of different members of the health care team	1.03 \pm 0.17	1.27 \pm 0.59	6.00	0.037
Supervision and leadership (nil differences)				
Research				
Identify topics for nursing research	2.00 \pm 0.83	2.47 \pm 0.74	11.75	0.047
Participate in research studies	1.86 \pm 0.87	2.53 \pm 0.92	16.75	0.016
Education (nil differences)				

Table 3. Similarity in perceptions of meeting graduate attributes between student groups

Graduate attribute	Mean Score \pm SD		Percentage difference	P value
	RN	EN		
The confidence and ability to challenge and contribute to the health care system	3.14 \pm 0.80	2.93 \pm 1.03	7.00	0.603
Awareness and understanding of the socio-cultural factors on the health of individuals	3.53 \pm 0.56	3.27 \pm 1.10	8.67	0.814
Ability to communicate nursing knowledge effectively to patients, families, colleagues and other health professionals	3.61 \pm 0.49	3.27 \pm 1.03	11.33	0.402
Committed to sensitive, compassionate, and humane professional practice	3.92 \pm 0.28	3.40 \pm 1.12	17.33	0.062
Provide professional leadership	3.38 \pm 0.68	2.73 \pm 1.22	21.66	0.088

Table 4. Difference in perceptions of meeting graduate attributes between student groups

Graduate attribute	Mean		Percentage difference	P value
	RN	EN		
Use contemporary media, technology, library and relevant databases to access and manage information	3.73 ±0.56	3.00 ±1.13	24.33	0.006
Exercise critical thinking to foster new understanding	3.81 ±0.40	3.13 ±1.06	22.66	0.007
Value research in contributing to nursing development and patient care	3.54 ±0.61	3.00 ±1.00	18.00	0.050
Commitment to continuing professional education and development	3.84 ±0.55	3.33 ±1.05	17.00	0.016

Table 5: Role differences identified by students

Category	RN Count Number (n=36)	Percentage of RN respondents	EN Count Number (n=14)	Percentage of EN respondents
Supervision/leadership	17	47	10	71
Clinical skills	15	42	4	29
Depth of Knowledge	12	33	4	29
Medication administration	8	22	0	0
Critical thinking	5	14	1	7
Scope of practice	4	11	5	36
Research skills	2	5.5	0	0
Qualification	1	3	1	7
Very little difference in roles	1	3	2	14
Career options	0	0	2	14

6. Summary of Chapter Six

This third phase of the study has shown that nursing students approaching graduation felt that differences existed in the roles of the ENs and RNs. Differences were thought to exist in their ability to manage deteriorating patients, ward management and leadership. Students also felt that the roles were becoming increasingly similar, with the amount of role difference depending on the context in which the nursing care was carried out. Although basic knowledge and skills were rated similarly between diploma and degree students, content analysis of open-ended questions showed that most students felt that complex, highly acute or deteriorating patients should be cared for by RNs due to their increased depth of knowledge and critical thinking skills. The next chapter provides another view of graduate roles ascertained through the opinions of senior nurses as to their role expectations of the different graduate nurses.

Declarations for Thesis Chapter Seven

Declaration by candidate

In the case of Chapter Seven, paper one titled 'Senior nurse expectations of the role of graduate registered and enrolled nurses on commencement to practice', the nature and extent of my contribution to the work was the following:

Nature of contribution	Extent of contribution (%)
I was the main contributor for concept development, key ideas, development and writing up.	80%

The following co-authors contributed to the work:

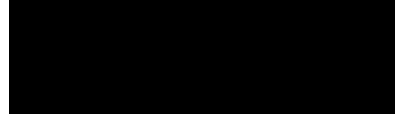
Name	Nature of contribution	Extent of contribution (%) for student co-authors only
Lisa McKenna	Contributed to concept development, key ideas, development and writing up.	10%
Angelo D'Amore	Contributed to concept development, key ideas, development and writing up	10%

The undersigned hereby certify that the above declaration correctly reflects the nature and extent of the candidate's and co-authors' contributions to this work*.

Candidate's Signature

	Date 8/02/2014
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Main Supervisor's Signature

	Date 8/02/2014
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In the case of Chapter Seven, paper two titled 'Senior nurse role expectations of graduate registered and enrolled nurses in Australia: Content analysis of open-ended survey questions', the nature and extent of my contribution to the work was the following:

Nature of contribution	Extent of contribution (%)
I was the main contributor for concept development, key ideas, development and writing up.	80%

The following co-authors contributed to the work:

Name	Nature of contribution	Extent of contribution (%) for student co-authors only
Lisa McKenna	Contributed to concept development, key ideas, development and writing up.	10%
Angelo D'Amore	Contributed to concept development, key ideas, development and writing up.	10%

The undersigned hereby certify that the above declaration correctly reflects the nature and extent of the candidate's and co-authors' contributions to this work*.

Candidate's Signature

	Date 8/02/2014
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Main Supervisor's Signature

	Date 8/02/2014
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Chapter Seven: Senior nurse surveys

7.0 Introduction

In previous phases of this research it was identified that the different levels of nurse had varying educational preparation depending on the educational institution, entry level of students, educational qualifications of educators and role expectations on graduation. Results from nursing student surveys suggested that although there were increasing similarities in the roles of RNs and ENs on graduation, management of acute, deteriorating or complex patients remained the role of the RN due to their greater depth of knowledge and critical thinking skills. This fourth phase sought to ascertain senior nurses' expectations of the roles of graduate RNs and ENs on commencement of clinical practice. Senior RNs were identified by their employed position in administration, ward management, education or research. This phase was undertaken by surveying senior nurses across all Victorian health services.

The senior nurse survey utilised chi-squared analysis, content analysis and descriptive statistical analysis to identify role expectations of the different respondents for the different levels of nurse. No distinct role was found only for ENs. As in the previous phases, similar basic skills and competencies were found between the two levels of nurse, although skills required in caring for highly acute patients remained to be seen as the role of RNs. Many roles expected by course coordinators and nursing students to be undertaken by graduate RNs and ENs were seen as not the role of either level of graduate nurse by senior nurses. Large variation in role expectations was found, with 20% of respondents indicating that at the graduate level there was little or no difference between roles of the different levels of nurse. Significant differences were found between respondent groups in perceived abilities of ENs to undertake several diploma-level skills, such as identifying normal and abnormal assessment

results and inserting nasogastric tubes, with educators (rather than clinical nurses or administrative nurses) indicating that ENs could undertake these skills. This may be due to the closer association of educators with educational facilities and increasing understanding of skills and knowledge taught in the diploma program. Content analysis of open-ended questions found higher order skills, critical thinking, depth of knowledge and supervision remained to be perceived as different between the two levels of nurse. Surprisingly, graduate ENs were seen as less prepared by their education to achieve their listed graduate attributes than graduate RNs.

The results of this phase of the research are reported in the following two manuscripts. The first manuscript reports on results of the quantitative analysis of Likert scales in the online surveys, and identifies similarities and differences in the expectations of graduate RN and EN roles from the different senior nurse groups. This manuscript titled “Senior nurse expectations of the role of graduate registered and enrolled nurses on commencement to practice” has been published online in the *Australian Health Review*.

The second manuscript reports findings from qualitative content analysis of open-ended questions in the survey. This paper identified that higher order skills, critical thinking, depth of knowledge and supervision remained differences between the two levels of nurse. This manuscript, titled “Senior nurse role expectations of graduate registered and enrolled nurses in Australia: Content analysis of open-ended survey questions, *Contemporary Nurse*, was submitted for review.

7.1 Article 8: Senior nurse expectations of the role of graduate registered and enrolled nurses on commencement to practice

Published online as

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Senior nurse role expectations of graduate registered and enrolled nurses on commencement to practice

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Abstract

Objective. This paper reports on a project to examine the expectations of senior nurses regarding graduate roles of registered and enrolled nurses educated in Victoria, Australia.

Methods. Participants completed an online survey to indicate whether predetermined competencies were in the roles of graduate enrolled or registered nurses or not in the role of either nurse. Chi-squared analysis was used to identify differences between participant groups.

Results. Participants expressed variations in role expectations for the different level of graduate nurse. Although basic nursing care was undertaken by both graduate enrolled and registered nurses, no specific role was identified for enrolled nurses. Differences were found in the opinions of senior nurses over the roles of graduate nurses, demonstrating considerable variation in expectations. Management, education and research roles were not identified as the role of either nurse on graduation. Differences were found in the expectations of the different senior nurse groups regarding the roles of the enrolled nurse, particularly in the new skills taught in the enrolled nurse diploma program.

Conclusions. Confusion exists regarding the roles of both types of nurse on graduation. Further research across Australia is required to clarify the roles of the different level of nurse in different practice contexts.

What is known about the topic? Australia, like many other countries, prepares two levels of nurse for entry to practice: the degree-prepared registered nurse and the diploma-prepared enrolled nurse. Role confusion and ambiguity have been reported in the literature by many countries, including Australia, that employ two levels of nurse.

What does this paper add? Great variation exists between expectations of senior nursing staff as to the role of both levels of graduate nurse. Role confusion and ambiguity exists for nurses in Australia. Role confusion and ambiguity around the scope of practice for enrolled nurses is seen as both limiting their practice and encouraging them to work at levels for which they have not been prepared. Graduate registered nurses were seen as more prepared for required graduate attributes than enrolled nurses. Care of acute, complex or deteriorating patients remains the role of registered nurses.

What are the implications for practitioners? Practising nurses need to be educated as to the skills and knowledge that diploma enrolled nurses are graduating with in order to enable them to use their full range of abilities. To provide safe, quality care, registered nurses must fully understand the roles and abilities of the enrolled nurses to whom they delegate care. Organisational health policies and procedures need to be reviewed to accommodate the increased skills and knowledge of diploma-prepared enrolled nurses and enable best utilisation of their skills. Practising nurses need to be aware that enrolled nurses are not educationally prepared to care for complex or deteriorating patients. Although they are able to undertake basic nursing care, the role of caring for complex, highly acute and deteriorating patients remains in the domain of registered nurses. The increasing acuity of patients admitted to health services requires a higher skill mix of registered nurses to safely care for them.

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Introduction

Significant changes have occurred in the configuration of the Australian nursing workforce in the past 10 years in response to

economic constraints and workforce shortages.¹ Although the UK has reconfigured its workforce to only one level of nurse supported by unregulated healthcare professionals, Australia,

Canada, New Zealand, Singapore and the US have continued to employ two levels of nurse.² Currently in Australia, degree-prepared registered nurses (RNs) and diploma-prepared enrolled nurses (ENs) are educated for entry to nursing practice to provide patient care in acute health services.

Although two levels of nurse have been maintained in Australia, the role of ENs has changed considerably. Originally, ENs were introduced into the workforce to work as assistants to RNs and, under their supervision, to undertake basic patient care and monitor health status.³ In the mid-2000s, the scope of nursing practice was changed in Australia to enable all nurses to undertake any duty they had been trained in, and deemed competent for, and were authorised by their health service to perform.⁴ Following this change to the scope of practice, educational preparation for ENs was increased to prepare graduate ENs with an increased skill base. Changes to the scope of practice and educational preparation of ENs have led them to be able to undertake many nursing roles previously the sole domain of RNs. This has led to reported confusion between the roles of RNs and ENs.^{5–8}

Despite these changes to the scope of practice and educational preparation of ENs, scant information is available regarding practising nurses' opinions of the changes or how these influence patient care. This paper explores the opinions of various levels of senior nurses via a cross-sectional survey to determine their role expectations of graduate RNs and ENs on commencement to practice.

Methods

An online questionnaire was developed using Qualtrics online survey software (<http://www.qualtrics.com/>, accessed 5 August 2013). The questionnaire contained demographic questions and a list of predetermined nursing responsibilities, including nursing competencies and graduate attributes required by graduate nurses on commencement of practice. The listed nursing competencies were adapted from the *Competencies for RNs* published by the Nursing and Midwifery Board of Australia⁹ and research by Lu *et al.*¹⁰ The graduate attributes were adapted from the work of Barnett *et al.*¹¹ Respondents were asked to select one of four response options identifying whether a particular predetermined nursing responsibility was the role of the: (1) graduate registered nurse; (2) graduate enrolled nurse; (3) both nurses; or (4) neither nurse. The questionnaire was piloted on three senior nurses (graduate nurse coordinator, clinical nurse educator and associate nurse unit manager) to ensure ease of use and that the questions reflected the aims of the study.

Following ethics approval from Monash University Human Research Ethics Committee, the link to the online survey, along with a letter of introduction and explanatory statement, were emailed to publically available email addresses of senior Victorian nurses. Email addresses were found by searching through health services' web pages. The researchers looked for contacts for directors of nursing, nursing unit managers, associate nurse unit managers, graduate nurse coordinators, health service coordinators, nurse educators, chief nursing officers, nursing regulatory personnel (employed by the Australian Nursing and Midwifery Accreditation Council and Nursing and Midwifery

Board of Australia) and government nursing personnel. A total of 118 health services was emailed, requesting that those individuals interested in participating complete the online survey and to forward the request to any other senior nurse they believed may be interested in completing it, thereby using snowballing sampling.¹²

Data were entered into SPSS (version 20; SPSS, Chicago, IL, USA) and statistical analyses undertaken, including descriptive statistics and Chi-squared analysis. Because the respondents allocated themselves to either administration, education, regulatory, clinical or 'other', a Pearson Chi-squared analysis was undertaken to identify differences in the selection of four response options between respondent groups (only one respondent identified themselves as 'regulatory' and so was removed from the analysis). Nineteen respondents identified themselves in the 'other' category and were either excluded (not an interest group of this study) or reallocated to the other groups. This resulted in three senior nurse demographic groups: Administration, Clinical and Education. The resultant contingency tables used for the Chi-squared analysis for each survey item were 3 × 4 tables representing the two variables of senior nurse demographic group (represented as Administrative, Clinical and Educator) and the four response options (represented as Graduate RN, Graduate EN, Both Grads and Neither Role). The null and alternative hypotheses tested by the Chi-squared test were that 'the different senior nurse groups did not have different role expectations of the graduate RNs and ENs' and 'the different senior nurse groups had different role expectations of the graduate RNs and ENs', respectively. The null hypothesis was rejected and the alternative hypothesis accepted when Chi-squared test $P < 0.05$. Although Chi-squared analysis was undertaken for all survey items, the contingency tables and Chi-squared P -values are only reported for those where statistical significance ($P < 0.05$) was observed.

A total of 172 participants completed the survey. After checking the data and removing surveys in which only demographic data and no other survey data were entered, 155 responses were analysed.

Results

Demographic data indicated that respondents were mostly female (84.5%) with postgraduate qualifications (bachelor degree 14%, postgraduate certificate or diploma 49%, masters degree 30%, doctorate 2%). Five per cent were hospital trained with no further qualifications. The age range was 29–69 years, with an average age of 47 years. The average number of years of nursing practice was 31 years. Although many of the respondents were in senior administrative or educational roles, 62% still undertook clinical practice roles in health services.

The data demonstrated considerable variation in participants' expectations of graduate ENs and RNs. Few respondents felt any role was for enrolled nurses only. Roles that received ≥80% of respondents agreeing to the level of nurse who was able to undertake the competency were seen as agreed roles. These competencies are listed in Table 1. The competencies agreed as the role of both level of nurse were mostly basic nursing

Table 1. Agreed competencies undertaken by both graduate enrolled and registered nurses

Data show the percentage of respondents who expect nurses to have a given role. RN, degree-prepared registered nurse; EN, diploma-prepared enrolled nurse

Competency	Role of:			
	Graduate RN only	Graduate EN only	Both graduates	Neither
Administer basic life support	6.2	0.0	93.8	0.0
Administer prescribed medications	15.9	0.0	84.1	0.0
Apply research findings to nursing practice	9.6	0.0	81.5	8.9
Assess dietary intake (e.g. monitor bowel habits, food intake, weight, fluid balance)	3.4	0.0	96.6	0.0
Assist patients with activities of daily living (e.g. feeding, ambulation, personal hygiene)	1.4	1.4	96.6	0.7
Assist patients with rehabilitation needs (e.g. post-operative physiotherapy)	7.7	1.4	88.8	2.1
Be a patient advocate	3.4	0.0	94.6	2.0
Clarify and question patient care	11.8	0.0	83.8	4.4
Conduct admission interviews, including patient history	15.1	0.0	82.0	2.9
Document patient progress in patient notes	2.9	0.7	96.4	0.0
Identify normal and abnormal assessment results	18.6	0.0	80.7	0.7
Identify resources needed to provide nursing care	10.8	0.0	84.9	4.3
Keep abreast of developments that impact nursing practice (e.g. journals)	5.9	0.0	93.3	0.7
Maintain duty of care, confidentiality and privacy	1.5	0.0	98.5	0.0
Monitor and report incidents	5.2	0.0	88.8	6.0
Organise admission and discharge paperwork (e.g. patient transfer forms)	11.5	0.0	81.3	7.2
Participate in quality-improvement processes	2.2	0.0	97.1	0.7
Participate in unit and/or team meetings	2.2	0.0	96.4	1.4
Prioritise care based on patient assessments	18.7	0.0	80.6	0.7
Provide health education to patients	12.0	0.0	87.2	0.8
Provide palliative care	7.6	0.0	91.0	1.4
Provide pressure area care	2.8	0.7	95.2	0.7
Provide support to emotionally upset patients and families	5.5	0.0	89.0	5.5
Understand the roles of different members of the healthcare team	1.4	0.0	98.6	0.0
Undertake aseptic wound dressings	6.2	0.0	93.8	0.0
Undertake routine physical assessments (e.g. vital signs, fluid balance, urinalysis)	1.4	0.7	97.9	0.0
Use ergonomic aids to prevent injuries	4.2	0.0	94.4	1.4
Use computer technology in nursing (e.g. to access patient results)	12.2	0.7	87.1	0.0
Use conflict management techniques	5.1	0.0	87.7	7.2
Use organisational policies and guidelines	2.9	0.0	95.7	1.4
Work collaboratively with members of the healthcare team	2.2	0.0	97.8	0.0

Table 2. Agreed competencies not the role of either graduate enrolled and registered nurses

Data show the percentage of respondents. RN, degree-prepared registered nurse; EN, diploma-prepared enrolled nurse

Competency	Role of:			
	Graduate RN only	Graduate EN only	Both graduates	Neither
Chair meetings	10.4	0.0	8.2	81.3
Inform patients of their diagnosis	6.9	0.0	6.9	86.3
Perform staff reviews	9.0	0.0	4.5	86.6
Plan and coordinate workloads and staff allocations	17.8	0.0	1.5	80.7
Provide clinical supervision and/or monitor other staff	11.4	0.0	6.8	81.8

care skills, usually taught in the first year of an EN or RN program.

Agreement ($\geq 80\%$ of respondents) was also found on several competencies considered not to be the role of either graduate EN or RN (Table 2). These roles were mostly around leadership, such as supervision or coordination of other staff, although one was informing patients about their diagnosis.

For over half the competencies, no agreement of 80% of respondents was found (Table 3). Considerable differences

were found in expectations of roles, mainly for EN graduates. Variation existed in the role expectations of graduate EN and RN nurses on commencement to practice.

Significant differences were found in several areas following the Pearson Chi-squared test (Table 4). Several of these competencies constitute part of the increased skills taught in the diploma program that have only been introduced in the past few years. Nurse educators tended to expect both groups of graduates to undertake the skills more often than the other

Table 3. Competencies for which there was no agreement regarding the nurse level responsible for role

Data show the percentage of respondents. RN, degree-prepared registered nurse; EN, diploma-prepared enrolled nurse; BIPAP, biphasic positive airway pressure

	Role of:			
	Graduate RN only	Graduate EN only	Both graduates	Neither
Patient care				
Administer advanced life support	40.7	0.0	4.4	54.8
Administer BIPAP to patients	36.0	0.0	8.8	55.1
Apply cervical collars	43.2	0.0	22.3	34.5
Assist patients with refusal of care requests	27.4	0.0	52.7	19.9
Care for patients with tracheostomies (e.g. suctioning, dressing changes)	52.4	0.0	34.3	13.3
Consult with patient and/or family around planned care	22.1	0.0	70.3	7.6
Develop and implement nursing care plans using analysis of assessment data	36.1	0.0	59.2	4.8
Escort patients to and from theatre	36.8	2.1	59.7	1.4
Evaluate outcomes of nursing care	21.9	0.0	71.2	6.8
Extract blood by venepuncture	41.1	0.0	59.7	2.8
Feed patients via nasogastric tubes	26.9	0.0	72.4	0.7
Insert intravenous cannulas	59.7	0.0	20.1	20.1
Insert nasogastric tubes	54.9	0.0	37.5	9.2
Interpret pathology reports and respond to abnormal results	66.4	0.0	16.8	16.8
Provide spiritual care	2.8	0.7	78.3	18.2
Remove plaster casts	19.0	0.0	30.7	50.4
Take and interpret arterial blood gas samples	28.9	0.0	1.5	69.6
Undertake female catheterisation	43.1	0.0	51.4	5.6
Undertake male catheterisation	46.5	0.0	26.8	25.8
Undertake mental status assessments	20.1	0.0	60.4	19.4
Medication administration				
Administer blood transfusions	66.0	0.0	29.9	4.2
Administer intravenous infusions	53.1	0.0	46.2	0.7
Administer oxygen therapy	20.0	0.7	79.3	0.0
Instigate nurse-initiated medications	64.6	0.0	26.4	9.0
Provide non-pharmacological pain management	15.2	0.7	78.6	5.5
Administrative				
Coordinate nursing and other health care	35.5	0.0	47.8	16.7
File patients test results	5.8	0.0	30.7	63.5
Initiate support services for patient discharge (e.g. meals on wheels, hospital in the home)	22.3	0.0	59.0	18.7
Liaise with doctors re patient conditions	34.1	0.0	61.6	4.3
Order stores and ward supplies	3.0	0.0	26.1	70.9
Refer patients to other health professionals	27.7	0.0	59.1	13.1
Supervise the cleaning of patient environments	2.9	0.0	43.1	54.0
Take specimens to the laboratory	1.4	0.0	26.8	71.7
Supervision and/or leadership				
Assist in developing organisational policies and clinical practice guidelines	11.9	0.0	38.8	49.3
Deal with inappropriate delegation of care	15.7	0.0	13.4	70.9
Disseminate changes and new information to colleagues	7.4	0.7	62.5	29.4
Liaise with management over staffing needs	14.8	0.0	13.3	71.9
Provide leadership to nursing colleagues	18.5	0.0	29.6	51.9
Undertake clinical audits and patient case reviews	13.3	0.0	27.4	59.3
Undertake Occupational Health and Safety audits	2.9	0.0	54.4	42.6
Understand skill mix requirements for the ward	16.3	0.0	36.3	47.4
Undertake student appraisals	13.4	0.0	13.4	73.1
Work in charge on shifts as required	23.1	0.0	1.5	75.4
Research				
Assist in the collection of research data	7.5	0.8	70.7	21.1
Have a current knowledge of research in own field	11.3	0.0	75.2	13.5
Identify topics for nursing research	18.7	0.0	51.5	29.9
Participate in research studies	7.4	0.0	77.0	15.6

(continued next page)

Table 3. (continued)

	Graduate RN only	Role of: Graduate EN only	Both graduates	Neither
Education				
Discuss discharge care needs with patient and family (e.g. medications, dressings)	20.3	0.8	75.2	3.8
Explain procedures and investigation to patients	15.9	0.0	79.5	4.5
Orientate new staff or students to the ward	5.3	1.5	49.2	43.9
Preceptor nursing students	11.5	0.0	30.5	58.0
Provide education for students, staff or other health professionals	10.6	0.0	41.7	47.7

Table 4. Significant differences in expectation according to different groups of participants

Data show the number of respondents, with percentages in parentheses

Competency/role of	Administrative (n=38)	Clinical (n=35)	Educator (n=73)	Mean no. (%)	Pearson Chi-squared P-value
Administer intravenous infusions					0.013
Graduate RN	27 (71.1%)	22 (62.9%)	28 (38.9%)	77 (53.1%)	
Graduate EN	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	
Both graduates	11 (28.9%)	13 (37.1%)	44 (59.7%)	68 (46.2%)	
Neither	0 (0.0%)	0 (0.0%)	1 (1.4%)	1 (0.7%)	
Administer prescribed medications					0.015
Graduate RN	4 (10.5%)	11 (31.4%)	8 (11.1%)	23 (15.9%)	
Graduate EN	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	
Both graduates	34 (89.5%)	24 (68.6%)	65 (88.9%)	123 (84.1%)	
Neither	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	
Extract blood by venepuncture					0.010
Graduate RN	20 (52.6%)	13 (38.2%)	21 (29.2%)	54 (41.1%)	
Graduate EN	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	
Both graduates	15 (39.5%)	21 (58.8%)	52 (70.8%)	88 (59.7%)	
Neither	3 (7.9%)	1 (2.9%)	0 (0.0%)	4 (2.8%)	
Identify normal and abnormal assessment results					0.030
Graduate RN	11 (28.9%)	9 (25.7%)	7 (9.7%)	27 (18.6%)	
Graduate EN	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	
Both graduates	26 (68.4%)	26 (74.3%)	66 (90.3%)	118 (80.7%)	
Neither	1 (2.6%)	0 (0.0%)	0 (0.0%)	1 (0.7%)	
Insert nasogastric tubes					0.045
Graduate RN	24 (63.2%)	22 (62.9%)	34 (46.5%)	80 (54.9%)	
Graduate EN	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	
Both graduates	9 (23.7%)	10 (28.6%)	36 (49.3%)	55 (37.5%)	
Neither	5 (13.2%)	3 (8.6%)	3 (4.2%)	11 (9.2%)	
Perform staff reviews					0.018
Graduate RN	5 (13.5%)	3 (9.4%)	5 (6.2%)	13 (9.0%)	
Graduate EN	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	
Both graduates	5 (13.5%)	0 (0.0%)	1 (1.5%)	6 (4.5%)	
Neither	28 (73.0%)	32 (90.6%)	67 (92.3%)	127 (86.6%)	
Supervise the cleaning of patient environments					0.019
Graduate RN	1 (2.6%)	3 (9.1%)	0 (0.0%)	4 (2.9%)	
Graduate EN	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	
Both graduates	14 (36.8%)	20 (57.6%)	29 (39.4%)	63 (43.1%)	
Neither	23 (60.5%)	12 (33.3%)	44 (60.6%)	79 (54.0%)	
Undertake female catheterisation					0.004
Graduate RN	24 (63.2%)	15 (42.9%)	24 (32.4%)	63 (43.1%)	
Graduate EN	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	
Both graduates	10 (26.3%)	18 (51.4%)	47 (64.8%)	75 (51.4%)	
Neither	4 (10.5%)	2 (5.7%)	2 (2.8%)	8 (5.6%)	

Table 5. Senior nurse ratings for how prepared graduate enrolled and registered nurses are for the listed graduate attributes
Data show the percentage of respondents. RN, degree-prepared registered nurse; EN, diploma-prepared enrolled nurse

Graduate attributes	Graduate RN	Graduate EN	Both graduates	Neither prepared
Ability to communicate nursing knowledge effectively to patients, families, colleagues and other health professionals	20.2	0.0	71.3	8.5
Awareness and understanding of sociocultural factors on the health of individuals	8.5	0.0	80.6	10.9
Commitment to continuing professional education and development	11.5	0.0	86.9	1.5
Committed to sensitive, compassionate and humane professional practice	6.9	0.0	92.3	0.8
Exercise critical thinking to foster new understanding	29.5	0.0	62.0	8.5
Confidence and ability to challenge and contribute to the healthcare system	17.8	0.0	57.4	24.8
Provide professional leadership	15.6	0.0	33.6	50.8
Use contemporary media, technology, library and relevant databases to access and manage information	18.6	0.0	75.2	6.2
Value research in contributing to nursing development and patient care	19.4	0.0	70.5	10.1

senior nursing groups. This may be due to their close relationships with education providers and hence increased understanding of the increased numbers of skills that diploma ENs are now taught.

Table 4 lists items identified as significantly different following Pearson Chi-squared tests resulting in the acceptance of the alternative hypothesis that 'the different senior nurse groups had different role expectations of the graduate RNs and ENs'. Included are the 3×4 contingency tables (with the number and percentage of respondents) and *P*-values.

No significant difference was identified in preparedness for graduate attributes between the respondent groups, with all Chi-squared tests returning *P*-values ≥ 0.05 . For most attributes, both types of graduates were reported as being prepared by 57.4% or more of respondents, especially the attributes of 'committed to sensitive, compassionate and humane professional practice' and 'commitment to continuing professional education and development' (92.3% and 86.9% of respondents, respectively). However, for the attribute of 'provide professional leadership', both graduate groups were seen as unprepared by most respondents (50.8%; Table 5). Graduate RNs rated higher at being prepared for all the graduate attributes than graduate ENs, particularly in areas of communication, critical thinking, use of information technology and research.

Discussion

The large variation in responses for expected roles of the graduate RNs and ENs further demonstrates ongoing confusion around the roles of graduate ENs and RNs on commencement to practice. Although Duffield *et al.*¹³ argue that the roles of ENs and RNs have been well defined in Australia by the Nursing and Midwifery Council, they have been argued to be generic¹⁴ and cover similar domains and competency areas for both nursing levels.¹ Although the basic role in patient care was seen as similar between the two levels of nurse, considerable variations were found in responses regarding many competencies, and who was able to undertake specific roles. This lack of role clarity is supported by Conway,⁸ who suggests that the changes to configuration of nursing skill mix in Australia have paid little consideration to the potential for role overlap and confusion. Bellchambers and McMillan¹⁵ also found that changes to roles of ENs have led to decreased clarity of the roles of all members

of the healthcare team. Fitzgerald *et al.*¹⁶ suggest that greater role clarity for each level of nurse would lead to more effective utilisation of nursing staff.

Significant differences were found between respondent groups for some competencies. Six of the eight competencies in which respondents differed were skills included in the diploma EN program but previously not undertaken by ENs. Educators, who may supervise diploma students on professional placement experience, rated these competencies as relevant to both levels of nurse more frequently than the other participant group. This difference may reflect educators' abilities to keep abreast of changes to nursing education, but also that these changes are not flowing through to other staff on the wards. The Diploma of Nursing was introduced for EN education in 2010 and is now the entry qualification level for ENs.¹⁷ Because diploma ENs have been entering the workforce since 2011, it appears there is a lack of understanding by practising nurses as to what this qualification now includes. This would suggest that further education is needed to inform practising staff of the changes that have been made to EN education and what to expect of their graduating skills and knowledge level. This difference may also reflect on the large number of certificate-prepared ENs still in the workforce who have different skill levels to diploma ENs. This variation in nurses employed as the same but educated to different levels compounds the confusion over role expectations. Although the scope of practice requirements allow nurses to practice skills in any area they are educated, deemed competent and are authorised by their employer to perform,⁴ this can make it difficult for supervising staff to understand the ability of each individual EN and hence utilise the nurse's full scope of practice. These differences in role expectations highlight the importance of senior RNs understanding the role capabilities of the different levels of graduates, which should be reflected in the policies and procedures of the health services.

No specific role was found for ENs. The ENs were seen to undertake basic patient care and patient assessments, with more complex care and assessment being the role of the RN. This is supported by the Australian Institute of Health and Welfare,¹⁸ which suggests that ENs undertake less complex procedures. The role of the EN was phased out in the UK in response to increasing role overlap and perceptions of exploitation of ENs who undertook many similar tasks to RNs but at a cheaper rate.²

The graduate attributes survey found that although most graduate RNs were prepared for the workforce in all areas except leadership, ENs were far less prepared to commence practice. RN graduates were rated higher in areas of communication, critical thinking, confidence, use of information technology and research than graduate ENs. Criticism of graduate RNs as being not 'work ready'¹⁹ appear to be unsupported by this research. Although graduate ENs have traditionally been seen as more work ready than graduate RNs (E. Jacob, L. McKenna and A. D'Amore, unpubl. obs.), this was not reflected in the present study. The change to diploma level education for ENs may require more support in the form of a graduate year to enable them to become confident in their new role with the increased skill and knowledge base.

Limitations

This research was undertaken in one state in Australia and may not be generalisable to the rest of the country. Although the survey was sent to all health services in Victoria, only people interested in the topic may have completed the survey. Nurses working in regulatory authorities, such as the Nursing and Midwifery Board of Australia, the Australian Nursing and Midwifery Accreditation Council and state nursing boards, chose not to participate in the survey. Because these people are vital in the regulation and defining codes of practice for nurses, different responses to role expectations may have been found for this group. Further research is required to clarify the roles of the different levels of nurse in the different practice contexts that exist across Australia.

Conclusion

Although there was some variability in the role of the graduate RN, role clarity is even more lacking for graduate ENs with great disparity in expectations between respondents. For diploma ENs to be better integrated into the workforce, education of practising staff is essential to enable them to understand the increase in skills and knowledge. This will enable ENs to use their full range of abilities while ensuring patient safety. Reviewing health organisational policies and procedures will allow for accommodation of increased skills and knowledge of diploma ENs to build the capabilities of these nurses and most efficiently use their skills. Although graduate ENs are expected to undertake basic patient care and skills for which they have been educated, higher-acuity skills remain the role of the RN. Practising RNs need to be educated regarding the educational preparation of ENs so they are aware that ENs are not prepared to care for complex or deteriorating patients, which will influence the skill mix of nurses allocated to patient care. A higher skill mix of RNs is required to safely care for the increasing acuity of patients admitted to health services.

The RN graduates were seen as meeting the majority of graduate attributes, apart from leadership, whereas ENs were less able to meet these attributes. This suggests that graduate RN are more prepared for the workforce than graduate ENs. A transition program for graduate ENs may be required to assist diploma ENs transition into the workforce to assist in the consolidation of the increased skills and knowledge. Further research across Australia is required to both clarify the roles of

the different levels of nurse in different practice contexts, such as aged care, acute care and general practice clinics, and to ensure patient care is maintained while changing the skill mix of nurses.

Competing interests

None declared.

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7.2 Article 9: Senior nurse role expectations of graduate registered and enrolled nurses in Australia: Content analysis of open-ended survey questions

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Senior nurse role expectations of graduate registered and enrolled nurses in Australia: Content analysis of open-ended survey questions

Key Words: Nursing, content analysis, enrolled nurse, registered nurse, role.

Introduction

Nursing roles in Australia have undergone significant changes since clarification of the definition of scope of practice for nurses in Australia (Jacob, Sellick, & McKenna, 2012). The Nursing and Midwifery Board of Australia (2007, p. 2) defines scope of practice as “that which the individual is educated, authorised and competent to perform” (p. 2). This enables nurses to undertake roles to the full scope of their abilities. Similar to the USA, Canada, Singapore and New Zealand, two entry levels of nurse are employed in Australia (Heartfield & Gibson, 2005; Jacob et al., 2012), registered nurses (RNs) and enrolled nurses (ENs, known as licenced practical/vocational nurses in the USA) (Australian Nursing and Midwifery Council, 2002; Jacob et al., 2012; Nursing and Midwifery Board of Australia, 2006). Minimum educational requirements for registration in Australia are baccalaureate degrees for RNs and certificates or diplomas for ENs (Ryan, 2009a, 2009b). Since recent broadening of scope of practice, ENs now require a minimum of diploma-level education (Ryan, 2009a) providing higher levels of knowledge and skills, enabling these nurses to undertake higher level roles and responsibilities. The resulting change in skills and abilities, and increasing overlap in roles, has led to role confusion between ENs and RNs (Jacob, Barnett, Sellick, & McKenna, 2013; Kerr, Lu, Mill, & McKinlay, 2012; Nankervis, Kenny, & Bish, 2008).

Since the introduction of diploma qualifications for ENs, few studies have investigated the impact of these changes to nursing roles in clinical practice. Even prior to this increase in EN entry level qualification, Conway (2007) suggested that changes to scope of practice may lead to role confusion and overlap. In the aged care setting, Bellchambers and McMillan (2007, p. 36) found that the changing role of ENs enabling them to administer medications, resulted in “lack of role clarity for all members of the aged care medication team” (p.36). Kerr et al. (2012) examined nurses’ opinions of EN medication administration and found that whilst most ENs understood their roles and responsibilities, more than half the RNs surveyed felt they did not have good understanding of ENs’ responsibilities and accountability. Whilst these studies examined the addition of medication administration to the EN role, none addressed additional skills which are part of diploma programs, such as patient assessment, venepuncture and female catheterisation (Department of Education Science and Training, 2007). To the best of the authors’ knowledge, no studies have examined opinions of senior nurses regarding the differences in graduate RN and EN roles. Given the paucity of literature, this study sought to address this gap and provide understandings of the perceived role expectations of each level of nurse by senior nurses responsible for daily patient allocations and position description development.

This paper presents results of content analysis performed on open-ended questions from an online survey investigating role expectations of graduate ENs and RNs from the viewpoints of senior RNs. It sought to provide better understanding of role expectations of graduate nurses on commencement of clinical practice. Data were used to ascertain differences in role expectations and scope of practice of the two nursing student groups on graduation.

Method

Data were sought from senior RNs from public and private health services and nursing regulatory authorities using an online survey. These included senior RNs such as nurse educators, nurse administrators, senior clinical nurses and key stakeholders (such as Chief Nursing Officers, Australian Nursing and Midwifery Accreditation Council board members, and Nursing and Midwifery Board of Australia members).

Ethical approval was obtained to undertake the survey from XXXX Human Research Ethics Committee. A search of 118 Victorian health services (both public and private), and nursing authorities' websites was undertaken to identify publically available email addresses of senior nurses to whom invitations to participate were emailed. Emails included an explanatory statement and web-link to the online survey. Nurses were also encouraged to forward the email to other senior nurses potentially interested in participating, enabling a 'snowballing' effect (Campbell, Cooke, & Streeton, 2004) to target participants who were members of different networks relevant to the research.

The senior nurse survey utilised a list of predetermined competencies, skills and knowledge, and open-ended questions seeking participants' opinions on similarities and differences in role and scope of practice for both levels of nurse. Questionnaires were delivered online via Qualtrics[®] survey software to ensure anonymity of, and facilitate easy completion by, participants. Questionnaires contained two open-ended questions: *Question 1: What do you see as the differences between the roles of ENs and RNs?* and *Question 2: What do you believe is the difference in scope of practice between ENs and RNs?* On review, the responses to these questions contained substantially rich data that warranted separate reporting. These are the data reported in this paper.

The two open-ended questions were analysed using content analysis. Content analysis is a technique of studying responses to open-ended questions by coding written words into categories and patterns (Chambers & Chiang, 2012; Hsieh & Shannon, 2005). This process of analysis has been utilised by numerous researchers, such as Eriksson, Westman, and Hamberg (2006), Chambers and Chiang (2012), Morasso et al. (2008), and Moretti et al. (2011), in order to extrapolate meanings from written comments. Content analysis involved word frequency counts to determine common themes emerging from the data (Chambers & Chiang, 2012). Key words identified were colour coded as responses were read to identify key points expressed by participants. Some comments contained more than one code resulting in more codes than responses. Codes were categorised to identify common elements amongst responses and ranked to determine levels of agreement amongst participants. Coding of responses identified strong similarities in responses to the questions.

Findings

From 172 survey respondents, 17 responses were deleted from analysis as they only completed demographic data. One hundred and seventeen participants responded to the first open-ended question, which generated 236 codes (Table 1). Results identified that most respondents felt differences existed in educational levels, responsibility, and skill levels of the two levels of nurse. Surprisingly, 19% of respondents felt there was little or no difference between roles of graduate RNs and ENs.

Insert Table 1 here

One hundred and nine participants responded to the second question, which generated 188 codes (Table 2). Similar to question one, respondents felt that skill level, educational preparation and responsibility were the main differences between the two levels of nurse, although again, 21% felt there was little or no difference.

Insert Table 2 here

Categories were loosely grouped into themes. Theme One, 'educational level', relates to how educational preparation, as seen by participants, affects the role and scope of practice of nurses. This theme included categories of: educational preparation, knowledge and understanding; critical thinking, clinical decision making; and medication administration. A higher level of educational preparation was seen to result in increased nursing knowledge and understanding of patient care. Critical thinking and the ability to make clinical decisions were also seen as responsibilities of RNs due to their educational preparation. The inability to administer medication, particularly intravenously, was identified as a main limitation to scope of practice for some ENs. However, others felt that ENs educated to administer medications still had reduced knowledge about drug actions, side effects and potential interactions, than graduate RNs.

Theme Two, 'responsibility', relates to levels of responsibility of different levels of nurse and included categories of: leadership and management versus direct patient care; levels of responsibility, accountability and authority; level of autonomy, supervision and delegation; and care provider versus care initiator and evaluator. Whilst RNs were seen to undertake leadership and management, the role of ENs was seen to lean towards direct patient care, where they assumed role of care provider, rather than that of care initiator and evaluator, which was seen as the role of the RN. This could be related to the level of autonomy that RNs

expect in practice and the requirement for supervision for ENs. RNs were seen to delegate responsibilities to EN but not vice versa.

Theme Three, 'skill level', related to skills required by the different levels of nurse and included categories of: complexity of care delivery; and diversity of practice (broad versus specific tasks). Whilst it was acknowledged that basic nursing care for each level of nurse was similar, complex care of patients with serious health issues was seen as an RN role. RNs were seen to have greater diversity of practice due to their higher skill levels, which led to broader roles in caring for patients, compared to the specific task focus of ENs.

Theme Four was related to 'other issues' brought up by respondents and included sub-themes of: little or no difference between nursing levels; opportunity for professional enhancement, career progression; and policies and procedures of health services. This theme related to the narrowing of differences between levels of nurse and resulting career progression.

Approximately 21% of respondents identified that there was little or no difference between nursing levels in the care given to patients, largely as a result of change to scope of practice and increased educational preparation of ENs. Respondents also felt that health facility policies and procedures often limited ENs' ability to practise to the full scope of their abilities. Due to the need for RNs to supervise ENs, respondents felt that career progression for ENs was limited to basic nursing care roles.

Discussion

This study aimed to examine responses to open-ended survey questions in order to understand participants' views on differences and similarities in role and scope of practice of the different

levels of graduate nurse practising in Victorian health services. Four main themes were revealed: educational level; responsibility; skill level; and other issues.

Educational level

Educational level was seen by senior nurses as a major difference in determining role and scope of practice for nurses. Educational level has previously been identified as a major difference between the two levels of nurse in Australia based on educational institution, length of education and length of professional practice placements (Brown, 1994; Durdin, 1974; Francis & Humphreys, 1999). Whilst emphasis of EN training has traditionally been on clinical skills, an increase in education level and length of training, to diploma-level, has seen these programs introduce critical thinking skills, research and physical assessment skills (Australian Qualifications Framework, 2010). Depth of knowledge has been cited as a major difference between the levels (Brown, 1994; Durdin, 1974) although increases in theoretical content in the EN diploma program have narrowed this difference. Whilst professional clinical placement time for RN students is double that of EN students, Vintiadis (2010) suggested that length of theoretical components in 18-month diploma programs was around 1500 hours, similar to the 1904 hours identified by Leibbrandt, Brown, and White (2005) for three-year degree programs. The reduced proportion of hours dedicated to theoretical content in the longer RN programs may be a result of stronger emphasis on self-directed learning utilised in the university system. This is compared to EN training which relies mostly on face-to-face direct instruction. Despite the increased hours of theoretical content for the shorter EN diploma programs, senior RNs surveyed still believed that educational differences produced reduced critical thinking, knowledge and understanding compared to the RN programs due to.

Responsibility

Senior nurses perceived differences in levels of responsibility assumed by the different levels of nurse. Whilst both levels of nurse are expected to take responsibility for their own actions, RNs were seen to have greater levels of responsibility in overseeing the work of ENs and therefore greater levels of accountability and authority (Jacob et al., 2012). Whilst ENs are expected to take accountability for their own actions they are expected to practise under the guidance and leadership of RNs (Australian Nursing and Midwifery Council, 2002). Conway (2007) suggested that with changes to scope of practice for ENs, RNs would need to be educated for their leadership role, and be prepared to take on more of a management role, with ENs undertaking direct patient care roles. RNs felt that as ENs were answerable to them, hence they had a greater level of accountability and authority than ENs.

Skill level

Skill level differences were thought to exist between the different levels of nurse. Both levels were expected to undertake basic nursing care, but many respondents felt that patients with complex care needs should be cared for by an RN. This view is supported by the Australian Institute of Health and Welfare (2009), who suggests that ENs undertake less complex procedures than RNs. Whilst diploma ENs graduate with an increased skill base, high acuity skills (such as application of cervical collars and arterial blood gas measurements) are not covered in EN programs (Department of Education Science and Training, 2007). In contrast,

RN undergraduate programs include basic understandings of principles behind and rationale for high acuity care, hence providing a greater skill base and understanding for beginning RNs.

Other Issues

The proportion of nurses who feel that graduate EN and RN roles are similar or indifferent is increasingly becoming an issue in Australia. Role confusion and role differentiation has been a problem for nurses since the introduction of changes to nursing scope of practice in Australia (Gibson & Heartfield, 2003; Jacob et al., 2013; Milson-Hawke & Higgins, 2003). Respondents identified that health service policies and procedures limited opportunities for EN career progression due to unidentified EN scope of practice. Currently scope of practice for a nurse is individually defined and based on what the nurse is educated and deemed competent in, and requires support of the employing health service (Nursing and Midwifery Board of Australia, 2007). Hence, individual health services have control of nurses' scope of practice through their policies and procedures and have been seen as a limitation on ENs practising abilities, as only RNs are authorised to undertake certain procedures (Gibson & Heartfield, 2005). Health services have been seen as unprepared for the increased scope of practice of diploma ENs (Bellchambers & McMillan, 2007; Nankervis et al., 2008).

Limitations and recommendations

This research was undertaken in only one Australian state and so the results may not be generalizable across Australia or beyond. There is also the possibility that the use of snowballing for recruiting participants may have resulted in persons from other states

completing the survey. Further investigation encompassing the whole of Australia is warranted to determine if differences in role expectations by senior nurses which influence health service policies and procedures are similar across Australia. As diploma level nurses are considered RNs in other countries, investigation of differences between the different levels of RN (degree and diploma) compared to the Australian situation would be warranted. Research comparing second level nurses roles and responsibilities across different countries, may also help to clarify the roles and responsibilities expected in the different situations. Australian regulatory authorities and health services need to ensure clearer delineation of roles between levels of nurse to overcome increasing confusion around role expectations.

Conclusion

Senior RNs believed differences remained between the roles of graduate RNs and ENs due to educational level, levels of responsibility and skill levels; however, many acknowledged a narrowing of differences. Many differences were seen to be due to regulations regarding supervision of ENs, with increased RN critical thinking, depth of knowledge and skill levels seen to set them apart from graduate ENs.

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Table 1. What do you see as the differences between the roles of graduate ENs and RNs?

Ranking	Category	Code count	Percentage	Theme groups
1	Educational preparation, knowledge and understanding	38	32.5	Educational level
2	Leadership and management vs. direct patient care	30	25.6	Responsibility
3	Complexity of care delivery	30	25.6	Skill level
4	Levels of responsibility, accountability, authority	26	22.2	Responsibility
5	Levels of autonomy, supervision, delegation	26	22.2	Responsibility
6	Critical thinking, clinical decision making	23	20.0	Educational level
7	Little or no difference	22	19.0	Other issues
8	Diversity of practice - broad versus specific tasks	20	17.1	Skill level
9	Care provider versus care initiator and evaluator	16	14.0	Responsibility
10	Opportunities for professional enhancement, career progression	5	4.0	Other issues

Table 2. What do you believe is the difference in scope of practice between ENs and RNs?

Ranking	Category	Code counts	Percentage	Theme groups
1	Complexity of care delivery, high skills	28	26	Skill level
2	Educational preparation, knowledge and understanding	27	25	Educational level
3	Leadership and management vs. direct patient care	26	24	Responsibility
4	Little or no difference	23	21	Other issues
5	Critical thinking, clinical decision making	19	17	Educational level
6	Levels of autonomy, supervision, delegation	14	13	Responsibility
7	Diversity of practice - broad versus specific tasks	12	11	Skill level
8	Levels of responsibility, accountability, authority	9	8	Responsibility
9	Medication administration	9	8	Educational level
10	Care provider versus care initiator and evaluator	9	8	Responsibility
11	Policies and procedures	8	7	Other issues
12	Opportunities for professional enhancement, career progression	4	4	Other issues

7.3 Summary of Chapter Seven

This chapter presented results from the final phase of the multi-phase mixed methods research project. Educational level of nurses was seen to influence skills and depth of knowledge and influence that amount of responsibility that a nurse was able to undertake. Differences in the expected role of graduate RNs and ENs were seen between the different senior nurse groups, with nurse educators having the broadest view of the roles for each level of nurse. Despite the differences in the groups, all senior RNs indicated that many roles listed were not appropriate for either level of graduate nurse. Confusion regarding the roles of graduate RNs and ENs in clinical practice is demonstrated in the variations of role expectations between the different senior nurse groups.

The following chapter presents a discussion of the project as a whole. It provides implications for practice and recommendations following the research.

Chapter Eight: Discussion

8.0 Introduction

Previous chapters have reported results from the different phases of the current study. This chapter aims to bring together these results to provide an overall response to the research aim. It also compares the Australian experience of educating two levels of nurse to those of other countries. Recommendations and practice implications emerging out of the research are provided (Section 8.7).

The main purpose of this study was to compare educational preparation; skills and knowledge at graduation; and expectations of key stakeholders' of the roles of graduate RNs and ENs within the health care system in Victoria. This comparison from the perspectives of different interest groups was addressed by the use of mixed methods research which utilised a multi-phase approach. These key stakeholder interest groups involved in pre-registration nurse education included nursing course coordinators, nursing students and senior RNs. The four separate phases facilitated gathering of opinions from these key stakeholders and enabled different perspectives to be heard. This chapter combines the findings from each individual phase to extend our existing understanding differences and similarities between the levels of nurse in terms of education preparation, role expectation and graduate attributes.

8.1 Educational preparation

In Australia, like NZ, USA, Singapore and Canada, two levels of nurse are educated to deliver nursing care (Heartfield & Gibson, 2005; Smith, 2009; White et al., 2008). Although patient care delivery was initially undertaken by RNs, a second level of nurse (titled EN in Australia

and NZ, and Licenced Practical Nurse (LPN) in the USA and Canada) was introduced into many countries due to economic pressures and shortages of RNs (Ayre, Gerdtz, Parker, & Nelson, 2007; Duffield et al., 2006; Goryakin, Griffiths, & Maben, 2011). The two levels of nurse are educated to different qualification levels and generally at different institutions. In Australia, a three-year Bachelor of Nursing degree is required to become a RN and a minimum twelve month certificate IV or eighteen month diploma to become an EN (Australian Institute of Health and Welfare, 2003; Ryan, 2009a, 2009b). Australian ENs are educated at Vocational Educational and Training (VET) institutions whereas RNs undertake their education generally at universities, although there is one college and one VET institution accredited to educate RNs in Australia (Nursing and Midwifery Board of Australia, 2011). Similar variations in qualifications and educational facilities which deliver education for the different levels of nurse are also seen in the USA, although requirements are not consistent across states or institutions (Smith, 2009). Nurses in the USA can be prepared at LPN diploma, RN diploma, RN associate degree, or RN baccalaureate degree level with education provided at junior college or vocational school level for Licenced Practical Nurses (LPNs), and junior colleges, diploma schools, or universities for RNs (Smith, 2009). The entry level for nurses in the USA is dependent on the entry examination undertaken, with nurses required to pass the National Council Licensure Examination (NCLEX) at either the NCLEX-RN for RNs or NCLEX-PN level for LPNs (Smith, 2009).

8.1.1 Program Admission levels

The variation in educational approach for the different levels of nurse was thought to be related to the prior educational level and experience of the students. This study indicated that EN students largely came from different educational backgrounds to RN students and hence

had differing educational needs requiring different approaches to teaching and learning. RN students had proven academic abilities prior to commencing their courses through obtaining entry via successful completion of secondary schooling or success in an equivalent access program, such as an EN program, or access program (Jacob, Chapman, Birks, & Al-Motlaq, 2011). In contrast, ENs were often low achievers at school, or had not completed secondary schooling. Hence, ENs were seen to start from a lower educational base which required educators to teach them how to learn. This included academic writing and research awareness, as well as, nursing knowledge and skills. This is supported by the work of Smith and Dalton (2005) who found that VET learners required more direction with learning due to having lower levels of metacognitive skills to undertake independent learning. These differences may provide one explanation for reported difficulties encountered by ENs undertaking degree studies to become RNs (Cubit & Leeson, 2009; Hutchinson, Mitchell, & St John, 2011). No previous research has been published on EN education, so this research adds to the understanding of the education of this student group.

Completion of an EN education program was seen by course coordinators in this study as good preparation for commencement of undergraduate RN studies. The VET pathway for EN education was established by the Australian Commonwealth Government as a method to enable entry to university and progress towards RN qualifications (Victorian Health Service Management Innovation Council, 2010). The EN pathway has been utilised as a successful method of entering undergraduate RN studies (Creswell, Feters, & Ivankova, 2004; Jacob et al., 2011; Kenny & Duckett, 2005), with many universities offering recognition of prior learning for study undertaken through EN courses (Heath, 2002; Kenny & Duckett, 2005). In contrast to this, Sheilds, Purcell, and Watson (2011) argued that EN programs did not always provide enough of an academic background for students to successfully enter university

studies. It was noted by Cubit and Leeson (2009) that there was no formal agreement for recognition of EN qualifications in universities as part of entry requirements, with credits often being provided on an individual basis, although formal articulation agreements for recognition of EN qualifications have been developed by several universities. The similarity of content and skills covered in both programs revealed by this research would suggest that despite academic differences, the diploma program is seen to provide adequate preparation for further undergraduate studies.

8.1.2 Teaching methods

Similarities were found in teaching and assessment methods between all three nursing programs explored in this study. The variety of teaching methods used in all programs was consistent with those reported by McAllister (2001) who suggested that the use of varied teaching methods caters for different learning styles and levels of students. The diploma and degree were similar in numbers of hours used for face-to-face teaching and curricula content, although the certificate IV showed considerable differences in both areas. Despite similarities in teaching methods and face-to-face teaching time, the large amount of self-directed learning required in undergraduate RN programs demonstrated considerable differences in teaching approach. This may be due to differences in the type of learner between VET programs and universities. VET students are typically seen as dependent learners, requiring structured environments due to less metacognitive skills and preference for hands-on learning (Smith & Dalton, 2005). Self-directed learning requires students to take responsibility for their own learning, and was not a characteristic of most VET learners (Smith & Dalton, 2005). In contrast to this, self-directed learning made up a large part of undergraduate RN programs. Self-directed learning was thought, by course coordinators and senior RNs, to develop enhanced research, critical thinking and clinical decision making skills in RN students, when

compared to ENs. Self-directed learning is seen as an important part of undergraduate RN programs worldwide in developing independent learning and the ability to undertake life-long learning (Cadorin et al., 2012; Cheng, Kuo, Lin & Lee-Hsieh, 2010). Undergraduate university education is seen to foster critical thinking, problem analysis and independent learning skills (Chung & Chow, 2004). Although EN curricula incorporate a small amount of self-directed learning to assist EN students with skills for life-long learning, it was not thought to fit all student types. A study by Hylton (2005) found that some New Zealand ENs had difficulty functioning as independent learners and required more direction with learning. This may again relate to learning capabilities of the different cohorts of nursing students and previous educational level on admission. These differences and similarities in educational approaches for the different nursing levels identified in this research have not previously been reported, and hence add to the knowledge base regarding differences in educational approaches to the different levels of nurse education.

8.1.3 Professional placement experience

Professional placement experience (also termed clinical placement) was found to be another difference between the three programs explored in this study. Professional placement experience is used internationally in nursing education to assist nursing students to link theory learnt in the classroom with real patient experiences (Coyne & Needham, 2012). It provides opportunities for students to apply clinical reasoning to real-life situations and develop clinical competency, communication and assessment skills, furthering the development of cognitive, psychomotor and affective skills (Barnett et al., 2012; Coyne & Needham, 2012; McClure & Black, 2013). The amount of required professional placement experience was found to vary significantly for each level of nurse, with RN students requiring a minimum of 800 hours and EN students having a minimum of 400 hours of professional placement

throughout their education (Ryan, 2009a, 2009b). The higher professional practice experience requirements for RNs was thought by all respondents in this research (students, course coordinators and senior RNs), to increase critical thinking ability of RN graduates.

Preceptors are nurses employed by health organisations to assist students with the development of practical, handover, prioritisation, communication and documentation skills, and aid in professional socialisation and planning of daily activities (Parker, Lazenby, & Brown, 2012). The professional clinical learning environment and supervising nurses' knowledge and abilities are central to nursing education (McClure & Black, 2013). Preceptors are responsible for students under their supervision and require an understanding of the learning objectives and capabilities of students to be effective teachers (McClure & Black, 2013). Professional placement experience is required for both RN and EN students. Course coordinators in this study felt that supervising nurses' understanding the different program requirements had a significant influence on students' abilities to practise critical thinking and enhanced clinical skills whilst on placement. This has been identified in previous studies on the importance of preceptors in the clinical environment (Forneris & Peden-McAlpine, 2009). Preceptors' expectations of the roles of RN and EN students were different due to the different roles expected on graduation. Knowledge of the different EN preparation programs by preceptors was seen as lacking, and led to fewer opportunities for students to practise skills and consolidate their knowledge during clinical placements. This was seen as particularly the case for diploma EN students who were often treated the same on placement as certificate ENs and not allowed to practise their extended skill set, despite having more knowledge and clinical skills than the other level of EN. This was thought by course coordinators to be due, in part, to the lag in understanding by clinical staff of the increase in skills and knowledge being taught to diploma ENs. Several EN educators lamented that health service policies were

also not keeping abreast of the changes to the educational preparation of diploma ENs, thereby limiting practising abilities of diploma ENs. This lag in updating policies and procedures was noted by Nankervis et al. (2008) and Bellchambers and McMillan (2007) who found discrepancies between preparation of ENs for practice and the readiness of organisations to implement changes to practice roles. Although the role of preceptors and practice environments have been previously found to be significant influences in the clinical learning experience of students, this research adds to this knowledge by highlighting the importance of keeping preceptors and health services abreast of the changing environment in education, and ensuring students are able to have optimal placement experiences.

8.1.4 Knowledge and skills

In this study, there were acknowledged differences in educational content of each nursing program. The curriculum survey identified that the certificate IV EN program was different in many areas to the other nursing programs (diploma EN and degree RN programs). The main difference identified between the two types of EN programs was that fewer knowledge and skill areas were covered in the certificate program. This may be due to a stronger focus of the certificate program on competency assessments and basic patient care (e.g. assisting with activities of daily living and undertaking 'less complex' procedures), in line with the traditional role of the EN to assist with patient care under the supervision of an RN (Australian Institute of Health and Welfare, 2006 Community Services & Health Industry Skills Council, 2012).

There were increasing similarities in knowledge areas covered and skills taught between diploma and degree programs in all areas except for skills required for caring for high acuity patients. Skills such as management of central venous devices, introduction to advanced life support and ventilation were only found in degree programs. Increasing similarity between

diploma and degree programs reflects changes of the EN qualifying award to diploma level. In the diploma, greater emphasis is placed on critical thinking, leadership, supervision and more advanced clinical skills, including patient assessment, than the previous certificate IV qualification (Department of Education Science and Training, 2007). The educational approach to the two levels of nurse in Australian is different to that used in both the USA and Canada. Whereas Australian EN diploma programs included physical examination, LPNs in Ohio, USA, for example, do not include physical assessment as part of their recognized SOP (Ohio Board of Nursing, 2009). Although they are able to take vital signs and document results, putting the whole patient picture together in the patient assessment was seen to be the role of the RN. Similarly, a study by White et al. (2008) found that LPNs in Canada were found to approach assessments from a different viewpoint than RNs. Canadian LPNs were seen to view assessment as tasks (vital signs, glucose measurement) whereas RNs viewed assessment more holistically and as providing a baseline from which to identify changes (White et al., 2008). How ENs view assessment in Australia was not studied, and hence there may be similar differences to those found in the Canadian study by White et al. (2008), where the view of assessment was different between the different levels of nurse. This is an area where future research would be beneficial, as it may enhance understandings of philosophical differences underpinning the practise of the two levels of nurse.

Although this study identified similarities in course content, the present study did not seek to determine if there were differences in critical thinking skills or depth of teaching of program content, which has been argued to be the traditional difference between the different levels of nurse (Brown, 1994; Francis & Humphreys, 1999; Keogh, Myers, Kimberley, Twigg, & Davis, 2004). The areas of anatomy, physiology, research and management were thought, by course coordinators, to be areas where difference in depth of knowledge existed. Interestingly,

management was not an area identified in this study as being included in any of the curricula of ENs or RNs. Increased pathophysiology content mandated in the diploma program (Australian Qualifications Framework Council, 2011) has increased depth of knowledge in this area, although the research did not ascertain if this has reached a similar level to RN programs. Areas such as research and medication management, which were traditionally RN roles, are now included in the diploma program (Australian Qualifications Framework Council, 2011). Despite inclusion of this extra content in the diploma program, most participants in this study (course coordinators, nursing students and senior nurses) felt that the general knowledge and medication administration knowledge of RNs was deeper and more thorough than ENs.

Interestingly, when examining the consistency of content between similar programs, there were notable differences between the different EN programs and institutions. The degree programs examined consistently covered the same content, with only slight variations; however, there was considerable variation in content taught between diploma programs offered by different organisations. The EN diploma program was introduced as a national program to decrease variation in content taught across Australia (Australian Qualifications Framework Council, 2011), and although less variation was found than in the certificate program, a large amount of variation was demonstrated between programs across the institutions surveyed. This may be due to the existence of a variety of elective units offered in the diploma program. Elective unit options that could be chosen by educational institutions for inclusion into diploma programs include titles such as advanced first aid, occupational health and safety processes, implementing and monitoring infection control policy and procedures, mentoring of colleagues, intravenous medication administration, research, palliative care, care of mothers and babies, domiciliary health care, planning and organising

group-based delivery, facilitating group-based learning, co-ordination of the work environment, team effectiveness, home visits, and maintaining an effective work environment (Department of Education Science and Training, 2007). This wide disparity in content, and the optional inclusion of intravenous medication administration, produces ENs with the same qualification but different skills and abilities. This variation in clinical skills and knowledge will impact the abilities of RNs to allocate patient care to ENs, as each individual EN will have a different knowledge base. This finding is significant in understanding the variation that exists in nurses educated to the same qualification and the influence it may have on the ability of RNs safely allocating patient care to ENs.

8.1.5 Critical thinking

Differences existed in participants' opinions as to critical thinking abilities of diploma ENs. Although both the diploma and degree programs included critical thinking, analytic skills, and application of research findings, degree programs were thought by all respondents to cover these in more depth than the diploma program. Critical thinking and looking at the patient from a holistic perspective were seen as skills of RNs and not ENs. According to Showman (2012), a change of thinking to look at the 'bigger picture' needs to occur when moving from the role of an EN/LPN to that of an RN, as there are higher expectations in terms of caring for complex patients and leadership roles. RN course coordinators, RN and EN students and senior nurses in this study all indicated that RNs had better critical thinking skills compared to ENs when commencing graduate roles. In contrast, several EN course coordinators argued that graduate ENs' critical thinking skills were similar to those of graduate RNs since these skills are now part of the EN curricula (Department of Education Science and Training, 2007). Inclusion of critical thinking as part of diploma programs has further narrowed the traditional differences of skill focus versus critical thinking focus between the two levels of nurse.

Despite this change to the diploma curricula, some authors argue that critical thinking and research are still not part of VET education (Sheilds et al., 2011). The amount of information being taught to diploma EN students is delivered in a shorter period of time than RN students, and may not provide the necessary time and assistance from educators to assist EN students effectively develop critical thinking and research skills. Interestingly, course coordinators, nursing students from both EN and RN programs and senior nurses alike, felt that highly acute, complex or deteriorating patients should be managed by RNs, implying that they felt that a difference in critical thinking skills remained between the levels. This was supported by senior nurses who identified critical thinking skills, such as interpreting pathology results, and undertaking skills requiring greater observation and assessment knowledge, such as administering Biphase Positive Airway Pressure Ventilation (BIPAP), as either the role of only the graduate RN or not the role of either graduate nurse. Chan (2013) argues that the definition and concept of critical thinking may be seen differently among educators and is influenced by the student's background, educator's ability, educational system and learning environment. This would infer that different educator qualifications, educational systems and learning environments between RN and EN students would result in different levels of critical thinking. Higher qualified educators were employed at the universities, which mostly employed educators with masters or doctoral degrees. This may have enabled RN students to develop greater degrees of critical thinking and depth of knowledge than ENs. In contrast, most of the educators in EN programs had nursing degrees, but few had post-graduate qualifications. This is also reflected in the accreditation standards for nurses in Australia, where educators are expected to hold a qualification higher than that in which they are educating students. Chan (2013) also identified that educators' teaching abilities affected their capacity to teach students how to critically think. As critical thinking is a skill which is seen to develop through further education and experience, higher qualifications of university

educators may result in the development of higher critical thinking skills in RN students than EN students whose educators have lower education levels. The effects of qualifications on the abilities of teachers to teach critical thinking skills to their students warrants further study and consideration.

8.2 Role expectations

Although differences were identified in educational approaches and outcomes, role expectations of graduate nurses by most course coordinators, EN and RN students and senior nurses were similar for diploma ENs and RNs. Both degree and diploma programs included nursing skills such as venepuncture, intravenous therapy, care of underwater sealed drainage systems, seizure management and medication administration, not found in the certificate IV nursing program. Although initial roles were similar, differences were found in expectations of many course coordinators, students and senior nurses towards application of many of these skills. Course coordinators differed in opinions as to complexity of skills that ENs were able to undertake. Some course coordinators argued that complex tasks should be handed over to RNs to manage, which reflects the view of the Australian Institute of Health and Welfare (2009) that ENs undertake less complex tasks. Other course coordinators contended that, although differences remained in skills sets, ENs should be able to perform any skill for which they had been prepared, including managing more acute patients. Although EN students surveyed expected to undertake all the skills they had been taught post-graduation, including higher order skills, they still expected RNs to have deeper knowledge and understanding of complex patient issues and to be able to take over management of deteriorating or complex patients. The management of deteriorating, complex and acute patients requires well developed critical thinking skills, which may be why ENs felt the need

to transfer care of these patients to RNs. The way ENs manage patient care is perceived to be largely focused on undertaking tasks. This may be the result of the competency based focus of EN education as specified by the VET sector, which focuses on entry level qualifications (Community Services & Health Industry Skills Council (2012). RNs, in contrast, are expected to take a more holistic view of patient care. This concurs with papers from both Canada (White et al., 2008) and the USA (Showman, 2012) which found that second level nurses listed patient assessment skills in term of tasks, whereas RN took a more holistic approach;. Despite these differences, most senior nurses surveyed felt that many high acuity skills were appropriate for experienced RNs only and not appropriate for graduate nurses of either level.

The ability of diploma ENs to ‘up-skill’ and practise at higher levels than the traditional EN has been seen to increase the blurring of the roles between nursing levels (Chaboyer et al., 2008; Heartfield & Gibson, 2005; Nankervis, Kenny, & Bish, 2008). Despite the Nursing and Midwifery Board of Australia (NMBA) requirements for all nurses to be able to identify differences in roles and SOP between the two levels of nurse (Australian Nursing and Midwifery Council, 2002; Nursing and Midwifery Board of Australia, 2006), it appears that nurses are struggling with this role differentiation. It was a surprise when this research noted that one-fifth of senior RNs surveyed (20%) felt there was little or no difference between the initial practising roles of the graduate EN and RN, suggesting that role overlap and confusion are still prevalent in the current nursing community. Disagreement was also found in the international literature regarding the clinical capabilities of the two levels of nurse, with some authors acknowledging increasing similarities in role and role overlap (Brown, 1994; Chaboyer et al., 2008; Chang & Twinn, 1995; Deering, 2007; White et al., 2008) and others arguing that SOP and roles of the different levels of nurse are very different (Cubit & Leeson, 2009). Frustration with role overlap is a common theme amongst nurses in countries that

employ two levels of nurse and one of the reasons for the phasing out of the second level of nurse in the UK (Ayre et al., 2007; Esparza, Zoller, White, & Highfield, 2012; White et al., 2008). White et al. (2008) found that insufficient role delineation existed for Canadian nurses, resulting in some nurses (LPNs and Patient Care Assistants) feeling devalued. Similarities in expected clinical skills have some authors suggesting that little difference remains in the education of both levels of nurse (Deering, 2007).

Some of this confusion is thought to be caused by health care policies concentrating on tasks and activities that a nurse may undertake in order to enable ENs to undertake the extended skills, rather than focusing on the knowledge and competencies that require the use of the task or activity to improve health of patients (White et al., 2008). This finding of increasing role confusion identifies the importance of governments, educators and health services in providing education and guidelines for the roles of each level of nurse to ensure Australian ENs are utilised to their full ability and not exploited as in the UK experience.

8.2.1 Leadership and supervision roles

Current nursing literature suggests that leadership and management roles differ between ENs and RNs (Australian Nursing and Midwifery Council, 2002; Gibson & Heartfield, 2003; Nursing and Midwifery Board of Australia, 2006) and therefore, this was expected to be seen in the current study. However, all nursing pre-registration programs in this study focused on clinical nursing and not management. Both diploma and degree programs included content on organisational policy, clinical supervision and leadership, but it was not a significant focus of either. Whereas both RNs and ENs are required to be responsible for their own actions, RNs have the greater responsibility of overseeing the work of ENs. Currently in Australia, ENs are required to be supervised by RNs (Australian Nursing and Midwifery Council, 2002). There is no requirement for RNs to be supervised. This is similar in the USA where supervision of

other staff can only be undertaken by RNs (Ohio Board of Nursing, 2009). Supervision has been defined as the provision of guidance and oversight of a delegated nursing task (American Nurses Association & National Council of State Boards of Nursing, 2005). Delegation of nursing tasks is based on the needs, stability and condition of the patient, potential for harm, complexity of task, predictability of outcomes and ability of the staff to whom tasks are delegated in the context of other patient needs (American Nurses Association & National Council of State Boards of Nursing, 2005). Due to this supervisory role of RNs, Conway (2007) suggested that leadership should be a basic part of the Australian RN curriculum as it is becoming a larger part of the RN role due to the increase of ENs in the workforce. The need for leadership skills for RNs is also recognised in the USA by the American Nurses Association and National Council of State Boards of Nursing (2005) and National Council of State Boards of Nursing (2005) who suggest that delegation skills should be included in nursing education to provide experience to RN students during clinical placements to enable them to gain the experience to support decision-making in practice.

Despite the need for supervision of ENs, in the survey both EN and RN students ranked the importance of the areas of leadership, supervision and research for their graduate roles the same, although comments in the open-ended questions suggested that management and supervision remained a difference between the nursing levels. The inclusion of elective units on research, co-ordination of wards and mentoring in the diploma program (Department of Education Science and Training, 2007) may be responsible for this increase in role expectations of ENs. In aged care, ENs are beginning to take on leadership and management roles, particularly when supporting other health care workers, although they remain under the indirect supervision of RNs (Gibson & Heartfield, 2003). Regardless, course coordinators, RN students, EN students and senior nurses still expected RNs to take on higher levels of

responsibility, have deeper knowledge and understanding of complex patient issues, and be able to take over patient management when it was above EN SOP. Leadership, critical thinking and management skills are also seen as differences between levels of nurse in other countries such as the USA, Canada and New Zealand (Showman, 2012; White et al., 2008).

Although identified as a role difference between the nursing levels, research suggests that RNs are not prepared as undergraduates for leadership roles (Phillips & Byrne, 2013). Senior nurses rated many of the leadership skills as not appropriate for either level of nurse at the graduate level. Leadership skills were seen, by both course coordinators and senior RNs, to develop as graduate RNs gained experience. This included RN roles of care initiator and evaluator, whereas the focus of the EN role remained that of patient care provider. Several EN course coordinators felt that nurses' roles were changing, due to economic drivers, so that the RN's focus will in the future be solely on ward and patient management, whereas the EN focus will remain on direct patient care. This idea is supported by Conway (2007) who felt RNs in the future should be undertaking more management roles and ENs more direct patient care. In the USA, delegation of nursing care (directing another person to perform tasks and activities), is identified as the role of the RN, and the RN retains accountability for the delegation (American Nurses Association & National Council of State Boards of Nursing, 2005). Despite these suggestions that the RN will in the future focus solely on management, this was not supported by this research. Clinical RNs are still required to care for complex, deteriorating and unstable patients at the bedside, as this is outside of the SOP for ENs.

8.3 Skill mix

The issue of skill mix is an important consideration when discussing the different levels of nurse. Nurses constitute the largest group of health care workers in many countries and hence a large proportion of health care costs. In Australia, nurses comprise the largest single group

of employees (Goryakin et al., 2011; Milson-Hawke & Higgins, 2003; Nankervis et al., 2008). Nursing skill mix constitutes proportions of different levels of nurse available for patient care during any shift. Skill mix includes difference in levels of qualification, expertise and experience and is seen as the adjustable component of human resources which can be used to increase flexibility and assist in cost effective use of available health care personnel (Duffield et al., 2006). Internationally, there are significant differences in skill mix configurations and models of care. Due to economic pressures, increased patient acuity levels and shortages of RNs, governments and employers worldwide are seeking clarity in the defined roles for health care workers to ensure the most appropriate and cost effective skill mix whilst maintaining quality of care (Ayre et al., 2007; Canadian Nurses Association, 1993; Conway, 2007; Nankervis et al., 2008; Yang, Hung, Chen, Hu, & Shieh, 2012). Changes to nursing skill mix to employ greater numbers of ENs or LPNs and unregulated health professionals have been seen as solutions to both escalating healthcare costs and shortages of RNs (McIntosh & Smith 2012). Decisions on how to appropriately utilise skill mix appear to be dependent on three main issues: economic considerations, workforce shortages and quality issues. Although numerous studies worldwide have shown that increased numbers of higher qualified staff in the skill mix produce improved patient outcomes (Aitken et al., 2002; Ayre et al., 2007; Duffield et al., 2007; Esparza et al., 2012; Milson-Hawke & Higgins, 2003; Needleman, Buerhaus, Stewart, Zelevinsky, & Mattke, 2006; Patrician & Brosch, 2009; Tschannen & Kalisch, 2009), economic issues and workforce shortages make this difficult to achieve (Goryakin et al., 2011). Economic factors have been seen as key drivers to changing skill mix, rather than patient care (Duffield et al., 2006; Francis & Humphreys, 1999; Goryakin et al., 2011), with one study indicating that nurses believed their work was valued based on efficiency and cost savings, rather than quality of patient care (Buchanan & Considine, 2002). The expanded EN role is being used in Australia in response to shortages of RNs, particularly

in rural areas (Nankervis et al., 2008). Advancement of EN education to diploma level was one means for increasing quality of patient care whilst maintaining costs. Substitution of RNs with ENs was one reason for the demise of the EN in the UK, as similarities in roles and responsibilities, despite decreased career pathways and status, were seen to be exploiting ENs (Heartfield & Gibson, 2005). This is reiterated by this research in which some senior nurses expressed uncertainty over differences in SOP between the different nursing levels. Although diploma ENs have extended skill sets, this research has found that their current educational preparation does not prepare them to care for complex, highly acute or deteriorating patients. This is significant in determining appropriate skill mix in acute health services, as a higher percentage of RNs will be required for clinical care to manage increasingly high acuity of patients presenting for care.

Variations in EN training have subsequently resulted in different skills and knowledge levels for nurses registered at the same level, and confusion as to how to proportion skill mix to ensure quality of care. Having the same level of nurse registered with varying skill sets (educated at either certificate or diploma level) has increased confusion over the role of the EN and produced a second level of EN (Hoodless & Burke, 2009). This research has found that the certificate EN is seen as more closely aligned to the traditional role of the EN, and the diploma EN to that of the RN. The Australian Commonwealth Government has recently released a plan to fund government-subsidised places for EN training at diploma level only (McGilvray, 2012). Accreditation of programs to educate nurses to certificate level has been ceased in Australia which will see all future ENs educated at diploma level as certificate programs accreditation expire (Ryan, 2009a). This will help to decrease confusion over ENs' SOP, but whilst ENs with different educational preparation remain in the workforce, difficulty will likely be experienced by employers in determining skill mix for patient allocation.

8.4 Graduate programs

Course coordinators in this study expressed a desire to see graduate programs made available for ENs to ease their transition into the workforce, similar to those currently available for graduate RNs. This reflects the increased skill base of ENs and the need for consolidation on commencement of practice. Although many course coordinators felt that on graduation ENs were more 'work ready' than RNs, student surveys found that graduating ENs felt less prepared than graduating RNs by their pre-registration program to undertake the graduate attributes. Senior nurses concurred that graduate ENs were less prepared for their graduate attributes than graduating RNs, although both levels of nurse were seen to meet the specified graduate attributes. Lower numbers of professional practice hours required of ENs and shorter educational programs (Ryan, 2009a, 2009b) may be part of the reason for this. This may indicate the need for graduate year programs to help transition diploma ENs into the workforce. Although RN students reported feeling they were prepared for their graduate attributes, international studies have shown that many still struggle with managing full workloads and fitting into ward environments on commencement of clinical practice (Feng & Tsai, 2012; Gill, Deagan, & McNett, 2010). This research supports the need for graduate programs for both levels of nurse to enable transition into the workforce.

8.5 Career prospects

One of the differences identified by course coordinators and senior nurses in this study was that of career opportunities and career progression for ENs. Career options for ENs are limited to clinical roles, even after several years of practising. Gibson and Heartfield (2005) also found that health organisations were limiting the ability of ENs' to utilise skills through

organisational policies and procedures which stated that only RNs were able to undertake some procedures. This limiting of EN abilities has also been seen in the USA, where some employers were seen to restrict the practice of LPNs beyond what was required by state regulations (Garbin & Chmielewski, 2013). This has resulted in role variation for ENs between different health organisations. ENs are increasingly being employed to undertake patient care in medical and surgical wards, and even in high acute areas such as emergency and operating theatre, particularly in rural areas (Heartfield & Gibson, 2005; Hoodless & Burke, 2009; Nankervis et al., 2008), with limited opportunities to advance to senior roles. Postgraduate studies for ENs in Australia are limited, with advanced diplomas still in their infancy. The most common career progression mentioned by course coordinators in this study for ENs was to undergo further education to become RNs. Career progression for RNs was regarded as an expectation by course coordinators as they have the ability to work in all fields of nursing, undertake postgraduate studies and progress to management and education careers. The aim of improving career opportunities for ENs by introduction of the increased SOP has been shown by ENs practising in a larger variety of patient care areas. Whilst the opportunity for employment in acute care areas has increased, this research has shown that opportunities for career advancement remain limited for ENs.

8.6 Nursing Implications

Previous to this study, no research had focused on understanding differences or similarities in the educational preparation of the two levels of nurse registered to practise in Australia. This research has contributed to filling this gap and identified considerable differences in

educational preparation and role expectations of graduate nurses. Despite differences in preparation for clinical practice, changes to EN education have led to increasing confusion and ambiguity in role expectations of ENs. Considerable variation exists in the roles expected of ENs. Whilst no specific role was found for the graduate EN, the role of caring for complex, acute or deteriorating patients was identified as specific for RNs.

This research has implications in several areas of the nursing profession. The acuity level of patients admitted to acute hospitals is becoming higher, due to current government focus on increasing care of stable patients in the community and hence greater acuity of patients being admitted to health services. This increase in patient acuity in tertiary health services will result in the need for a more capable skill mix utilising higher numbers of RNs to provide care for inpatients. As critical thinking, patient assessment and skill in caring for high acuity patients are more advanced in RNs, care must be taken when changing skill mix to ensure that patient deterioration and complex care needs continue to be appropriately met. While ENs provide a supporting role to RNs in providing nursing care, the responsibility for supervision, critical thinking, managing complex and deteriorating patients remains with RNs. This research suggests that the higher the acuity level of patients, the greater numbers of RNs should be available for their care, as ENs are not educated nor prepared to care for highly acute, deteriorating or complex patients.

This research has identified considerable differences in expectations between the different interest groups as to what role graduate ENs and RNs undertake on commencement to practice. Practising senior nurses appeared to be unaware of the increase in skills and knowledge in diploma programs from certificate programs. If diploma ENs are to be used to their full capabilities in health care, education of practising nurses regarding their educational preparation, skills and knowledge base is essential. This will help to overcome some of the

confusion regarding the roles of the different levels of nurses in the Australian workforce. Further research is required to ascertain the effect of changes to skill mix on patient care. Research should also be undertaken to ascertain differences in the depth of knowledge and critical thinking ability of the two levels of nurse practising in Australia.

8.7 Recommendations

8.7.1 Recommendations for health services

The outcomes of this research highlight some shortfalls in current clinical practice. Role confusion and ambiguity around the SOP for ENs is seen as both limiting their practice and encouraging them to practise at levels for which they have not been prepared. Practising nurses need to be educated as to the skills and knowledge that diploma ENs are graduating with in order to enable them to utilise their full range of abilities. To provide safe, quality care RNs must fully understand the roles and abilities of each EN (certificate or diploma) to whom they delegate care. Organisational health policies and procedures need to be reviewed to accommodate the increased skills and knowledge of diploma ENs and enable best utilisation of their skills.

Practising nurses need to be aware that ENs are not educationally prepared to care for complex or deteriorating patients. Whilst they are able to undertake basic nursing care, the role of caring for complex, highly acute and deteriorating patients remains in the domain of RNs. The increasing acuity of patients admitted to health services requires a higher skill mix of RNs to safely care for them.

8.7.2 Recommendations for educational organisations

Whilst leadership and supervision were identified as major components of the RN role, none of the universities surveyed included leadership and management as part of the core undergraduate curricula for RNs. The increasing need for RNs to supervise and lead nursing care requires undergraduate curricula for RNs to include relevant content. Undergraduate RN education needs to include greater emphasis on leadership and management, including areas such as supervision, mentoring and delegation of care.

As professional placement experience is vital to the development of critical thinking, analysis and workforce socialisation, nursing students need to be preceptored by their own level of nurse or one that is higher than them, that is, RN student with RN and EN student with RN or ENs of a higher qualification (ie diploma level). This would ensure that RN students would develop a greater understanding of the RN role and have the opportunity to practise critical thinking skills and utilise their theoretical knowledge in real life situations. Being preceptored by a lower level nurse may prevent them from developing critical thinking and analysis skills and developing greater depth of knowledge. Whilst interprofessional practice is being encouraged as part of the learning experience for many health professionals, an understanding of graduate roles is necessary for this to occur. It also may lead to role confusion, as ENs preceptoring RNs would further augment views on similarities in graduate roles. Since confusion still exists around the role of each level of nurse in clinical practice, education of both levels of nurse needs to ensure that graduates understand the differences in skill level, educational practice and role expectations of both levels of nurse.

8.7.3 Recommendations for research

Further research is needed to better understand the differences in depth of knowledge and critical thinking skills between the two levels of nurse. It would also be appropriate to examine how the different qualification levels of educators impact on graduate outcomes.

Another important area of research is to examine how recent changes to skill mix in Australia are influencing patient care and health outcomes. This should include length of stay, patient outcomes, and turnover of the RN workforce. Research is needed in this area prior to implementing diluted skill mixes in acute patient areas to ensure quality of care is maintained. This is crucial due to increasing research literature identifying that the higher the educational levels of nurse, the better the patient outcome (Aitken et al., 2002; Ayre et al., 2007; Duffield et al., 2007; Esparza et al., 2012; Milson-Hawke & Higgins, 2003; Needleman, Buerhaus, Stewart, Zelevinsky, & Mattke, 2006; Patrician & Brosch, 2009; Tschannen & Kalisch, 2009). Further investigation using a larger, more representative sample of institutions is warranted to determine if teacher qualifications, teaching methods and/or length of clinical experience contribute to differences in depth of knowledge and critical thinking skills between each level of nurse. Having said this, it is also important to survey graduates, employers and other major stakeholders to determine their expectations of the role of graduate ENs and RNs within the clinical setting to ensure that education is tailored for expected role requirements.

Further research should be undertaken to determine differences in depth of knowledge between different levels of nurse and how these affect nursing role expectations and patient care. This is important to ensure that employment of ENs in the Australian workforce is based on quality of patient care and not just economic factors. Research is also warranted into the effect of the different levels of education of the educators themselves on the teaching of critical thinking and depth of knowledge, and ultimately on student learning outcomes.

8.8 Summary of Chapter Eight

This chapter has provided a discussion on the results of all four phases of the research, how these addressed the research questions and how the study builds on existing knowledge. Whilst the educational preparation of RNs and ENs has become more closely aligned, differences remain in length of preparation and resulting depth of knowledge and critical thinking ability of the different level of nurses. Changes to the education of ENs to diploma level have increased their skill base, yet the roles of the two level of nurse have significant differences. Whilst ENs continue to provide basic patient care, and undertake increased skills, graduate RNs remain responsible for providing higher levels of care and managing complex and deteriorating patients.

Chapter Nine: Conclusion

9.0 Introduction

This chapter provides a conclusion to both the research study and the researcher's journey. The purpose of this chapter is to provide a summary of what has been found through the

research and finalise the journey for the researcher. This is achieved by delivering an overview of the research project followed by a summary of the author's personal experience of finishing the thesis. The answers to the research questions are discussed, followed by a conclusion of the researcher journey.

The research objective was to compare: educational preparation; skills and knowledge at graduation; and expectations of key stakeholders of the roles of graduate registered nurses (RNs) and enrolled nurses (ENs) within the health care system. This was achieved through the use of a multi-phase mixed methods research approach to investigate the specific objectives that addressed the views of each of the key stakeholders. These objectives will be presented under the two headings of educational preparation and role expectations and will include a summary of the findings of the research.

9.1 Educational preparation

Although on first glance the educational preparation of the two levels of nurse in Australia seem similar in terms of educational contents and basic nursing skills, on deeper examination considerable differences can be found. Educators across the two programs have different levels of preparation with university academics having masters qualifications and teaching staff in registered training organisations having degrees as the usual highest qualification. This may result in differences in teaching approaches, ability to critically think and depth of knowledge of the educators themselves. Commencing students academic levels' across the two programs were also considerably different, resulting in much of the EN program teaching students 'how to learn' rather than 'how to think critically' as in the RN program. Methods of education are also different based on the graduate outcome the program is aiming to achieve.

Whilst EN programs focus on having graduates with the skills to be able to function at the basic level in clinical practice, RN programs focus on higher order critical thinking, self-directed learning and depth of knowledge. The resulting outcomes produce nurses with different skills and knowledge bases. Clinical skills, whilst overlapping considerably, remain a difference between the levels. Higher order skills required for the care and management of acutely unwell patients are only taught in degree programs and as such remain the domain of RNs. The different length of programs result in different education foci, with depth of knowledge and critical thinking developing over time through increased available time for self-directed learning, professional placement experience and academic requirements of RN students.

9.2 Role expectations

Confusion is apparent in the nursing community regarding the roles of diploma ENs. Changes to SOP have resulted in every nurse having their own SOP, and making it hard to allocate patients based on individual nurses' different skills and educational backgrounds. Where once patient allocations could be made based on the level of nurse, this is becoming increasingly difficult as different nurses educated to the same level may have different skills and knowledge. This has resulted in ENs being allocated patients to the base level, underutilising many skills they may have available for patient care.

Despite the changes to SOP to enable ENs to practise at a higher level, there remains the major clinical role for RNs in acute health care. ENs are educated to undertake basic physical assessments and pick up changes in health status in stable patients, but RNs are required to manage the highly acute, deteriorating and complex patients. As the patients being admitted to

acute health services are increasing in acuity and complexity with the less acute being treated in the community, patient care is requiring a greater role for RNs on acute wards. As primary care nursing increases, there may be an increased role for ENs to assist in community care of stable patients in their homes. ENs expect and require supervision and leadership from RNs. Whilst ENs are prepared to undertake basic physical assessments, the responsibility for analysis and decision making on the assessments are referred back to RNs whenever ENs are unsure or deterioration is evident.

9.3 Limitations

Although permission was requested from every accredited nursing education organisation in Victoria to participate in this research, only half of the institutions gave permission to contact the course coordinators, of whom half agreed to participate in the research. This may influence researcher bias and limits the generalisability of the study. A higher interest in participation from EN program coordinators may also influence the results. Although EN education has a standardised training package for the whole of Australia, this study was undertaken in only one state in Australia, and hence may not be representative of the wider population. Furthermore, responses were dependent on participants having good understanding of the whole of their educational programs, so data are only as reliable as provided.

The student questionnaire was only distributed to a proportion of nursing students in Victoria and as such may not be representative of other nursing students. In addition, only a small number of staff at educational institutions participated in distributing the questionnaire so results may not represent students from different programs. The small number of respondents

may be due to the questionnaire being undertaken during the final semesters of the pre-registration programs when students were preparing for final exams, applying for graduate year programs and completing final assessments. Staff at one institution felt their students had questionnaire fatigue as they had recently been asked to complete several research questionnaires. This may have influenced response rates there. Regardless, the study sheds light onto an aspect not previously explored in nurse education and so enhances our understandings of differences where role confusion has been previously reported. This is important given the changing nature of education for both types of nurse in many countries. In addition, it is important to note that data reported is based on the student perceptions.

Although a considerable number of senior nurses participated in the research, they still made up only a small percentage of nurses practising in Victoria. Participation in the research may reflect on the interest of these nurses in the topic, and not reflect the views of other nurses who did not participate. Further research with a broader coverage of nurses is warranted to determine if nurses in less senior roles and working in other areas have similar views on the roles of graduate RNs and ENs.

Whilst the study examined curriculum content and expectations of different key stakeholders, it did not investigate differences in depth of learning and critical thinking which is thought to be different between nursing levels. Expectations of student learning during clinical experience were not explored, which may also contribute to differences in depth of learning and critical thinking of graduate nurses. Graduate nurses' opinions as to their roles following the first year of clinical practice would provide another perspective from which to view the role expectations of these groups of nurses.

9.4 Conclusion

Changes to SOP guidelines and educational preparation have greatly enhanced abilities of ENs to function at higher levels within the health care system, undertaking aspects of nursing roles previously only held by RNs. The results of this study indicate greater similarity in curricula content between degree prepared RNs and diploma educated ENs than previously existed with ENs educated at certificate level. Whilst RN programs continue to cover more skills in caring for high acuity patients than diploma programs, increasing similarities in education suggest that both nursing levels are being prepared for closer alignment of roles on graduation. Another major issue identified from this study was a difference between certificate and diploma programs, both of which prepare individuals for EN registration. Such a difference has important educational and workforce implications. Whilst both level of ENs are employed in health services, clinical RNs must be able to identify differences in SOP for the various levels of EN to enable safe patient allocation and effective workload distribution.

Differences in educational preparation of the two levels of nurse prepare them for different roles and career expectations. Whilst similarities exist in the topics covered and basic skills learnt, differences in entry criteria, educational focus, educational preparation and role expectations on graduation, lead to considerable differences in student outcomes. Skills in caring for highly acuity patients, depth of knowledge and critical thinking ability of graduates remains a difference between the nursing levels. Role expectations are also a difference between the nursing levels. Whilst basic nursing skills were expected to be undertaken by both levels of nurse, differences were identified in the levels of supervision required, critical thinking skills and ability to care for high acuity patients. The greater depth of knowledge of RN graduates was seen to enable them to care for higher patient complexity and manage deteriorating patients.

9.5 Concluding statement

This PhD has been an incredible journey for me. When I commenced this PhD I had varying ideas about what I expected from the results of the research. Whilst I had taught both enrolled and registered nursing students, I was becoming unsure of where the differences in education and skills lay. My views have changed with each added piece of information and research data that I have received, sometimes favouring similarities in the education and practice roles of the two levels of nurse, and at other times favouring the differences. The conclusions of this research cement for me the end of the journey, although in some ways they are just the beginning. Whilst it has answered some of the questions I had regarding nursing education, in other ways it has opened up a lot more questions regarding depth of knowledge and critical thinking skills of the two level of nurse. Differences in patient outcomes and quality of care, as a result of different skill mixes in Australia, are also areas of research that could follow this thesis. I suppose this is where post-doctoral research begins.

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Appendix 1: Ethics approval



MONASH University

Monash University Human Research Ethics Committee (MUHREC)
Research Office

Human Ethics Certificate of Approval

Date: 28 March 2011

Project Number: CF11/0664 – 2011000318

Title: Educational preparation of registered and enrolled nurses: Similarities and differences?

Chief Investigator: Dr Ken Sellick

Approved: From: 28 March 2011 To: 28 March 2016

Terms of approval

1. The Chief investigator is responsible for ensuring that permission letters are obtained, if relevant, and a copy forwarded to MUHREC before any data collection can occur at the specified organisation. **Failure to provide permission letters to MUHREC before data collection commences is in breach of the National Statement on Ethical Conduct in Human Research and the Australian Code for the Responsible Conduct of Research.**
2. Approval is only valid whilst you hold a position at Monash University.
3. It is the responsibility of the Chief Investigator to ensure that all investigators are aware of the terms of approval and to ensure the project is conducted as approved by MUHREC.
4. You should notify MUHREC immediately of any serious or unexpected adverse effects on participants or unforeseen events affecting the ethical acceptability of the project.
5. The Explanatory Statement must be on Monash University letterhead and the Monash University complaints clause must contain your project number.
6. **Amendments to the approved project (including changes in personnel):** Requires the submission of a Request for Amendment form to MUHREC and must not begin without written approval from MUHREC. Substantial variations may require a new application.
7. **Future correspondence:** Please quote the project number and project title above in any further correspondence.
8. **Annual reports:** Continued approval of this project is dependent on the submission of an Annual Report. This is determined by the date of your letter of approval.
9. **Final report:** A Final Report should be provided at the conclusion of the project. MUHREC should be notified if the project is discontinued before the expected date of completion.
10. **Monitoring:** Projects may be subject to an audit or any other form of monitoring by MUHREC at any time.
11. **Retention and storage of data:** The Chief Investigator is responsible for the storage and retention of original data pertaining to a project for a minimum period of five years.



Professor Ben Canny
Chair, MUHREC

cc: Dr Lisa McKenna, Ms Elisabeth Jacob

Postal – Monash University, Vic 3800, Australia
Building 3E, Room 111, Clayton Campus, Wellington Road, Clayton



Appendix 2: Curriculum survey

CURRICULUM SURVEY	
(Please tick the box relevant for your course – If you coordinate more than one course please feel free to copy to form to complete for each course)	
A. Educational Institution:	<input type="checkbox"/> [1] University <input type="checkbox"/> [2] TAFE <input type="checkbox"/> [3] Other (please specify) _____
Name of Institution: _____	
B. Program Details	
1.	Name of Program: _____
2.	Program Level: <input type="checkbox"/> [1] Masters <input type="checkbox"/> [2] Bachelor <input type="checkbox"/> [3] Undergraduate Diploma <input type="checkbox"/> [4] Certificate <input type="checkbox"/> [5] Other (please specify) _____
3.	Length of Program: <input type="checkbox"/> [1] 12 months <input type="checkbox"/> [2] 18 months <input type="checkbox"/> [3] 2 years <input type="checkbox"/> [4] 3 years <input type="checkbox"/> [5] Other (please specify) _____
4.	Number of hours: Theory: _____ Face to face teaching _____ Directed learning _____ (total course) Practical (labs/tuts): Face to face teaching _____ Directed learning _____ Clinical (placement): _____
5.	Mode offered? <input type="checkbox"/> [1] On campus only <input type="checkbox"/> [2] Off campus <input type="checkbox"/> [3] Mixed (on & off campus)
6.	Enrolment: <input type="checkbox"/> [1] Full-time <input type="checkbox"/> [2] Part-time <input type="checkbox"/> [3] Full-time & part-time
7.	Student enrolment numbers: 1 st year 2 nd Year 3 rd Year (for current year) _____ _____ _____
8.	Number of staff teaching into program: Full time _____ Part-time _____ Casual/sessional _____
9.	Number of staff teaching by highest qualification: PhD _____ Masters _____ Post Grad _____ Bachelor _____ Other (please specify) _____

C. Curriculum Details

- i. **Curriculum model:** ☐ [1] Integrated
☐ [2] Systems based
☐ [3] Problem based
☐ [4] Lifespan approach
☐ [5] Competency based
☐ [6] Other (please specify) _____

ii. **Curriculum philosophy:** (please describe key elements)

a. **Philosophy of Nursing:**

b. **Philosophy of Education:**

iii. **Assessment Methods** (please identify which of the following methods of assessment are utilized in your program)

Theory exam	[1] <input type="checkbox"/>	Assignment/Essay	[2] <input type="checkbox"/>	Practical exam	[3] <input type="checkbox"/>
Clinical reports	[4] <input type="checkbox"/>	Quizzes	[5] <input type="checkbox"/>	Individual Student Presentations	[6] <input type="checkbox"/>
Group presentation	[7] <input type="checkbox"/>	Oral presentation	[8] <input type="checkbox"/>	Poster presentation	[9] <input type="checkbox"/>
Work sheets	[10] <input type="checkbox"/>	On-line discussions	[11] <input type="checkbox"/>	Simulation exercises	[12] <input type="checkbox"/>

Other [13] (Please list):

iv. **Teaching Methods** (please identify which of the following methods of teaching are utilized in your program)

Lectures	[1] <input type="checkbox"/>	Tutorials	[2] <input type="checkbox"/>	Reading lists	[3] <input type="checkbox"/>
Work sheets	[4] <input type="checkbox"/>	Laboratory work	[5] <input type="checkbox"/>	Quizzes	[6] <input type="checkbox"/>
Directed group work	[7] <input type="checkbox"/>	Student presentations	[8] <input type="checkbox"/>	Simulation exercises	[9] <input type="checkbox"/>
On-line modules	[10] <input type="checkbox"/>	On-line discussions	[11] <input type="checkbox"/>	Media e.g. CD/ DVD	[12] <input type="checkbox"/>

Other [13] (Please list):

a. **Curriculum Content:**

b. **Broad Areas:**

- | | |
|---|---|
| <input type="checkbox"/> [1] Anatomy and Physiology | <input type="checkbox"/> [2] Pathophysiology |
| <input type="checkbox"/> [3] Psychology | <input type="checkbox"/> [4] Health education/promotion |
| <input type="checkbox"/> [5] Communication | <input type="checkbox"/> [6] Interpersonal skills |
| <input type="checkbox"/> [7] Fundamentals of nursing | <input type="checkbox"/> [8] Professional practice |
| <input type="checkbox"/> [9] Interprofessional practice | <input type="checkbox"/> [10] Children and adolescents |
| <input type="checkbox"/> [11] Geriatrics | <input type="checkbox"/> [12] Family Health |
| <input type="checkbox"/> [13] Gender Health | <input type="checkbox"/> [14] Mental Health |
| <input type="checkbox"/> [15] Nursing research | <input type="checkbox"/> [16] Legal and ethical studies |
| <input type="checkbox"/> [17] Indigenous health | <input type="checkbox"/> [18] Transcultural nursing |
| <input type="checkbox"/> [19] Population health | <input type="checkbox"/> [20] Pharmacology |
| <input type="checkbox"/> [21] Other (please specify) | |

c. **Specific content areas covered for each system (eg – are treatment methods, patho, nursing care and A&P taught under geriatric units):**

1. Theoretical content:

System	A & P	Pathophysiology	Nursing care	Treatment methods
Cardiovascular	<input type="checkbox"/> [ap1]	<input type="checkbox"/> [p1]	<input type="checkbox"/> [nc1]	<input type="checkbox"/> [t1]
Cells	<input type="checkbox"/> [ap2]	<input type="checkbox"/> [p2]	<input type="checkbox"/> [nc2]	<input type="checkbox"/> [t2]
Gastrointestinal	<input type="checkbox"/> [ap3]	<input type="checkbox"/> [p3]	<input type="checkbox"/> [nc3]	<input type="checkbox"/> [t3]
Genitourinary	<input type="checkbox"/> [ap4]	<input type="checkbox"/> [p4]	<input type="checkbox"/> [nc4]	<input type="checkbox"/> [t4]
Geriatric	<input type="checkbox"/> [ap5]	<input type="checkbox"/> [p5]	<input type="checkbox"/> [nc5]	<input type="checkbox"/> [t5]
Musculoskeletal	<input type="checkbox"/> [ap6]	<input type="checkbox"/> [p6]	<input type="checkbox"/> [nc6]	<input type="checkbox"/> [t6]
Neurological	<input type="checkbox"/> [ap7]	<input type="checkbox"/> [p7]	<input type="checkbox"/> [nc7]	<input type="checkbox"/> [t7]
Paediatric	<input type="checkbox"/> [ap8]	<input type="checkbox"/> [p8]	<input type="checkbox"/> [nc8]	<input type="checkbox"/> [t8]
Renal	<input type="checkbox"/> [ap9]	<input type="checkbox"/> [p9]	<input type="checkbox"/> [nc9]	<input type="checkbox"/> [t9]
Reproductive	<input type="checkbox"/> [ap10]	<input type="checkbox"/> [p10]	<input type="checkbox"/> [nc10]	<input type="checkbox"/> [t10]
Respiratory	<input type="checkbox"/> [ap11]	<input type="checkbox"/> [p11]	<input type="checkbox"/> [nc11]	<input type="checkbox"/> [t11]
Skin/integumentary	<input type="checkbox"/> [ap12]	<input type="checkbox"/> [p12]	<input type="checkbox"/> [nc12]	<input type="checkbox"/> [t12]
Other (please list) ¹³				
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Comments:

Professional Practice

ANMAC competency standards <input type="checkbox"/> [pp1]	Individual health determination <input type="checkbox"/> [pp2]	Organisational policies and guidelines <input type="checkbox"/> [pp3]
Alternative intervention strategies <input type="checkbox"/> [pp4]	Legal requirements for medication administration <input type="checkbox"/> [pp5]	Resource allocation <input type="checkbox"/> [pp6]
Collaboration in multidisciplinary teams <input type="checkbox"/> [pp7]	Legal responsibility in duty of care, confidentiality, privacy acts <input type="checkbox"/> [pp8]	Refusal of care/ change of care request processes <input type="checkbox"/> [pp9]
Comprehensive and accurate assessment prior to providing care <input type="checkbox"/> [pp10]	Legal studies – common law and nursing practice <input type="checkbox"/> [pp11]	Requirements of statutory and professional regulation <input type="checkbox"/> [pp12]
Coordination of nursing and health care <input type="checkbox"/> [pp13]	Lifelong learning and professional responsibility <input type="checkbox"/> [pp14]	Resolving issues of moral conflict <input type="checkbox"/> [pp15]
Current nursing developments that impact nursing practice <input type="checkbox"/> [pp16]	Monitoring of other staff <input type="checkbox"/> [pp17]	Skill mix requirements for effective care <input type="checkbox"/> [pp18]
Cultural and religious sensitivity <input type="checkbox"/> [pp19]	Nursing professional code of ethics <input type="checkbox"/> [pp20]	Social Determinants of health <input type="checkbox"/> [pp21]
Delegation of care – accountability and responsibilities <input type="checkbox"/> [pp22]	Patients rights in relation to health care <input type="checkbox"/> [pp23]	Strategies for promotion and protection of patient rights <input type="checkbox"/> [pp24]
Differences in responsibility and accountability between registered nurses, enrolled nurses and unlicensed care workers <input type="checkbox"/> [pp25]	Policy and guideline development <input type="checkbox"/> [pp26]	Undertaking clinical supervision <input type="checkbox"/> [pp27]
Incident monitoring and reporting <input type="checkbox"/> [pp28]	Professional code of conduct <input type="checkbox"/> [pp29]	Scope of practice <input type="checkbox"/> [pp30]
Cultural competence <input type="checkbox"/> [pp31]	OH&S legislation <input type="checkbox"/> [pp32]	Professional development needs <input type="checkbox"/> [pp33]

Other (Please list) [pp34] :

Critical thinking and analysis

Accurate documentation <input type="checkbox"/> [ca1]	Evidence based practice <input type="checkbox"/> [ca2]	Quality improvement processes <input type="checkbox"/> [ca3]
Case reviews <input type="checkbox"/> [ca4]	Nurse education of students, staff or other health disciplines <input type="checkbox"/> [ca5]	Reflective practice <input type="checkbox"/> [ca6]
Clinical audits <input type="checkbox"/> [ca7]	Nursing support networks <input type="checkbox"/> [ca8]	Research methods <input type="checkbox"/> [ca9]
Critical analysis of research findings and applicability to practice <input type="checkbox"/> [ca10]	Participating in meetings <input type="checkbox"/> [ca11]	Role of nurse in contributing to research <input type="checkbox"/> [ca12]
Current knowledge of research in own field <input type="checkbox"/> [ca13]	Performance review processes <input type="checkbox"/> [ca14]	Role models in nursing <input type="checkbox"/> [ca15]
Development of clinical practice guidelines <input type="checkbox"/> [ca16]	Preceptorship/coaching/ instructing and mentoring <input type="checkbox"/> [ca17]	Seeking feedback on own practice <input type="checkbox"/> [ca18]
Development of nursing expertise <input type="checkbox"/> [ca19]	Academic writing <input type="checkbox"/> [ca20]	Student supervision <input type="checkbox"/> [ca21]
Evaluation of outcomes of nursing activities and improvement potential <input type="checkbox"/> [ca22]	Writing literature reviews <input type="checkbox"/> [ca23]	Undertaking staff/student orientation <input type="checkbox"/> [ca24]

Other (Please list) [ca25] :

Collaborative and therapeutic practice

Alternative communication methods for non-verbal patients [cp1] <input type="checkbox"/>	Information provision to enable control of own health [cp2] <input type="checkbox"/>	Safe medication administration . [cp3] <input type="checkbox"/>
Continuity of care [cp4] <input type="checkbox"/>	Interprofessional practice [cp5] <input type="checkbox"/>	Situations individuals may find threatening, undignified [cp6] <input type="checkbox"/>
Cultural identity in health care [cp7] <input type="checkbox"/>	Maintaining dignity during self-care deficits [cp8] <input type="checkbox"/>	Standards of infection control [cp9] <input type="checkbox"/>
Dealing with bullying/harassment . [cp10] <input type="checkbox"/>	Mental health . [cp11] <input type="checkbox"/>	Strategies to involve family in care . [cp12] <input type="checkbox"/>
Development of therapeutic relationships [cp13] <input type="checkbox"/>	No-lift/ manual handling policies . [cp14] <input type="checkbox"/>	Strategies to affirm individuals . [cp15] <input type="checkbox"/>
Disability care [cp16] <input type="checkbox"/>	Professional boundaries [cp17] <input type="checkbox"/>	Independence promotion [cp18] <input type="checkbox"/>
Effective communication techniques . [cp19] <input type="checkbox"/>	Providing spiritual care [cp20] <input type="checkbox"/>	Support networks for individuals/groups [cp21] <input type="checkbox"/>
Environment factors influencing patient comfort [cp22] <input type="checkbox"/>	Rehabilitation needs [cp23] <input type="checkbox"/>	Team work and negotiation skills . [cp24] <input type="checkbox"/>
Information technology skills [cp25] <input type="checkbox"/>	Role of interpreters [cp26] <input type="checkbox"/>	Use of open and closed questions . [cp27] <input type="checkbox"/>
Facilitating individual decision making [cp28] <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Other (Please list) [cp29] :

Provision and coordination of care

Agencies to assist with continuity of care [pc1] <input type="checkbox"/>	Gender health development . [pc2] <input type="checkbox"/>	Pain management . [pc3] <input type="checkbox"/>
Assisting with activities of daily living [pc4] <input type="checkbox"/>	Health promotion . [pc5] <input type="checkbox"/>	Patient advocacy in planning nursing care [pc6] <input type="checkbox"/>
Clinical judgement . [pc7] <input type="checkbox"/>	Identification of normal and abnormal assessments [pc8] <input type="checkbox"/>	Patient assessment techniques . [pc9] <input type="checkbox"/>
Collaborative interventions with other health team members [pc10] <input type="checkbox"/>	Implementation of care . [pc11] <input type="checkbox"/>	Patient education including illness prevention [pc12] <input type="checkbox"/>
Confidence and capability . [pc13] <input type="checkbox"/>	Identification of resources needed to achieve health outcomes [pc14] <input type="checkbox"/>	Palliative care . [pc15] <input type="checkbox"/>
Crisis intervention . [pc16] <input type="checkbox"/>	Incorporating current knowledge and research into care plans [pc17] <input type="checkbox"/>	Referrals to other health providers . [pc18] <input type="checkbox"/>
Development of health goals for individual patient conditions [pc19] <input type="checkbox"/>	Initiation of support services . [pc20] <input type="checkbox"/>	Stress management – self-control in difficult conditions [pc21] <input type="checkbox"/>
Development of nursing care plans . [pc22] <input type="checkbox"/>	Interpretation of data to identify health problems [pc23] <input type="checkbox"/>	Supplementary information for nursing assessments [pc24] <input type="checkbox"/>
Documentation of care [pc25] <input type="checkbox"/>	Leadership [pc26] <input type="checkbox"/>	Technology in nursing and its uses . [pc27] <input type="checkbox"/>
Emergency management and routines [pc28] <input type="checkbox"/>	Lifespan education . [pc29] <input type="checkbox"/>	Time management skills . [pc30] <input type="checkbox"/>
Epidemiology [pc31] <input type="checkbox"/>	Medication administration [pc32] <input type="checkbox"/>	Use of quantitative and qualitative data to assess patient needs [pc33] <input type="checkbox"/>
Evaluation of nursing care [pc34] <input type="checkbox"/>	Models of care delivery [pc35] <input type="checkbox"/>	<input type="checkbox"/>
Evaluation of individual health status and function [pc36] <input type="checkbox"/>	Nursing history [pc37] <input type="checkbox"/>	<input type="checkbox"/>

Other (Please list) [pc38] :

2. Clinical skills covered

Assessment skills		
Abdominal assessment [a1]	Patient assessment techniques [a2]	Pulse oximetry [a3]
Cardiac assessment [a4]	Primary and secondary survey [a5]	Health screening [a6]
Geriatric assessment [a7]	ECG (12 lead) taking [a8]	Triage [a9]
Integumentary assessment [a10]	ECG rhythm interpretation [a11]	Blood glucose monitoring [a12]
Neurological assessment [a13]	Chest X-ray interpretation [a14]	Weight measurement [a15]
Nutritional assessment [a16]	GCS assessment [a17]	Arterial blood gas collection [a18]
Paediatric assessment [a19]	Neurovascular observations [a20]	Vital sign measurement [a21]
Respiratory assessment [a22]	Urinalysis/Interpretation [a23]	
General nursing care		
Asepsis, hand hygiene and standard precautions [g1]	ADLs – hygiene [g2]	Range of movement exercises [g3]
Bladder Scanning [g4]	Breathing exercises [g5]	TED stocking application [g6]
Bladder washout [g7]	Bed making [g8]	Management of chest pain [g9]
Feeding assistance –oral [g10]	Catheter care [g11]	Fluid balance charts [g12]
Feeding – enteral [g13]	Catheterisation female [g14]	Skin and pressure care [g15]
Management of PEG tubes [g16]	Catheterisation male [g17]	Nasal suctioning [g18]
NG tube insertion and removal [g19]	Patient positioning [g20]	Oxygen humidification [g21]
Pre and post operative care [g22]	Manual handling techniques [g23]	Ambulating patients [g24]
Special nursing care		
Advanced life support [s1]	CPAP-BiPAP ventilation application and management [s2]	Oral and pharyngeal suctioning [s3]
Cervical collar application [s4]	Mastectomy care [s5]	Basic life support [s6]
CVAD access and management [s7]	Tracheostomy suctioning/ care [s8]	UWSD management [s9]
Cytotoxic spill management [s10]	Seizure management [s11]	Venepuncture [s12]
Medication management		
Blood product transfusion [m1]	IV additives [m2]	Oxygen therapy [m3]
Checking S8 and other drugs [m4]	IV cannulation [m5]	Parenteral medications [m6]
Drug chart documentation [m7]	IV medication administration [m8]	Patient controlled analgesia [m9]
Enema and suppository administration [m10]	IV site assessment [m11]	Peak flow measurement [m12]
Inhalant therapy [m13]	IV therapy & IV pumps [m14]	CVAD medications [m15]
Insulin administration [m16]	Topical medication administration [m17]	Subcutaneous & intramuscular injection [m18]
Intra-osseous infusions [m19]	Narcotic infusions [m20]	Syringe drivers [m21]
Wound management		
Aseptic dressing technique [w1]	Care of ostomies [w2]	Donning sterile gloves [w3]
Wound dressing selection [w4]	Removal of plaster [w5]	Plaster cast application [w6]
Care and removal of sutures, staples and drain tubes [w7]	Plaster care [w8]	
Communication and Interpersonal skills		
Effective communication [c1]	Interviewing techniques [c2]	Counseling [c3]
Management of personal stress and self-care [c4]	History taking [c5]	Conflict management [c6]
Documentation [c7]	Handover techniques [c8]	Report writing [c9]
Other skills		
First aid [o1]	MET call responses [o2]	Room safety check [o3]
OH&S monitoring [o4]		

Other (Please list)

How do you perceive that the curriculum with which you are involved differs from that of an RN/EN course?

Please comment on how you believe the expectations of ENs on graduation differ from RNs.

In your opinion what are the difference in graduating skills and knowledge of RN/ENs?

Available for phone interview – ☐ Yes ☐ No

If you are available for an interview please fill in the attached consent form and provide your name and contact phone number and return them with the survey.

Name: _____ Phone: _____

Thankyou for taking the time to fill in this survey.

Appendix 3: Course coordinator explanatory statement



17 November 2010

Explanatory Statement

Title: **Registered and Enrolled graduate nurses – Similarities and differences**

This information sheet is for you to keep.

Student research project

My name is Elisabeth Jacob and I am conducting a research project with Dr Ken Sellick and Dr Lisa McKenna from the Department of Medicine Nursing and Health Science towards a PhD at Monash University. This means that I will be writing a thesis which is the equivalent of a 300 page book/a thesis which is the equivalent of a short book.

Why did you choose this particular person/group as participants?

Your head of school has provided your contact details for this survey as you are the nursing course coordinator at your educational institution. Course coordinators have been chosen to fill in this survey as they have current information on curriculum content and course design.

The aim/purpose of the research

The aim of this study is to determine the difference in the educational preparation of the two levels of nurses in Victoria, namely registered and enrolled nurses. I am conducting this research to find out differences in curriculum and course design that will demonstrate the differences between the two roles.

Possible benefits

This study is designed to identify the similarities and differences in graduating skills and knowledge of RNs and ENs and investigate how the expanded scope of practise for nurses has influenced the educational preparation of these graduates. The findings of this study will be significant in determining the different educational preparation of both cohorts, potential overlaps in roles and responsibilities and how they are prepared for their current scope of practise.

What does the research involve?

The study involves completion of a survey and a phone interview.

How much time will the research take?

The survey is expected to take 30 minutes followed by an optional 20 minute phone interview to clarify responses on the survey and your understanding of the different roles of different levels of nurses.

Inconvenience/discomfort

Inconvenience in participating in this research is expected to only be that of your time.

Faculty of Medicine Nursing and Health Sciences
Monash University, Gippsland Campus
Northways Road, Churchill VIC 3842



Payment

No payment or reward, financial or otherwise is offered for participation in this research.

Can I withdraw from the research?

Being in this study is voluntary and you are under no obligation to consent to participation. However, if you do consent to participate, you may only withdraw prior to either the questionnaire being submitted and/or approval of the interview transcript.

Confidentiality

Data from the surveys and interviews will only be accessible by the research team and data reported in publications will be in collective, unidentified format.

Storage of data

Storage of the data collected will adhere to the University regulations and kept on University premises in a locked cupboard/filing cabinet for 5 years. A report of the study may be submitted for publication, but individual participants will not be identifiable in such a report.

Results

If you would like to be informed of the aggregate research finding, please contact Elisabeth Jacob at Elisabeth.jacob@monash.edu.

If you would like to contact the researchers about any aspect of this study, please contact the Chief Investigator:	If you have a complaint concerning the manner in which this research <insert your project number here> is being conducted, please contact:
Ken Sellick Address: [REDACTED] Phone: Fax:	Executive Officer Monash University Human Research Ethics Committee (MUHREC) Building 3e Room 111 Research Office Monash University VIC 3800 [REDACTED]

Thank you.

Elisabeth Jacob

Appendix 4: Interview prompts

Commence taping: Name, date, time.

What is your experience in teaching nurses?

Have you previously worked with both levels of nurses?

What areas do you feel are similar in the education of both levels of nurses?

What do you believe is the main difference in education between the two levels of nurses in Australia?

What do you believe is the main difference in role between the two levels of nurses?

Do you believe role overlap/ambiguity to be an issue for Australian nurses?

If so – what do you feel would help reduce the role overlap/ambiguity?

Topic Areas to stimulate discussion:

Critical analysis skills, leadership, depth of knowledge, supervision, academic skills

How do you teach critical thinking/ critical analysis and problem solving?

Appendix 5: Student letter of introduction

INVITATION TO PARTICIPATE IN A SURVEY

Survey Title: Role expectations of registered and enrolled nurses following graduation.

Date: June, 2012

Dear Student Nurse,

I am writing to invite you, as a prospective graduate, to participate in a survey I am conducting as part of my PhD studies in the School of Nursing and Midwifery that investigates similarities and difference in the educational preparation of registered and enrolled nursing in Victoria. An important part of this study is to survey the role expectations of graduating registered and enrolled nurses. Completion of the survey questionnaire; which asks for brief demographics information, your expectations of the nurses roles, graduate attributes, and your opinions on differences between the role and scope of practice of RNs and ENs, should take no longer than 10 to 15 minutes to complete. Please note that completion of the survey is voluntary, that all participants will remain anonymous and that the study has been approved by your institution and the Monash University Human Research Ethics Committee. Further details of the aims of the survey and what it entails are given in the attached Explanatory Statement.

If you agree to accept this invitation could you please complete the electronic questionnaire which can be found at

https://monashmnhs.qualtrics.com/SE/?SID=SV_2a6OhY8v2degAzG

and will be returned anonymously directly to the researcher via the web link.

Thank you in anticipation for taking the time to complete the survey questionnaire. Your participation in the study is highly valued.

Yours sincerely,

Elisabeth Jacob

Appendix 6: Student explanatory statement



MONASH University

Explanatory Statement

Date: 6th July 2012

Project Title: Educational preparation of registered and enrolled graduate nurses: Similarities and differences

This information sheet is for you to keep.

This Explanatory Statement contains detailed information about the research project. Its purpose is to explain to you as openly and clearly as possible all procedures involved in the project before you decide whether or not to participate. Please read the information carefully and feel free to ask questions about the information in the document.

Introduction

My name is Elisabeth Jacob and I plan to conduct a survey of graduating student nurses as a part of a research project on the above topic for my PhD degree at Monash University under the supervision of Dr Ken Sellick and Associate Professor Lisa McKenna from the School of Nursing and Midwifery.

Why were you chosen for this research?

You have been invited to participate in this survey as you are in the final year of the pre-registration program for either registered or enrolled nurses. This survey is part of a larger study investigating the educational preparation of registered and enrolled nurses which aims to determine similarities and difference in the role expectations of the two levels of nurse on graduating from the program.

Possible benefits

Whilst there will be no direct benefit to you for participating in this study, the findings of this study will be significant in determining the educational preparation of registered and enrolled nurses and identify potential overlaps in roles and responsibilities on commencement of practise.

What does the research involve?

The study involves completing a 10 to 15 minute anonymous questionnaires on your role expectations following graduation. Inconvenience in participating in this research is expected to only be that of your time. No payment or reward, financial or otherwise is offered for participation in this research.

You can withdraw from the research

Being in this study is voluntary and you are under no obligation to consent to participation. However, if you do consent to participate, you may withdraw from further participation at any stage but once you have mailed the survey/submitted your response online you cannot withdraw your answers, as responses are anonymous.

Confidentiality & Storage of data

Data from the surveys will only be accessible by the research team and data reported in publications will be in collective, unidentified format. Data collected will be stored in accordance with Monash University regulations, kept on University premises, in a locked filing cabinet for 5 years. A report of the study may be submitted for publication, but individual participants will not be identifiable in such a report.

School of Nursing and Midwifery
Monash University, Gippsland Campus
Northways Road, Churchill VIC 3842

ABN 12 377 614 012 CRICOS Provider #00008C



Results

If you would like to be informed of the aggregate research finding, please contact Elisabeth Jacob on Elisabeth.jacob@monash.edu. The findings are accessible for 12 months.

For further information

Any questions you have regarding the study or your participation can be directed to any of the investigators listed below:

Chief Investigator Dr Ken Sellick
School of Nursing and Midwifery
Monash University
[Redacted]

Student Investigator Ms Elisabeth Jacob
School of Nursing and Midwifery
Monash University
[Redacted]

For complaints:

If you have a complaint concerning the manner in which this research (MUHREC:CF11/0664 – 2011000318) is conducted, please contact the Monash University Human Research Ethics Committee at the following address:

Executive Officer
Monash University Human Research Ethics Committee (MUHREC)
Building 3e Room 111
Research Office
Monash University VIC 3800
[Redacted]

Thank you

Elisabeth Jacob

School of Nursing and Midwifery
Monash University, Gippsland Campus
Northways Road, Churchill VIC 3842
[Redacted]

ABN 12 377 614 012 CRICOS Provider #00008C

Appendix 7: Student online questionnaire

Qualtrics Survey Software <https://s.qualtrics.com/ControlPanel/PopUp.php?PopType=SurveyPr...>

Default Question Block

Title: Survey of role expectations of student registered and enrolled nurses following graduation

A: Demographics

Below is a list of questions that ask for background details. Please mark the appropriate box or provide details as required.

What is your age in years?

What is your gender?

☐ Male

☐ Female

Which nursing program are you completing?

☐ Bachelor of nursing

☐ Diploma of nursing

☐ Certificate *N* in nursing

At which educational institution are you studying?

☐ University

☐ TAFE

☐ Registered Training Organisation (RTO)

Have you been working during your studies?

☐ No

☐ As an enrolled nurse (EN)

☐ As a personal care assistant (PCA)

☐ Other

B: Role expectations

The following questions describe a range of activities related to the role and functions of a nurse.

Please click the circle to indicate the extent to which you believe these activities are relevant expectations of you as a newly graduated nurse?

1. Patient care

	Very relevant	Relevant	Neutral	Irrelevant	Very Irrelevant
Assist patients with activities of daily living (eg: feeding, ambulation, personal hygiene)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Undertake routine physical assessments (e.g. vital signs, fluid balance, urinalysis).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Identify normal and abnormal assessment results	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Develop and implement nursing care plans using analysis of assessment data	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Administer oxygen therapy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Undertake female catheterisation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Undertake male catheterisation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Administer basic life support	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Administer advanced life support	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Apply cervical collars	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Escort patients to and from theatre	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Administer prescribed medications	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Instigate nurse initiated medications	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Administer intravenous infusions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Insert naso-gastric tubes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Undertake aseptic wound dressings	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Extract blood by venepuncture	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Insert intravenous cannulas	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Administer blood transfusions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Provide non-pharmacological pain management	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Provide pressure area care	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Assist patients with rehabilitation needs (e.g. post-operative physiotherapy)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Assess dietary intake (eg: monitor bowel habits, food intake, weight, fluid balance)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Feed patients via naso-gastric tubes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Provide palliative care	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Evaluate outcomes of nursing care	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Using ergonomic aids to prevent injuries	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Care for patients with tracheostomies (eg: suctioning, dressing changes)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Interpret pathology reports and respond to abnormal results	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Take and interpret arterial blood gas samples	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Administer BIPAP to patients	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Remove plaster casts	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Provide spiritual care	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Undertake mental status assessments	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Provide support to emotionally upset patients and families	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Be a patient advocate	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

2. Administrative

	Very relevant	Relevant	Neutral	Irrelevant	Very irrelevant
Conduct admission interviews including patient history	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Refer patients to other health professionals	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Coordinate nursing and other health care	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Liaise with doctors re patient conditions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Initiate support services for patient discharge (eg meals on wheels, hospital in the home)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Prioritise care based on patient assessments	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Document patient progress in patient notes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Supervise the cleaning of patient environments	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
File patients test results	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Take specimens to the laboratory	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Utilise computer technology in nursing, e.g. to access patient results	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Identify resources needed to provide nursing care	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Utilise organisational policies and guidelines	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Organise admission and discharge paperwork e.g. patient transfer forms	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Order stores and ward supplies	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Monitor and report incidents	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

3. Teamwork

	Very relevant	Relevant	Neutral	Irrelevant	Very Irrelevant
Understand the roles of different members of the health care team	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Utilise conflict management techniques	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Work collaboratively with members of the health care team	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Participate in unit/team meetings	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Participate in quality improvement processes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

4. Supervision/Leadership

	Very relevant	Relevant	Neutral	Irrelevant	Very Irrelevant
Provide leadership to nursing colleagues	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Work in charge on shifts as required	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Chair meetings	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Understand skill mix requirements for the ward	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Plan and coordinate workloads and staff allocations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Clarify and question patient care	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Disseminate changes and new information to colleagues	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Maintain duty of care, confidentiality, and privacy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Undertake Occupational Health & Safety audits	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Perform staff reviews	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Undertake student appraisals	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Assist in developing organisational policies and clinical practice guidelines	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Undertake clinical audits and patient case reviews	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Deal with inappropriate delegation of care	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Liaise with management over staffing needs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

5. Research

	Very relevant	Relevant	Neutral	Irrelevant	Very Irrelevant
Apply research findings to nursing practice	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Keep abreast of developments that impact nursing practice eg journals	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Participate in research studies	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Assist in the collection of research data	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Identify topics for nursing research	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Have a current knowledge of research in own field	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

6. Education

	Very relevant	Relevant	Neutral	Irrelevant	Very Irrelevant
Provide health education to patients	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Explain procedures and investigation to patients	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Discuss discharge care needs with patient and family (e.g. medications, dressings)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Inform the patient of their diagnosis	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Orientate new staff or students to the ward	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Provide education for students, staff or other health professionals.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Preceptor nursing students	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Provide clinical supervision/monitor other staff	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

C. Graduate Attributes

The following is a list of graduate attributes/qualities. Please rate the extent to which the course you are completing or have just completed will enable you to achieve these

	Not at all	Somewhat	Moderately	A great deal
The confidence and ability to challenge and contribute to the health care system	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Awareness and understanding of socio-cultural factors on the health of individuals	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Committed to sensitive, compassionate, and humane professional practice	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ability to communicate nursing knowledge effectively to patients, families, colleagues and other health professionals	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Use contemporary media, technology, library and relevant databases to access and manage information	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Exercise critical thinking to foster new understanding	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Value research in contributing to nursing development and patient care	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Commitment to continuing professional education and development	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Provide professional leadership	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

D. Comments

1. What do you see as the differences between the role of ENs and RNs?

2. What do you believe is the difference in the scope of practice between ENs and RNs?

E. Career Plans

1. In which health care setting do you intend to practice following graduation (e.g. acute hospital, community, residential aged care)?

2. In which area of nursing do you intend to practice (e.g. medical, surgical, emergency, aged care, children's nursing, mental health)?

3. In which geographic region do you plan to work ? (e.g. metropolitan area, outer metropolitan, country town)?

Thank you for taking the time to complete this survey. Please click on the arrows in the bottom right hand corner to submit the survey.

Appendix 8: Senior nurse letter of invitation

INVITATION TO PARTICIPATE IN A SURVEY

Survey Title: Role expectations of registered and enrolled nurses following graduation.

Date: February, 2013

Dear Senior Nurse,

I am writing to invite you, as a senior nurse, to participate in a survey I am conducting as part of my PhD studies in the School of Nursing and Midwifery investigating similarities and differences in educational preparation and role expectations of registered and enrolled nurses in Victoria. An important part of this study is to survey senior nurses as to their role expectations of graduating registered and enrolled nurses. Completion of the survey questionnaire; which asks for brief demographics information, your expectations of the nurses' roles, graduate attributes, and your opinions on differences between the roles and scope of practice of RNs and ENs, should take no longer than 10 minutes to complete. Please note that completion of the survey is voluntary, that all participants will remain anonymous and that the study has been approved by the Monash University Human Research Ethics Committee. Further details of the aims of the survey and what it entails are given in the attached Explanatory Statement.

If you agree to accept this invitation could you please complete the electronic questionnaire which can be found at:

[Qualtrics survey link](#)

which will be returned anonymously directly to the researcher via the web link.

Thank you in anticipation for taking the time to complete the survey. Your participation in the study is highly valued. Please feel free to forward the survey to other senior nurses who may be interested in completing the survey.

Yours sincerely,

Elisabeth Jacob

Appendix 9: Senior nurse explanatory statement



MONASH University

Explanatory Statement

Date: February 2013

Project Title: Educational preparation of registered and enrolled graduate nurses: Similarities and differences

This information sheet is for you to keep.

This Explanatory Statement contains detailed information about the research project. Its purpose is to explain to you as openly and clearly as possible all procedures involved in the project before you decide whether or not to participate. Please read the information carefully and feel free to ask questions about the information in the document.

Introduction

My name is Elisabeth Jacob and I plan to conduct a survey of senior nurses as a part of a research project on the above topic for my PhD degree at Monash University under the supervision of Associate Professor Lisa McKenna from the School of Nursing and Midwifery and Dr Angelo D'Amore from the Department of Rural and Indigenous Health.

Why were you chosen for this research?

You have been invited to participate in this survey as you are either a senior nurse working in a Victorian health facility or involved in policy making or regulation of Victorian nurses. This survey is part of a larger study investigating the educational preparation of registered and enrolled nurses which aims to determine similarities and difference in the role expectations of the two levels of nurse on graduating from the program.

Possible benefits

Whilst there will be no direct benefit to you for participating in this study, the findings of this study will be significant in determining the educational preparation of registered and enrolled nurses and identify potential overlaps in roles and responsibilities on commencement of practise.

What does the research involve?

The study involves completing a 10 minute anonymous questionnaires on your expectations of the roles of graduate registered and graduate enrolled nurses on commencement of practice. Inconvenience in participating in this research is expected to only be that of your time. No payment or reward, financial or otherwise is offered for participation in this research.

You can withdraw from the research

Being in this study is voluntary and you are under no obligation to consent to participation. However, if you do consent to participate, you may withdraw from further participation at any stage prior to submission of the survey. Once you have submitted your response online you cannot withdraw your answers, as responses are anonymous.

Confidentiality & Storage of data

Data from the surveys will only be accessible by the research team and data reported in publications will be in collective, unidentified format. Data collected will be stored in accordance with Monash University regulations, kept on University premises, in a locked filing cabinet for 5 years. A report of the study may be submitted for publication, but individual participants will not be identifiable in such a report.

School of Nursing and Midwifery
Monash University, Gippsland Campus
Northways Road, Churchill VIC 3842



Results

If you would like to be informed of the aggregate research finding, please contact Elisabeth Jacob at Elisabeth.jacob@monash.edu. The findings are accessible for 12 months.

For further information

Any questions you have regarding the study or your participation can be directed to any of the investigators listed below:

Chief Investigator Associate Professor Lisa McKenna
School of Nursing and Midwifery
Monash University
[REDACTED]

Student Investigator Ms Elisabeth Jacob
School of Nursing and Midwifery
Monash University
[REDACTED]

For complaints:

If you have a complaint concerning the manner in which this research (MUHREC:CF11/0664 – 2011000318) is conducted, please contact the Monash University Human Research Ethics Committee at the following address:

Executive Officer
Monash University Human Research Ethics Committee (MUHREC)
Building 3e Room 111
Research Office
Monash University VIC 3800
[REDACTED]

Thank you

Elisabeth Jacob

School of Nursing and Midwifery
Monash University, Gippsland Campus
Northways Road, Churchill VIC 3842
[REDACTED]

ABN 12 377 614 012 CRICOS Provider #00008C

Appendix 10: Senior nurse questionnaire

Qualtrics Survey Software

<https://dc-viawest.qualtrics.com/ControlPanel/PopUp.php?PopTyp...>

Default Question Block

Title: Survey of senior nurses and policy makers expectations of registered and enrolled nurses in their first year following graduation

A: Demographics

Below is a list of questions that ask for background details. Please mark the appropriate box or provide details as required.

What is your age in years?

What is your gender?

- ☐ Male
- ☐ Female

How long ago did you obtain your initial nursing registration?

- ☐ 0-10 years
- ☐ 11-20 years
- ☐ 21-30 years
- ☐ 31-40 years
- ☐ 41+ years

What is your highest qualification?

- ☐ Bachelor
- ☐ Graduate certificate/diploma
- ☐ Masters degree
- ☐ PhD
- ☐ Other, please specify

Which area of nursing do you mainly work in?

- ☐ Health service administration (eg. DON, ADON, Supervisor)
- ☐ Nurse education (eg. Graduate nurse coordinator, clinical educator)
- ☐ Nursing regulation or government (eg. NMBA, ANMAC, Chief nursing officer)
- ☐ Ward management (eg. NUM, ANUM, CNS)
- ☐ Other, please specify

In which type of institution do you mainly work? (You may choose more than one answer)

- ☐ Acute health care
- ☐ Aged Care
- ☐ Metropolitan health service
- ☐ Regional health service
- ☐ Regulatory or government institution

How long has it been since you practiced clinical patient care?

- ☐ Still practicing
- ☐ 1-5 years
- ☐ 6-10 years
- ☐ 11-15 years
- ☐ 16 + years

B: Role expectations

The following questions describe a range of activities related to the role and functions of a nurse.

Please click the boxes to indicate which of these activities are relevant expectations of a graduated registered or enrolled nurse nurse (in first year of practice). You may click for more than one box per line.

1. Patient care

	Graduate RN role	Graduate EN role	Not the role of either graduate nurse
Develop and implement nursing care plans using analysis of assessment data	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Escort patients to and from theatre	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Assist patients with rehabilitation needs (e.g. post-operative physiotherapy)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Provide palliative care	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Evaluate outcomes of nursing care	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Interpret pathology reports and respond to abnormal results	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Provide spiritual care	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Undertake mental status assessments	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Provide support to emotionally upset patients and families	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Be a patient advocate	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Assist patients with refusal of care requests	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Consult with patient/ family around planned care	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

2. Nursing skills

	Graduate RN role	Graduate EN role	Not the role of either graduate nurse
Assist patients with activities of daily living (eg: feeding, ambulation, personal hygiene)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Undertake routine physical assessments (e.g. vital signs, fluid balance, urinalysis).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Identify normal and abnormal assessment results	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Undertake female catheterisation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Undertake male catheterisation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Administer basic life support	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Administer advanced life support	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Apply cervical collars	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Insert naso-gastric tubes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Undertake aseptic wound dressings	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Extract blood by venepuncture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Insert intravenous cannulas	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Provide pressure area care	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Assess dietary intake (eg: monitor bowel habits, food intake, weight, fluid balance)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Feed patients via naso-gastric tubes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Using ergonomic aids to prevent injuries	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Care for patients with tracheostomies (eg: suctioning, dressing changes)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Take and interpret arterial blood gas samples	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Administer BIPAP to patients	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Remove plaster casts	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

3. Medication administration

	Graduate RN role	Graduate EN role	Not the role of either graduate nurse
Administer oxygen therapy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Administer prescribed medications	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Instigate nurse initiated medications	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Administer intravenous infusions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Administer blood transfusions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Provide non-pharmacological pain management	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

4. Administrative

	Graduate RN role	Graduate EN role	Not the role of either graduate nurse
Conduct admission interviews including patient history	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Refer patients to other health professionals	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Coordinate nursing and other health care	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Liaise with doctors re patient conditions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Initiate support services for patient discharge (eg meals on wheels, hospital in the home)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Prioritise care based on patient assessments	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Document patient progress in patient notes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Supervise the cleaning of patient environments	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
File patients test results	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Take specimens to the laboratory	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Utilise computer technology in nursing, e.g. to access patient results	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Identify resources needed to provide nursing care	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Utilise organisational policies and guidelines	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Organise admission and discharge paperwork e.g. patient transfer forms	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Order stores and ward supplies	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Monitor and report incidents	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

5. Teamwork

	Graduate RN role	Graduate EN role	Not the role of either graduate nurse
Understand the roles of different members of the health care team	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Utilise conflict management techniques	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Work collaboratively with members of the health care team	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Participate in unit/team meetings	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Participate in quality improvement processes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

6. Supervision/Leadership

	Graduate RN role	Graduate EN role	Not the role of either graduate nurse
Provide leadership to nursing colleagues	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Work in charge on shifts as required	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Chair meetings	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Understand skill mix requirements for the ward	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Plan and coordinate workloads and staff allocations	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Clarify and question patient care	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Disseminate changes and new information to colleagues	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Maintain duty of care, confidentiality, and privacy	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Undertake Occupational Health & Safety audits	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Perform staff reviews	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Undertake student appraisals	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Assist in developing organisational policies and clinical practice guidelines	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Undertake clinical audits and patient case reviews	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Deal with inappropriate delegation of care	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Liaise with management over staffing needs	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

7. Research

	Graduate RN role	Graduate EN role	Not the role of either graduate nurse
Apply research findings to nursing practice	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Keep abreast of developments that impact nursing practice eg journals	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Participate in research studies	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Assist in the collection of research data	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Identify topics for nursing research	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Have a current knowledge of research in own field	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

8. Education

	Graduate RN role	Graduate EN role	Not the role of either graduate nurse
Provide health education to patients	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Explain procedures and investigation to patients	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Discuss discharge care needs with patient and family (e.g. medications, dressings)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Inform the patient of their diagnosis	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Orientate new staff or students to the ward	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Provide education for students, staff or other health professionals.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Preceptor nursing students	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Provide clinical supervision/monitor other staff	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

C. Graduate Attributes

The following is a list of graduate attributes/qualities. Please indicate which of these attributes are demonstrated by the different graduate nurses.

	Graduate RN	Graduate EN	Not demonstrated by either of these nurses
The confidence and ability to challenge and contribute to the health care system	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Awareness and understanding of socio-cultural factors on the health of individuals	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Committed to sensitive, compassionate, and humane professional practice	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ability to communicate nursing knowledge effectively to patients, families, colleagues and other health professionals	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Use contemporary media, technology, library and relevant databases to access and manage information	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Exercise critical thinking to foster new understanding	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Value research in contributing to nursing development and patient care	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Commitment to continuing professional education and development	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Provide professional leadership	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

D. Comments

1. What do you see as the differences between the role of ENs and RNs?

2. What do you believe is the difference in the scope of practice between ENs and RNs?

Thank you for taking the time to complete this survey. Please click on the arrows in the bottom right hand corner to submit the survey.

Please provide any other comments on the graduate role of registered or enrolled nurses.
