A glimpse of the future nursing workforce: the Graduate e-cohort Study

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KEY WORDS

Graduate nurses, nursing workforce, retention, longitudinal research, Internet research

ABSTRACT

Objective
This paper outlines the demographic profile, workforce trajectory and study intentions of the first cohort of newly graduated and registered nurses participating in the Graduate e-cohort Study.

Design
A longitudinal, electronic cohort of newly graduated and registered nurses was recruited into the first survey and completed the questionnaire by logging on to the e-cohort web platform www.e-cohort.net

Subjects
Newly graduated and registered nurses completing in 2008 from the University of Queensland, Australia; and Massey University, the University of Auckland and AUT University from New Zealand.

Main outcome measure
The establishment and report on a cohort of newly graduated and registered nurses in Australia and New Zealand

Results
All NZ and most Australian participants were employed as nurses. Over half the NZ participants were undertaking a postgraduate qualification compared to 5.9% of the Australian participants. The majority intended to undertake further postgraduate study. All Australian participants working as nurses were currently employed in Australia, 13% of NZ participants were working in Australia. Most participants worked in metropolitan areas (85%) in acute care hospitals (81.1%) in their preferred clinical speciality area (79.4%). Surgical was the most prevalent speciality area (17.8%).

Conclusions
The majority of participants are young, highly mobile, have completed a graduate transition to practice and work in metropolitan areas. Retention of this workforce is essential to meet health care demands and replace the large cohort of older nurses retiring over the next decade.

INTRODUCTION

The nursing workforce is fundamental to the provision of health care and essential for the implementation of the health strategy for the 21st century aimed at improving global health and well-being (International Council of Nurses 2004). However, this workforce is under pressure due to attrition, high turnover, emigration, and lack of resources. Compounding this situation is the international financial crisis which is impacting on national budgets resulting in restructuring to control health spending, which is in itself stressful and can lead to increased workloads for nurses and increasing dissatisfaction with the level of care provided. Policy development and service delivery planning based on evidence is imperative to support nurses, who have considerable options, to continue working in the health sector. Retention of nurses in their country of preparation is also essential, failure to do so will mean countries risk losing the very people needed to work in this challenging environment (Aiken 2002). However, while there is agreement about the challenges facing the workforce overall data related to the decisions, practice experiences and career planning of newly graduated and registered nurses. A number of authors (Buchan et al 2006, O'Brien-Pallas et al 2005) note that this lack of data is a gap in supporting policy and workforce planning.

This paper reports the demographic profile, workforce trajectory and study intentions of the first cohort of newly graduated and registered nurses participating in the Graduate e-cohort Study (GeS). The term newly graduated and registered nurses (NG&RNs) is used throughout this paper to identify this cohort of nurses. Some nursing students graduate but choose not to register as nurses whereas others may be newly registered in one of the countries taking part in this research due to recent immigration rather entering the profession for the first time. These nurses are not included in the cohort.

Literature focused on NG&RNs is limited and must be approached with caution with variations in the definition of 'newly registered', initial nursing qualifications (such as licensed, bachelor or diploma), the country and context, and methodologies. However, several broad themes appear in the literature reporting on this group of nurses consistent with the issues for the wider nursing workforce. The key concern is retention but as Gaynor et al (2006) noted in a review there were no studies located examining new graduate retention. Embedded within this concern are themes related to turnover during the first years of nurses' careers, reasons nurses choose to leave the profession completely and work patterns related to full or part time work.

High turnover rates, particularly of recently registered nurses, can be disruptive and lead to a decrease in the quality of care through lack of continuity and the loss of nurses from an area just when they are developing expertise (North et al 2006; Hayes et al 2005). Several studies have explored the issue of NG&RNs moving or intending to move, from their first position, which for some was due to dissatisfaction with the environment (Bowles and Candela 2005), others relocated because of circumstances outside nursing (Robinson et al 2008). However, these nurses chose to remain in the profession but move to other positions. Criteria suggesting that graduates may stay in nursing, although relocating geographically, included length of time spent in the first job, being less concerned about which specialty they went into after graduation (Robinson et al 2008). While a range of reasons have been identified that influence these nurses' employment choices they are not lost to the health workforce overall.

NG&RNs who choose to leave the profession are of greatest concern and appear to be hard to access for research purposes. Research on early career nurse migration with a cohort of English diploma prepared nurses found the peak age for leaving nursing was identified as 28 years of age (Robinson et al 2008). Similarly, Black and Spetz (2009) reported from a USA study of nurses no longer in nursing, that younger nurses, those aged under 30 years and graduated less than ten years, leave nursing because of concerns about workplace conditions. While workplace issues are of concern for nurses of all ages it appears this is particularly so for those in younger age-brackets who are also likely to be newer to nursing.

Attempts to monitor graduate employment rates have varied considerably yet the collection of consistent data is crucial to identifying national patterns and undertaking international comparisons with the aim of developing policy and implementing strategies to improve retention. In Australia the last two Nursing and Midwifery Labour Force reports from the Australian Institute of Health and Welfare (AIHW 2009; AIHW 2008), have incorporated data on the numbers of nurses graduating from university-based courses. In 2007, 6,683 nurses graduated from Australian universities, 1377 more than in 2003. In NZ in March 2010 there were 1,231 newly graduated nurses admitted to the register (Nursing Council of New Zealand 2010). In NZ data on new graduates' student experience and their career plans once registered has been collected for a number of years by The Nurse Educators in the Tertiary Sector (NETS) group. However, until recently it has not been possible to compare this data due to low response rates in the early years of data collection, and variation in the nature of data collected.

Although a number of longitudinal studies have tracked nursing student retention (for example Deary et al 2003; Harvey et al 1994), none appear to longitudinally track NG&RNs and this lack of longitudinal data has been noted as a major gap in workforce planning (Robinson et al 2008). In response to the need for robust and consistent data on the NG&RN workforce the GeS was established. The aim of this longitudinal, electronic cohort study is to collect annual demographic and workforce data from a cohort of NG&RNs from The University of Queensland (UQ), Australia, Massey University, The University of Auckland (UoA) and AUT University from NZ. This paper presents preliminary data from the initial survey.

METHODOLOGY

The GeS has been added to the existing suite of projects established on the e-cohort web platform www.e-cohort.net, developed by the School of Nursing and Midwifery, UQ. Two longitudinal studies are already established on the web platform: the Nurses and Midwives e-cohort Study (N&MeS) surveying nurses and midwives in Australia, NZ and the United Kingdom (UK), and the Doctors Study surveying medical practitioners in Queensland, Australia. Establishment of the web platform and the N&MeS are discussed in detail elsewhere (Huntington et al 2009; Turner et al 2008).

The initial cohort of NG&RNs completed the first of the annual surveys by logging on to the e-cohort web platform after receiving a written invitation from their nursing school in either hardcopy or through alumni contact. The study received ethical approval from the Human Ethics Committees of all participating universities. The participants have an automatically generated study ID for research purposes. Personal contact information is held in a separate database from the survey responses to ensure confidentiality and anonymity of responses.

The GeS questionnaire consists of 55 items derived from previous workforce research and themes identified in the literature. Demographic data includes age, marital/partnership status, qualifications completed and family responsibilities. Also collected are details of initial registration, place of work, specialty area of practice and type of service, specialty preference and whether the nurse is working in this area along with future intentions related to postgraduate study. The questionnaire is then divided into brief sections for (i) participants in the workforce which focuses on hours, specific roles and place of work; (ii) those employed but not in nursing which asks for reasons and place of work; and (iii) those not in the workforce at all and those not in the workforce and seeking work, and again asks for reasons, length of absence and intention to return. A final open question provides the opportunity for general comments from participants. The questionnaire was piloted by 20 registered nurse members of the research team and their colleagues. Feedback resulted in revisions to the questionnaire in terms of layout and content, and minor difficulties with online registration were rectified.

The data was directly entered by participants on the data base then exported to an Excel spreadsheet. The sample characteristics are presented using descriptive statistics.

FINDINGS

The first survey was completed by 111 graduates out of a total population of 436 (241 graduates UQ, 195 in total from NZ) who had graduated at the end of 2008, a response rate of 25.45%. Both the Australian and NZ samples have a greater proportion of females than the 92.9% in the total NZ nursing workforce (Nursing Council of New Zealand, 2010) and the 90.4% females in the Australian nursing workforce (Australian Institute of Health and Welfare 2009) (See Table 1). The Australian participants mean age was 23.7 years with an age range of 19 to 42 years, 7.8% were 40 or older. The NZ mean age was 25.4 years, the age range 20 to 55 years and 6.7% were 40 and older. There are two international students in the total cohort. In the overall sample 31.8% were married or in de-facto relationships and 16.2% (n=18) of the whole sample provided care to others outside of employment. Thirteen of the 18 participants caring for others stated that family-related responsibilities restricted work choices.

Table 1: Respondent Characteristics

Demographic Details		Percent/ number of NZ sample N=60	Percent/ number of Australian sample N=51	Total Sample N=111
Gender	Female	98.3% (59)	94.1%(48)	96.4%(107)
	Male	1.7 % (1)	5.9% (3)	3.6%(4)
Age	Mean Age	25.4 (60)	23.7 (51)	24.6 (111)
	Median Age	22.5 (60)	21 (51)	22 (111)
University	University of Queensland		100% (51)	45.9%(51)
	Auckland University of Technology	33.3% (20)		18%(20)
	Massey University	40% (24)		21.6%(24)
	University of Auckland	26.7% (16)		14.4%(16)
Country	Australia			45.9%(51)
	New Zealand			54.1% (60)
Year graduated	2008	56.7%(34)	37.3%(19)	47.7% (53)
	2009	43.3%(26)	62.7%(32)	52.3% (58)
Marital status	Single	61.7% (37)	74.5%(38)	68.2%(75)
	Married/De-Facto relationship	36.7% (22)	25.5 (13)	31.8% (35)
Care for dependents outside of employment	Yes	13.3(8)	19.6%(10)	16.2% (18)
	No	86.7%(52)	80.8%(41)	83.8%(93)

Table 2 shows graduate employment characteristics. All NZ graduates were employed as nurses and had completed or were undertaking a graduate transition to practice program. A small group of Australian graduates (7.8 %, n=4) were not employed as nurses but were in health related occupations, one was commencing a nursing job in the near future and the other three wanted to be employed in nursing. In the Australian group, 88.2% (n=45) had completed or were in a transition to practice program while four of the six who were not in a program wanted to undertake this in the future; two were working in areas where programs were not offered. Over half the NZ participants were completing or had completed a postgraduate qualification compared to 5.9% of the Australian participants. The majority of all participants (90%) intended to undertake further postgraduate study.

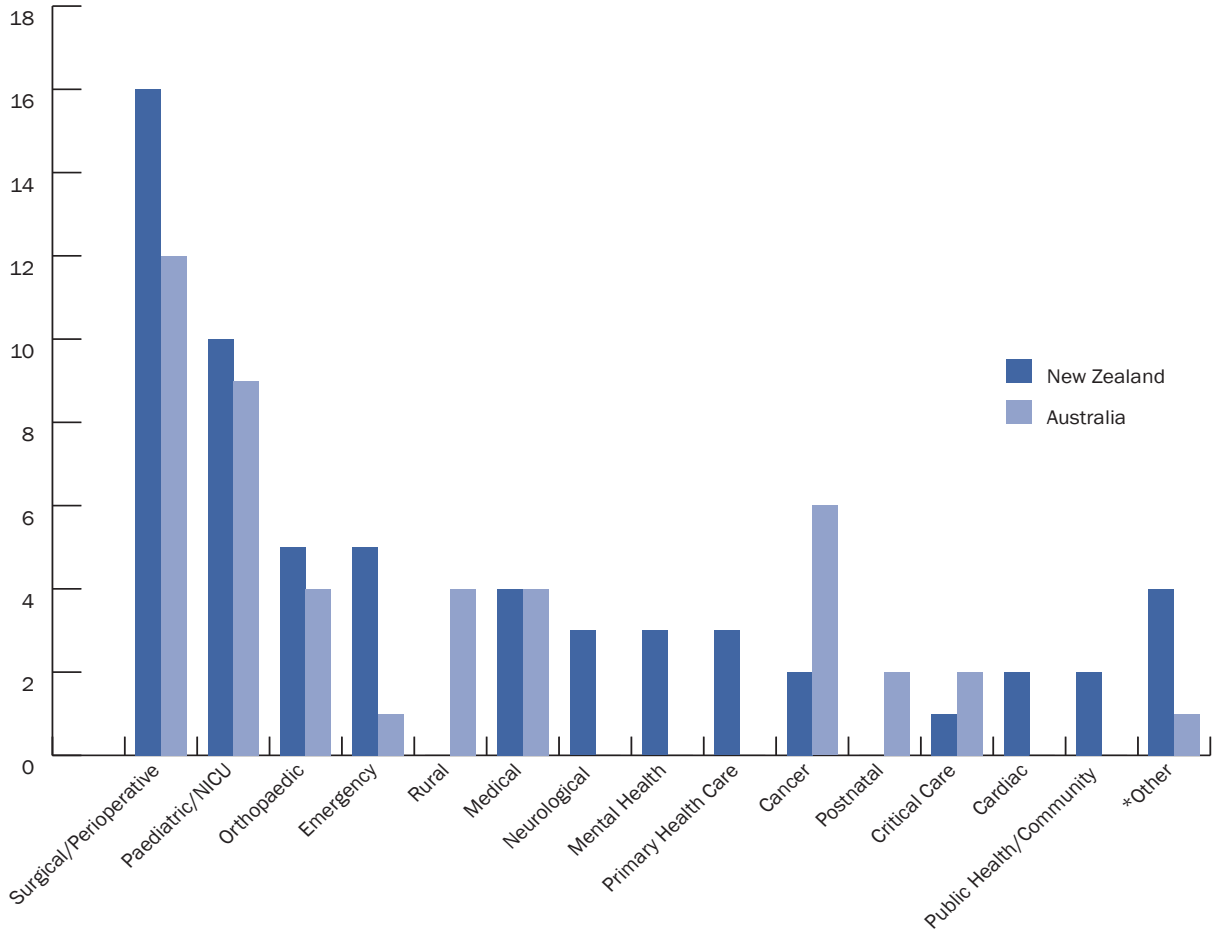
Table 2: Employment

Employment details		Percent/ number of NZ sample N=60	Percent /number of Australian sample N=51	Total Sample N=111
Employed as a nurse	Yes	100%(60)	92.2%(47)	96.4%(107)
	No		7.8%(4)	3.6%(4)
Completed or completing a Graduate Transition Program	Yes	100%(60)	88.2%(45)	94.6%(105)
	No		11.8%(6)	5.4%(6)
Current Postgraduate Study	Yes	51.7%(31)	5.9% (3)	30.6%(34)
	No	48.3%(29)	94.1%(48)	69.4%(77)
Postgraduate study in the future	Yes	90%(54)	90.2%(46)	90.1%(100)
	No	10% (6)	9.8% (5)	9.9%(11)
Employment status	Full-time and permanent	70% (42)	80.9%(38)	74.8%(80)
	Full-time and temporary	11.7% (7)	4.3%(2)	8.4%(9)
	Part-time and permanent	15% (9)	8.5%(4)	12.1%(13)
	Part-time and temporary	3.3 % (2)	2.1% (1)	2.8%(3)
	Casual		4.3% (2)	1.9% (2)
State/ Country employed	Queensland	1.7 % (1)	95.7%(45)	43%(46)
	Victoria	6.7% (4)	2.1%(1)	4.7%(5)
	South Australia	1.7% (1)		.9% (1)
	Western Australia	3.3% (2)	2.1%(1)	2.8%(3)
	New Zealand	86.7%(52)		48.6%(52)
Employment location	Metropolitan	85% (51)	85.1%(40)	85% (91)
	Provincial	11.7% (7)	6.4%(3)	9.3% (10)
	Rural	3.3% (2)	8.5%(4)	5.6% (6)
	Remote			

All the Australian participants working as nurses were currently employed in Australia, 11.8% (n=6) intended to work in the United Kingdom or Ireland in the next 12 months. Thirteen per cent (n=8) of NZ participants were working in Australia and a further 13% (n=8) intended to work overseas in the next 12 months, five in Australia, two in Canada, one in the UK. One NZ respondent working in Australia intended to return to NZ. The majority of the overall sample was in fulltime permanent positions (74.8%). Ten percent (6) of New Zealand participants worked mainly with Indigenous communities, five in NZ, no Australian participants identified as working with Indigenous communities.

In the overall sample most participants worked in metropolitan areas (85%) in acute care hospitals (81.1%) in their preferred clinical speciality (79.4%). Surgical/perioperative was the most prevalent speciality area (17.8%, see fig 1). In NZ where graduates are comprehensively educated to work in mental health settings as well as more general areas only 5% (n=3) of the NZ respondent group were working in mental health, 9.2% of NZ nurses work in this area (Health Workforce Information Programme, 2009). Three NZ participants were employed in primary health areas, this speciality area accounts for 11.2%, of NZ nurses. In the NZ specialities of rehabilitation and aged care which employ 13.8% of the total nursing workforce there was only 1 graduate working in rehabilitation and none had aged care as a speciality though 1 recorded it as a preference.

Figure 1: Clinical Speciality



*Other includes aged care, gastroenterological, haematological, rehabilitation and respiratory nursing

The Australian distribution of specialities followed similar trends with the emphasis on surgical (13.7%) and paediatric (15.7%) nursing. One respondent was working in aged care and four named rural or remote nursing as a speciality area. No graduates were working in mental health or primary health care/general practice nursing specialities.

DISCUSSION

The longitudinal data from this cohort will be significant as the demographic data identify a largely younger cohort with a mean age of 23.7 years for Australian participants and 25.4 years for those from NZ. The majority identify as single with minimal or no responsibilities for caring for dependents. This finding is significant as the group could be highly mobile and more likely to travel to other countries for work and leisure opportunities. This is supported by Zurn and Dumont (2008) who note that a career as a health professional is frequently promoted as a global profession where people can work and see the world. The data supports the concern expressed in NZ about the impact of the mobility of younger graduates as a total of 26% of this subgroup had left or were planning to leave NZ. This was not the case for the Australian subgroup all of whom were employed in Australia at the time of completion of the survey with a smaller percentage planning to travel abroad.

Graduate transition programs appear to be a key initiative in the retention of NG&RNs. In NZ New Entry To Practice (NETP) programs offered by employers such as District Health Boards (DHBs) provide a structured transition to practice. A 2009 evaluation of these programs found they positively influenced choice of workplace

and retention of graduates, and provided appropriate support in the transition from student to registered nurse (Haggerty et al 2009). In the GeS cohort all NZ and 88.2% of Australian participants had completed a graduate transition to practice program.

The present study also highlights the ongoing popularity of particular specialties for graduates such as surgical/perioperative. This may reflect the general attitude amongst nurses that some acute experience in the early stages of their career is useful and desirable, however, of interest is the lack of Australian NG&RNs either working, or planning to work in mental health, community specialties or with the Indigenous communities.

Offering transition to practice programs in specialty areas where it is difficult to attract NG&RNs could improve recruitment and retention. Australian research has shown that the longer nurses stayed and worked in hard-to-staff regions, the more likely they are to continue working in that area (Lea and Cruickshank 2005). The majority of participants in the GeS were employed in metropolitan areas, the provision of quality graduate transition to practice programs could well encourage recruitment of NG&RNs to rural and geographically isolated areas, mental health and other hard-to-staff specialty areas such as age-related residential care and ensure these areas are considered as credible career options. These areas are of increasing importance due to growing health needs related to chronic illness management and an increasing focus on primary health services for physical and mental health management.

The difference between the countries in undertaking postgraduate study in the early years of practice could be explained by the structure of the NZ New Entry to Practice programs. Increasingly the DHBs managing the programs include the requirement to complete a postgraduate paper within the transition year (Haggerty et al 2009). This is seen as formalising the structured learning components required in many transition to practice programs

As with any research there are limitations. As noted the response rate is low which appears to be a feature of electronic data collection as discussed by a number of authors (Ekman and Litton 2007; Turner et al 2007). Use of this method is, however, increasing and recruitment into the subsequent GeS surveys appears to be increasing. Also, the GeS is electronically based and participants need to have access to a computer, be computer literate and have reliable connectivity to the internet. In addition, as this project is longitudinal keeping participants engaged may be challenging, especially considering the high level of geographical mobility of this cohort. However, despite these limitations the GeS has the potential to track participants throughout their professional lives.

CONCLUSION

There is no doubt that the future of the nursing workforce hinges on those nurses currently engaged in, or graduating from, Bachelor of Nursing programs. Data from the first cohort of the GeS have been presented indicating the majority of participants are young, highly mobile, have completed a graduate transition to practice and work in metropolitan areas in surgical/perioperative areas. Retaining NG&RNs is essential to meet health care demands and replace the generation of nurses who will be retiring over the next decade. The current and future cohorts in this longitudinal study will provide robust workforce data that can inform future workforce policy, planning and innovative retention initiatives.

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