

2021

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Kaara Ray B. Calma

Susan McInnes

Elizabeth Halcomb

Anna Williams

Marijka Batterham

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This article was originally published as:

Calma, K. R., McInnes, S., Halcomb, E., Williams, A., & Batterham, M. (2021). Confidence, interest and intentions of final-year nursing students regarding employment in general practice. *Collegian, Early View (Online First)*.

Original article available here:

[10.1016/j.colegn.2021.08.005](https://doi.org/10.1016/j.colegn.2021.08.005)

This article is posted on ResearchOnline@ND at . For more information, please contact researchonline@nd.edu.au.



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This is the accepted manuscript version of an article published as:

Calma, K.R.B., McInnes, S., Halcomb, E., Williams, A., & Batterham, M. (2021). Confidence, interest and intentions of final-year nursing students regarding employment in general practice. *Collegian, Early View (Online First)*. <https://doi.org/10.1016/j.colegn.2021.08.005>

This article has been published in its final form at:

<https://doi.org/10.1016/j.colegn.2021.08.005>



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Contents lists available at ScienceDirect

Collegian

journal homepage: www.elsevier.com/locate/collegian

Confidence, interest and intentions of final-year nursing students regarding employment in general practice

Kaara Ray B. CALMA^{a,*}, Susan McINNES^a, Elizabeth HALCOMB^a, Anna WILLIAMS^b,
Marijka BATTERHAM^c

^a School of Nursing, University of Wollongong, Northfields Ave Wollongong, New South Wales 2522, Australia

^b Health Sciences and Physiotherapy, Nursing & Midwifery and Health Sciences, The University of Notre Dame Australia, Sydney Campus, Sydney New South Wales 2000, Australia

^c National Institute for Applied Statistics Research Australia, School of Mathematics and Applied Statistics, University of Wollongong, Northfields Ave Wollongong New South Wales 2522, Australia

ARTICLE INFO

Article history:

Received 1 July 2021

Revised 10 August 2021

Accepted 10 August 2021

Available online xxx

Keyword:

Primary care
General practice
Undergraduate
Nursing student
Confidence
Interest
Education
Career intention

ABSTRACT

Background: Rising health care burden has increased demand for general practice nurses. Exploring final-year nursing students' perceived levels of confidence, interest and intention to work in this area can inform preparation and recruitment of new graduates into this workforce.

Aim: To explore final-year nursing students' confidence, interest and intention to work in general practice.

Methods: Final-year nursing students from five universities situated in New South Wales, Australia were surveyed between March and June 2019. The survey comprised investigator-developed questions and validated tools adapted for use in general practice.

Findings: Of the 355 included responses, 34.1% respondents had a clinical placement in general practice. Work experience was a significant predictor of confidence in working as a Registered or General Practice Nurse. Being enrolled as an international student, general practice placement experience and high confidence to work in general practice were significant predictors of interest and intention to work in this setting. Analysis showed a strong positive relationship between interest and intention to work in general practice, and a small but positive relationship between confidence and intention to work in general practice.

Discussion: Despite generally positive views around their confidence, interest and intention to work in general practice, some respondents indicated uncertainties around these, and the usefulness of their undergraduate preparation towards PHC employment. This may be attributable to the inconsistent exposure to general practice nursing within Australian undergraduate nursing programs.

Conclusion: Increasing students' theoretical and clinical exposure to general practice enhances confidence and interest to pursue a career in this setting.

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1. Summary of relevance

1.1. Problem or issue

- Despite increased demand for general practice nurses due to rising health care burdens, there has been little focus given to final-year nursing students' perceived preparedness and intention to work in this setting.

1.2. What is already known

- Exposure to PHC nursing during undergraduate education can influence career intentions. To date, Bachelor of Nursing curricula remain acute-care centric.

1.3. What this paper adds

- Universities need to engage with PHC experienced academics with the theoretical and clinical preparation of students to work in general practice as this may enhance students' confidence and interest to pursue a career in this setting.

* Corresponding author at: Northfields Ave, Wollongong, New South Wales 2522, Australia, Tel.: +61 2 4221 3784.

E-mail address: krcb929@uowmail.edu.au (K.R.B. CALMA).

2. Introduction

Internationally, there has been an increased focus on the provision of health care in the community to meet the health needs of an ageing population and growing chronic disease burden (Halcomb *et al.*, 2017). As the world's population dramatically increases in size, many people will experience at least one chronic condition (James *et al.*, 2019). Community-based, primary health care (PHC) services are essential in the early identification and on-going management of chronic conditions (World Health Organization, 2018). These health services include a range of specialist and generalist services, such as women's health clinics, refugee health services and school-based clinics. General practice, also known as family practice or primary care, is a subset of PHC. It is the front-line health service for the diagnosis and management of chronic conditions, as well as for other health needs such as acute injury and illness, infectious disease and preventive health care such as health assessments and vaccinations (Royal Australian College of General Practitioners, 2020).

In Australia, general practitioners predominately own and operate general practices, either as an independent business or within a larger group of corporations (McInnes *et al.*, 2019). General practices are the first point of contact the community has with the health care system and almost 90% of the Australian adult population access general practice services annually (Royal Australian College of General Practitioners, 2020). Nurses comprise the majority of the non-physician workforce in general practice (James *et al.*, 2019). The role of the general practice nurse (GPN) has evolved over the past two decades, moving from a "doctor's assistant" towards a broader scope of practice including preventive health, health assessment, coordination of care and management of both acute and chronic conditions (Halcomb *et al.*, 2017).

The GPN workforce faces challenges with recruitment and retention, attributable to limited career pathways, and an ageing workforce (Halcomb & Ashley, 2017). Indeed in a recent Australian survey of PHC nurses, 48.6% were aged 50 years or over (Halcomb *et al.*, 2020). Currently, nurses primarily enter general practice employment after gaining some nursing experience in a hospital setting (Ashley *et al.*, 2018), with few nurses seeking employment in this area immediately post-graduation (McInnes *et al.*, 2019). To meet the contemporary health demands of the community, there is a need to expand a skilled nursing workforce in general practice. Recruiting new graduate registered nurses (or 'new graduate nurses') into general practice employment is one strategy to build the GPN workforce.

3. Background

There is limited literature which reports undergraduate nursing students' interest in employment in PHC settings, including general practice (Bloomfield *et al.*, 2018; Bloomfield *et al.*, 2015; Calma *et al.*, 2019). The literature indicates that most undergraduate nursing students prefer to work in hospitals following graduation and that PHC settings are not a priority career path immediately following graduation for many graduates (Bloomfield *et al.*, 2015; Matarese *et al.*, 2019). Commonly, undergraduate nursing students express a preference to work in high technology areas such as intensive care and emergency departments (Matarese *et al.*, 2019), maternity and paediatrics (Shen & Xiao, 2012). Nursing students' beliefs around the need to consolidate professional skills in hospitals may be an important contributor to student preferences (Calma *et al.*, 2021; Matarese *et al.*, 2019).

Exposure to PHC nursing during undergraduate education can influence career intentions. Nursing students who value learning about PHC nursing roles within their undergraduate education, tend to be more inclined to seek work in PHC settings

(Bloomfield *et al.*, 2018). However, pervasive negative attitudes exist towards working in PHC (van Iersel *et al.*, 2018a), which may be influencing the numbers of nursing students who intend to seek PHC employment. Some studies have reported that students' perceive PHC as being limited in supporting career development and clinical skill consolidation which are considered important by new graduate nurses (van Iersel *et al.*, 2018a). Furthermore, some undergraduate nursing students perceive PHC as a less exciting career option than high technology areas (van Iersel *et al.*, 2018a), and more appropriate for experienced or older nurses who are nearing retirement (Bloomfield *et al.*, 2015).

Commonly, undergraduate nursing curricula remain predominately acute care focussed (Albutt, Ali & Watson, 2013). PHC content within BN programs tends to differ significantly between universities (Calma *et al.*, 2019; Murray-Parahi *et al.*, 2020). This is particularly concerning given that curriculum focus, insufficient knowledge of the practice area and clinical placement experience are all factors reported to influence nursing students' career choices (Calma *et al.*, 2019; van Iersel *et al.*, 2018a).

Much of the research around career intentions, however, has focused on the broader PHC sector, or community health. To date, there has been little attention given to nursing students' perceptions about confidence, interest and career intentions to work in general practice. Given the growing demands faced by general practice today, it is timely to explore the factors that may be influencing undergraduate nursing students' perceptions of, and intentions to work in general practice. Understanding such factors have the potential to optimise the preparation and recruitment of new graduate nurses in this setting, and thus support the maintenance of a critical workforce.

4. The study

4.1. Aim

This study aimed to explore final-year nursing students' confidence, interest and intention to work in general practice.

4.2. Study design

A cross-sectional, descriptive online survey was conducted between March and June 2019.

4.3. Respondents and recruitment

Nursing students were invited to participate if they were enrolled in the final year of a Bachelor of Nursing (BN) Program in one of five participating universities in New South Wales, Australia. The participating institutions were selected based on having a Nursing School that delivered a Bachelor of Nursing program, being in geographical proximity to the research team, providing a spread of metropolitan, regional and rural areas and willingness of the Nursing School to participate in the research. A contact person from each university was engaged to distribute study information and the link to the online survey (SurveyMonkey) to potential respondents. Invitations to participate were distributed either via a direct email, or promotional material on the targeted School of Nursing e-learning platform. The contact person was prompted to send out three reminders throughout the data collection period. A survey poster was also provided with the second and third reminder to increase response rates.

4.3.1. Data collection

A survey was purposefully designed for the study using both investigator developed questions and existing validated tools to meet the aims of the study. The survey had six sections. The first

two sections explored respondents' personal experiences of general practice and exposure to PHC and general practice within the BN program. The third section explored preparedness to work in general practice, using the 9-item Confidence and Interest in Critical Care Nursing (CICCN-9) tool (Halcomb *et al.*, 2012) modified for use in general practice. The CICCN tool comprises two sub-scales; namely, confidence about working as a Registered / General Practice Nurse (6 items), and interest in seeking employment as a General Practice Nurse (3 items). Each item was rated on a 5-point Likert scale from 'strongly disagree' to 'strongly agree'.

Section 4 comprised the modified 18-item 'Profession Scale' from the Scale on COMMUNITY CARE PERCEPTIONS (SCOPE) tool (van Iersel *et al.*, 2018a). The Profession Scale was used to explore respondents' perceptions of how much of the items provided would be present in the general practice work environment. Items were scored on a 10-point Likert scale, from 1 being 'very little' to 10 being 'a lot'. Respondents were then asked to rate the level of importance of aspects of general practice in their career decisions on a 5-point Likert scale ('not important' to 'very important').

The fifth section included the 14-item Attitudes, Subjective Norms, Perceived Behavioural Control, and Intention to Pursue a Career in Mental Health Nursing (ASPIRE) modified to measure intention to pursue a career in general practice (Wilbourn *et al.*, 2018). Each item was rated on a 7-point Likert scale from 'strongly disagree' to 'strongly agree'. The highest possible score is 98, with a higher ASPIRE score indicating greater intention to work in general practice.

Demographic data, including age, gender, country where majority of pre-University education was completed, Indigenous origin, enrolment status (international or domestic), current place of residence, nursing as a first choice at university, and average grade within the BN program were collected in the final section of the survey.

This paper reports on the confidence, interest and intentions of the respondents to work in general practice resulting from responses to the ASPIRE and CICCN tools. Perceptions of the work environment of general practice measured by the SCOPE tool addresses a distinct research question, and therefore is reported elsewhere.

4.4. Ethical considerations

The conduct of this study was approved by the Human Research Ethics Committee of the University of Wollongong (HREC 2018/556) and reciprocal approval was received from participating universities. Survey data were aggregated for reporting and any identifying material was removed before analysis.

4.5. Data analysis

Data were imported from SurveyMonkey (San Mateo, CA.) into SPSS version 25.0 (IBM analytics) for analysis. Data were cleaned and checked for accuracy of importing. Descriptive statistics were used to summarise the data and inferential statistics were used to explore the differences between groups (Field, 2018). A multiple regression analysis was undertaken to determine which variables predicted the outcomes from the sub-scales of the CICCN, and ASPIRE scores (Table 3), which indicated confidence, interest and intention to work in general practice respectively. Predictor variables were dichotomised for the regression analysis. These variables were age (Mean=28.35), place of residence (Urban/Rural), enrolment status (International/Domestic), exposure to general practice nursing within BN (Yes/No), work experience in general practice (Yes/No), clinical placement in general practice (Yes/No), and received care from a GPN currently or in the past (Yes/No). Pearson's correlation coefficient was used to measure the strength of

relationships between confidence, interest and intention scores. A p -value of <0.05 was considered statistically significant.

4.6. Validity and reliability

High internal consistency was reported for both modified tools with Cronbach's alpha ($\alpha=0.900$ for the ASPIRE, $\alpha=0.84$ for the total CICCN, $\alpha=0.86$ for the 'Confidence' subscale, and $\alpha=0.78$ for the 'Interest in seeking employment' subscale (Halcomb *et al.*, 2012; Wilbourn *et al.*, 2018). This reflects good internal consistency for both tools.

Face validity of the survey was established through a review of the survey tool. The survey was reviewed by three nurse academics with experience in PHC research and teaching, and four nurses who had recently graduated from a BN Program. Feedback from both groups were used to revise the survey wording for ease of comprehension and flow prior to final dissemination.

5. Results

5.1. Respondent characteristics

While 494 responses were received, 106 (21.5%) respondents completed less than 50% of the survey and 33 (6.7%) respondents provided no demographic information. Following removal of these data, a total of 355 responses (71.9%) were included in the analysis. As the response denominator was not known, it was not possible to calculate a response rate.

Most respondents identified as female ($n=329$, 92.7%), with a mean age of 28 years (Range 18-58 years) (Table 1). Many respondents reported living in an urban area ($n=247$, 69.6%). Two-thirds ($n=232$, 65.4%) of respondents completed most of their pre-University education in Australia and nearly three quarters were enrolled as a domestic student ($n=265$; 74.6%).

5.2. University exposure to primary health care and general practice

Most respondents reported being exposed to PHC content in the first ($n=251$, 70.7%) and second-year ($n=187$, 52.7%), with only 39.7% ($n=141$) of respondents exposed to PHC content in their final year of undergraduate study. Just under half of the respondents ($n=177$, 49.9%), reported having a clinical placement in PHC sometime during their degree.

Nearly two thirds of respondents ($n=218$, $n=61.4\%$) were exposed to content specifically related to general practice nursing during their undergraduate study. However, only 34.1% ($n=121$) described completing a clinical placement in general practice during their course. Despite this, 62.8% of the respondents ($n=223$) agreed or strongly agreed that new graduate nurses should be employed in general practice.

5.3. Personal exposure to general practice

Almost half of the respondents ($n=162$, 45.6%) described having a family member or close friend working as a GPN, and 10.1% ($n=36$) had a family member or close friend working as a GP. Some 58.9% of the respondents ($n=209$) recounted having received care from a GPN. Only 4.5% ($n=16$) of the respondents stated that they had not attended a general practice in the last 12 months.

5.4. Confidence and interest to work in general practice

Confidence and interest to work in general practice were measured using the modified CICCN tool (Halcomb *et al.*, 2012). Means for both subscales reflect a generally positive effect. The subsections below report on the two subscales separately, and explore predictive characteristics.

Table 1
Demographic characteristics.

Characteristic	n	%
Age Range 18-58; Mean 28.35; SD 8.2		
≤ 20 years	45	12.7
21-30	200	56.3
31-40 years	74	20.8
41-50 years	30	8.5
51-60 years	6	1.7
Gender		
Female	329	92.7
Male	26	7.3
Aboriginal or Torres Strait Islander origin		
No	348	98.0
Yes – Aboriginal or Torres Strait Islander	7	2.0
Current place of residence		
Metropolitan centre	247	69.6
Rural area	94	26.5
Remote area	14	3.9
Country where majority of pre-university was completed		
Australia	232	65.4
Nepal	43	12.1
India	22	6.2
China	14	3.9
Other	44	12.4
Enrolment status		
Domestic	265	74.6
International	88	24.8
Missing	2	0.6
Employment in health		
Assistant in Nursing/Support Worker/Carer	211	59.4
Never worked in health	72	20.3
Enrolled Nurse	42	11.8
Administration assistant / Receptionist	9	2.5
Wardsperson	2	0.6
Other health related roles	19	5.4
Work experience in general practice		
Previous GP Work	177	49.9
No Previous GP Work	178	50.1
Nursing first choice at university		
Yes	285	80.3
No	70	19.7

5.4.1. Confidence to work in general practice

Many respondents agreed or strongly agreed that they would have sufficient knowledge (n=243, 68.5%) and clinical skills (n=234, 65.9%) to be a competent beginning nurse in general practice (Table 2). Some 54.4% (n=193) of respondents agreed or strongly agreed that their undergraduate studies prepared them to work in general practice. Less than half of the respondents reported that the PHC subject / unit in their BN program increased their knowledge (n=159, 44.8%) and clinical skills (n=146, 41.1%) related to general practice nursing. Similarly, 47% (n=167) of respondents agreed or strongly agreed that the PHC content within their BN program increased their confidence to work in general practice nursing.

Respondents who had work experience in general practice (Mean = 21.76, Unstandardised $\beta = 1.291, p = 0.019$) were more confident about working as a Registered / General Practice Nurse than those who did not (Table 3). Other demographic factors including age, place of residence, enrolment status, exposure to general practice nursing within the BN degree, clinical placement in general practice, and care received from a GPN were not significant predictors of confidence to work in general practice.

5.5. Interest in working in general practice

One hundred and fifty-five respondents (43.6%) reported interest in seeking employment in general practice immediately fol-

Table 2
Confidence and interest to work in general practice.

	SD/D ^a		Neutral		A/SA ^a		Mean (SD)
	n	%	n	%	n	%	
Component 1: Confidence about working as a Registered or General Practice Nurse							
I feel that I will have sufficient knowledge when I graduate to perform as a competent beginning Registered Nurse	25	7.0	87	24.5	243	68.5	3.79(0.92)
I feel that I will have sufficient clinical skills when I graduate to perform as a competent beginning RN	34	9.6	87	24.5	234	65.9	3.69(0.97)
I feel my undergraduate nursing studies have prepared me to enter general practice	55	15.5	107	30.1	193	54.4	3.48(1.01)
PHC subject / unit increased my confidence to work in general practice	64	18	124	34.9	167	47.0	3.35(0.99)
PHC subject / unit gave me sufficient knowledge to work in general practice	58	16.4	138	38.9	159	44.8	3.34(0.94)
PHC subject / unit gave me sufficient clinical skills to work in general practice	76	21.4	133	37.5	146	41.1	3.22(1.00)
Component 2: Interest in seeking employment as a General Practice Nurse							
I am interested in seeking employment in general practice after I have had some clinical experience as an RN	52	14.6	98	27.6	205	57.7	3.59(1.09)
PHC subject / unit increased my interest in general practice	65	18.3	128	36.1	162	45.6	3.36(1.02)
I am interested in seeking employment in general practice after graduation	83	23.3	117	33	155	43.6	3.30(1.13)

^a SD= Strongly Disagree, D=Disagree, A=Agree, SA=Strongly Agree

Table 3
Characteristics and experience as predictors of confidence, interest and intention to work in general practice.

Variable	Confidence to work in GP			Interest to work in GP			Intention to work in GP		
	Unstandardized β (95% CI)	t	p	Unstandardized β (95% CI)	t	p	Unstandardized β (95% CI)	t	p
Age	0.292(-0.71-1.30)	0.571	0.568	0.177(-0.33-0.69)	0.684	0.494	-1.145(-3.79-1.50)	-0.852	0.395
Place of residence	-0.660(-1.72-0.40)	-1.221	0.223	-0.022(-0.56-0.52)	-0.082	0.935	-1.405(-4.21-1.40)	-0.986	0.325
Enrolment status (International / Domestic)	0.164(-1.04-1.36)	0.268	0.789	0.855(0.25-1.46)	2.768	0.006 ^a	6.190(3.03-9.35)	3.856	0.000 ^a
Exposure to general practice nursing within BN	0.722(-0.44-1.88)	1.223	0.222	0.047(-0.54-0.64)	0.157	0.875	1.145(-1.92-4.21)	0.735	0.463
Work experience in general practice	1.291(0.21-2.37)	2.353	0.019 ^a	0.024(-0.53-0.58)	0.087	0.930	0.088(-2.77-2.95)	0.060	0.952
Clinical placement in general practice	0.705(-0.55-1.96)	1.108	0.268	0.710(0.08-1.35)	2.203	0.028 ^a	4.173(0.88-7.47)	2.490	0.013 ^a
Received care from a GPN currently or in the past	-0.046(-1.06-0.96)	-0.089	0.929	-0.136(-0.65-0.38)	-0.522	0.602	2.189(-0.47-4.85)	1.620	0.106
Confidence to work in general practice				0.310(0.26-0.36)	11.381	0.000 ^a	1.153(0.88-1.43)	8.143	0.000 ^a

^a indicates significance

lowing graduation. Some 57.7% (n=205) agreed or strongly agreed that they were interested to work in general practice after gaining clinical experience (Table 2). Less than half (n=162, 45.6%) of the respondents reported that their undergraduate program increased their interest in general practice nursing.

Students who had experienced a clinical placement in general practice during their BN program (Mean=11.12, Unstandardised $\beta=0.710$, $p=0.028$) and those enrolled as an international student (Mean=11.17, Unstandardised $\beta=0.855$, $p=0.006$) were significantly more likely to be interested in working in general practice following graduation. Students who also had a higher confidence score (Unstandardised $\beta=0.310$, $p=0.000$) had a statistically significant higher mean interest score for working in general practice following graduation. Age, place of residence, exposure to general practice nursing within the BN program, work experience in general practice and care received from a GPN were not significant predictors of interest to work in general practice.

5.6. Intention to work in general practice

The mean total ASPIRE score, which indicated respondents' intention to work in general practice, was 64.79 (SD=13.80, Range: 19-98). The responses to the ASPIRE tool are summarised in a supplementary table (Supplementary Table S1).

Significant predictors of intent to work in general practice were university enrolment on an international visa (Mean=70.33, Unstandardised $\beta=6.190$, $p=0.000$), clinical placement experience in general practice during the BN program (Mean=69.10, Unstandardised $\beta=4.173$, $p=0.013$), and confidence to work in general practice (Unstandardised $\beta=1.153$, $p=0.000$). Age, place of residence, exposure to general practice nursing within the BN program, work experience in general practice and care received from a GPN were not significant predictors of intention to work in general practice.

5.7. Relationship between confidence, interest and intention to work in general practice

Using Pearson's correlation coefficient there was a strong positive relationship between interest and intention to work in general practice ($r=0.722$, $p<0.01$). Analysis also showed a positive relationship between confidence and intention to work in general practice, with small effect ($r=0.428$, $p<0.01$).

6. Discussion

This study used a quantitative approach to explore the confidence, interest and intention of final-year nursing students regarding employment in general practice. As such, it fills a gap in the literature regarding understanding the factors that encourage or discourage nursing students to seek employment in general practice following graduation. Gaining a better understanding of the factors that influence nursing students' confidence and perceptions of working in general practice can help inform universities and academics in the preparation of nursing students to work in such areas following graduation.

Findings indicate that respondents had generally positive views around their confidence and interest to work in general practice. Such favourable views are in contrast with previous literature reporting nursing students' understanding and competence around PHC nurse roles. In their study, McInnes et al. (2015a) reported that the nursing students they interviewed did not understand the role or feel confident about general practice nursing, particularly before commencing their clinical placements in this setting. Previous literature have also evidenced nursing students' negative perceptions of PHC (Cooper et al., 2014; van Iersel et al., 2018a), and their lack of interest to work in this setting (Bloomfield et al., 2018;

Bloomfield *et al.*, 2015). The more positive findings seen in this study highlights a shift among nursing students towards seeing general practice nursing as a potential employment opportunity. Given confidence to work in general practice influence intention to work in this setting, future research need to explore strategies to improve nursing students' confidence and preparedness for general practice employment.

Despite predominately positive responses around confidence and interest to work in general practice, a considerable number of respondents indicated uncertainty around perceived confidence, knowledge and clinical skills to work as a GPN. The variations in perceived preparedness, as well as interest to work in general practice is likely influenced by personal exposure to this setting (McInnes *et al.*, 2015a), or the opinion of others (van Iersel *et al.*, 2018b). Uncertainties were also apparent when respondents were asked whether PHC subjects/units increased their overall preparedness and interest to work in general practice. This may be indicative of inconsistent and sometimes inadequate delivery of PHC content within BN programs (Calma *et al.*, 2019; Murray-Parahi *et al.*, 2020). As such, undergraduate nursing students frequently consider PHC content as the least relevant component of the BN program (Cooper *et al.*, 2014). Gaps in undergraduate nursing students' knowledge, and inconsistencies in PHC content within an acute care focussed curricula contribute to nursing students' low intention to seek PHC employment. Universities have a significant role in ensuring undergraduate nursing students are supported to make informed career choices. One way for universities to achieve this role is to provide theoretical and clinical placement opportunities that reflect the realities of nursing roles in PHC, such as in general practice nursing (van Iersel *et al.*, 2018a), delivered by experienced nurse academics.

Only a third of respondents reported experiencing a clinical placement in general practice during their BN program. Contemporary literature reports that most undergraduate nursing students spend the majority of their clinical placements in hospital settings (Bjørk *et al.*, 2014). In this study, clinical placement experience within the BN program was a significant predictor to respondents' interest to work in general practice. Indeed, clinical placement experiences enable students' socialisation to the setting and the role, which can ultimately shape career interest (Hunt *et al.*, 2020). However, there has been a shortage of clinical placements in community settings such as general practice. The small size of general practices means that they often can only accommodate limited numbers of nursing students at any one time which is problematic in the large nursing cohorts seen in Australian universities (Halcomb, Peters & McInnes, 2012; McInnes *et al.*, 2015b). Future research needs to explore models of clinical placement and associated funding to enhance placement opportunities in this setting.

Despite increasing interest, our study found that clinical placement experience during the BN program was not a significant predictor of student confidence to work in general practice. This finding conflicts with literature reporting that levels of self-confidence and competence in a particular setting increase following clinical placement experience (McInnes *et al.*, 2015a). It is important to note that most of the respondents in this study were exposed to PHC content in the first year of their degree, with fewer students exposed to PHC in the latter part of their BN program. The timing of students' theoretical and clinical exposure to PHC may be a factor influencing their confidence to work in this setting, as they potentially perceive that the GPN's role was beyond their scope of practice early in their degree.

Clinical placements in the final year have the most significant impact on nursing students' career choices immediately following graduation (Wareing *et al.*, 2017). This is attributable to the fact

that undergraduate nursing students' scope of practice is generally at its most advanced in their final year, and students are able to exercise a wider range of skills that may reflect the nurse's role better. GPNs practice with a unique level of self-direction within the multidisciplinary team, such as when managing and coordinating care for people living with multiple chronic conditions (Halcomb *et al.*, 2017), providing disease-specific health education and engaging in the complex process of eliciting behaviour change in patients (James *et al.*, 2019). Given the diverse scope of the GPN role, it is worthwhile noting the importance of timing as a factor that may be influencing students' experiences of their clinical placement, and hence its influence on their perceived confidence to work as new graduate nurses. Given universities have an important role in building health workforce in areas of shortage, further research is needed in considering strategic timing of clinical placements to ensure graduate nurses are prepared for diverse clinical settings. Careful consideration is needed in terms of clinical placement timing since clinical placement choices are often based on experiences in the earlier parts of the BN program. Increasing exposure to general practice later in the program may allow students to better consolidate skills and practice with greater autonomy, thereby gaining a more realistic 'work' experience of the GPN role and hence building confidence to work in this setting following graduation.

The third main finding revealed that international nursing students were significantly more likely to be interested in seeking employment in general practice following graduation than domestic students. Given international participants in this study have come from different countries, the diversity in their own country's health systems may have influenced their understanding of, and the value placed on PHC. Additionally, many international nursing students face challenges transitioning into clinical roles due to poor communication skills, limited English language proficiency, and lack of self-confidence (John McKitterick *et al.*, 2021b). Some international nursing students also report experiencing isolation and discrimination from their peers (John McKitterick *et al.*, 2021a) and nurses on clinical placement (Robinson, 2018), which may make them feel less inclined to seek work in the 'larger' teams often found in hospital settings. Job security is also a priority for many nursing students regardless of cultural orientation (McInnes *et al.*, 2015a). However, many international nursing students pursue a nursing degree due to perceptions it will provide them with a stable, good-paying job following graduation (Vardaman & Mastel-Smith, 2016). For international nursing students who prioritise job security, the fear of not securing a job immediately following graduation may influence career decision making. The predominately hospital-based 'transition to professional practice' (TPP) programs in Australia, are made even more competitive for international students as programs prioritise domestic applicants. Further research is needed to explore the factors shaping international nursing students' interest and intention to seek employment in PHC settings such as general practice. Universities are well positioned to ensure these students are well supported and prepared to work in general practice should they pursue this career pathway.

6.1. Limitations

This study has some limitations. While respondents were from five different universities situated in New South Wales, Australia, nursing students from other locations may possess variable perceptions. Survey respondents were more likely to have clear perceptions of general practice than non-respondents. Additionally, the quantitative nature of the data collection did not allow responses to be explored. The qualitative component of this study sought to further develop this understanding.

7. Conclusions and implications

Findings demonstrate that respondents had generally positive views around their confidence, interest and intention to work in general practice. However, some students remained uncertain around this area of work and the usefulness of their undergraduate preparation. This may be attributable to the inconsistent and/or lack of exposure to general practice nursing within the BN program. This emphasises the need for universities to ensure undergraduate nursing students are being exposed to general practice nursing during their undergraduate education, involving both theoretical content and clinical placement exposure, and are able to build clinical skills and confidence in this setting throughout the course of their degree. Academics have an important role in expanding students' understandings of community-based nurse roles, which in turn can motivate students to pursue careers in diverse clinical settings.

Criteria	Author Initials
Made substantial contributions to conception and design, acquisition of data, and analysis and interpretation of data	KC, SM, EH, AW, MB
Involved in drafting the manuscript or revising it critically for important intellectual content	KC, SM, EH, AW, MB
Given final approval of the version to be published. Each author has participated sufficiently in the work to take public responsibility for appropriate portions of the content	KC, SM, EH, AW, MB
Agreed to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.	KC, SM, EH, AW, MB

8. CRediT (Contributor Roles Taxonomy) statement

Authors KC, EH, and AW were involved in the development of the survey questionnaire. All authors (KC, SM, EH, AW MB) contributed to the following:

- Made substantial contributions to conception and design, acquisition of data, and analysis and interpretation of data.
- Involved in drafting the manuscript or revising it critically for important intellectual content.
- Given final approval of the version to be published. Each author has participated sufficiently in the work to take public responsibility for appropriate portions of the content.
- Agreed to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

Ethical statement

As stated in the manuscript, the conduct of this study was approved by the Human Research Ethics Committee of the University of Wollongong (HREC 2018/556) and reciprocal approval was received from participating universities (blinded in manuscript for review). Survey data were aggregated for reporting and any identifying material was removed before analysis.

Conflict of interest

The author(s) of this paper, 'Confidence, interest and intentions final-year nursing students regarding employment in general practice', have declared no conflicts of interest.

Funding

This study was funded by an Australian Government, Australian Postgraduate Scholarship.

Acknowledgements

The authors would like to thank the final-year undergraduate nursing students who participated in this study, and their universities for their assistance during the recruitment process. We also thank Dr. Moira Stephens for her contribution to the conception of this study, and in the development of the survey tool.

Supplementary materials

Supplementary material associated with this article can be found, in the online version, at doi:[10.1016/j.colegn.2021.08.005](https://doi.org/10.1016/j.colegn.2021.08.005).

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