



Primary health care content in Australian undergraduate nursing curricula



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ARTICLE INFO

Article history:

Received 21 December 2017

Received in revised form 1 July 2019

Accepted 28 August 2019

Keywords:

Community nurse
Primary health care
Primary care
New graduate
Registered nurse
Curricula
Undergraduate
Baccalaureate
Registered nurse
Preregistration
Pre-licensure
Content analysis
Preparation for practice

ABSTRACT

The importance of primary health care PHC is receiving increasing attention. The demand for skilled workers is due to an increased emphasis on community-based care but until recent times pre-registration preparation for nurses, including clinical placements, have focussed on acute care specialties.

Aim: To systematically review, measure and describe the PHC content in the undergraduate nursing curriculum in Australian schools of nursing over time.

Methods: A cross-sectional study of all Australian universities offering undergraduate (pre-registration) baccalaureate degrees was undertaken in February 2017. Curriculum artifacts were retrieved from university websites. A terminology matrix guided retrieval of PHC content.

Findings: All 29 universities offering pre-registration undergraduate nursing degrees in Australia were included in this study. While most universities cite PHC principals as core values underpinning their undergraduate curriculum, only 12 (<2%) of the 694 subject titles had obvious or manifest "primary health care" content and these were mainly offered in 1st and 3rd year. Subject outlines tended to demonstrate more explicit content than subject titles.

Discussion: This study confirms ambiguity in PHC interpretation and nomenclature, and opportunities for undergraduate preparation for nursing roles in the home setting is limited. Prospective undergraduate nurses seeking careers in PHC might be deterred by a lack of manifest PHC content in the public domain, which may or may not accurately represent the actual content provided.

Conclusion: The predominance of acute episodic care in both curricula and clinical experiences potentially diminishes the importance of PHC. This study offers some direction for education providers and policymakers wishing to attract and prepare next generation nurses for roles in PHC.

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Summary of Relevance

Problem or Issue

Despite the increasing demand for a skilled and sustainable nursing workforce in the primary health care (PHC) setting, little is known about the academic preparation of future nurses for roles beyond the acute care setting.

What is Already Known

Undergraduate nurses have limited clinical exposure in the curricula to nursing roles in the PHC setting and as a consequence their career preferences tend to favour familiar acute care roles and settings.

What this Paper Adds

This study has assessed the PHC content of undergraduate nursing curricula in Australia and identified opportunities to be responsive to an increasing need. Empirical and systematic investigation of curriculum content allows the potential to align pedagogical approaches with national health priorities and contemporary health issues.

1. Introduction

1.1. Background

The increasing burden of chronic conditions, aging of the population and the rising costs of health care have increased the focus on primary health care (PHC) in health care policy (Rudoler, Peckham, Grudniewicz, & Marchildon, 2019). First espoused in Alma Ata, Russia as 10 declarative statements, the concept of PHC proposed a holistic global vision describing the importance of considering the social, political and economic characteristics of communities in realising the vision of health for all was critically important (World Health Organization, 1978). Core PHC principals include universal health coverage, social determinants of health, person-centred care, health equity and access to integrated health services (World Health Organization, 2003, 2008). As a significant distinction, PHC is not just about health services, but rather a whole-of-society approach to health (World Health Organization, 2008).

Meeting the health care needs of local communities, not only requires a focus on PHC, but also the integration of specialist care and other health sectors including acute care, aged care, refugee and Indigenous health services (Joshi et al., 2013). When comprehensively enacted, PHC is the most effective, efficient and equitable approach to enhance health and is necessary in achieving universal health coverage (White, 2015). However, comprehensive enactment of PHC is more likely to occur within a wellness, rather than a biomedical model and by bringing care as close as possible to where people live and work (Australian Nurses Federation, 2009).

Forty years after Alma Ata, PHC is reportedly in crisis and the vision unrealised because the focus of health care has been on individual diseases rather than the whole person and community (The Lancet, 2018). Over time, 'primary health care' and 'primary care' terminology have been used interchangeably in the research literature and an overlapping of some PHC services also resulted in a blurring of nursing roles and nomenclature (Keleher, 2001; Keleher et al., 2007; Henderson, Koehne, Verrall, Gebbie, & Fuller, 2014; Murray-Parahi, DiGiacomo, Jackson, & Davidson, 2016).

More recently, the Astana Declaration seeks to renew the global commitment to people-centred care and the integration of PHC in hospitals and community settings (Chokshi & Cohen, 2018). However, achieving these aims requires investment in education, training, recruitment, development, motivation and retention of the PHC workforce (World Health Organization, 2018). Nurses globally represent the largest occupational group which includes health workforce professionals (World Health Organization, 2017b), and are in a unique position to provide PHC (Carrier, Halcomb, &

Davidson, 2015). Nurses working in the community setting are collectively referred to as the PHC nursing workforce (Department of Health, 2016), but are known by various nomenclature globally. The two largest nursing groups in Australia are community nurses and practice nurses (Department of Health, 2016). Although the Australian National Primary Health Care Strategic Framework outlines a comprehensive view of PHC extending beyond the 'general practice' focus of traditional Australian Government responsibility (Department of Health & Ageing, 2013), PHC workforce planning has tended to focus on general practice (Heywood & Laurence, 2018).

Despite a rapid and incentivised growth in practice nurse numbers of 64% between 2007 and 2015 (Heywood & Laurence, 2018), community health nurses still account for a significant proportion of the PHC nursing workforce (Department of Health, 2016; Health Workforce Australia, 2014). The majority of community nurses work in the public sector and practice nurses, who are employed in general practices, work within the private sector. They both perform a wide range of skills in nurse-led and facility-based clinics and practice PHC to varying degrees in their respective roles, although community nursing roles are most notably differentiated by providing care in the home setting (Björnsdóttir, 2014).

There is a gap in the research literature about the preparation and professional transition of next generation (undergraduate or new graduate) nurses for PHC roles in the home setting (Murray-Parahi et al., 2016). Although compared to the acute care setting there is generally less PHC nursing research overall (Keleher et al., 2007; Murray-Parahi et al., 2016), transition research about community-based nursing roles, like PHC workforce development, has tended to focus on general practice (Heywood & Laurence, 2018). Research refers to new graduate experiences in general practice facilities (Thomas, Bloomfield, Gordon, & Aggar, 2018) and the transition of experienced (acute care) nurses in general practice or community-based nursing roles (Ashley, Brown, Halcomb, & Peters, 2018), rather than nursing in the home. Transition experiences or the significance of transition to nursing roles specifically occurring in the home setting, have received minimal attention (Murray-Parahi et al., 2016).

Preparing the next generation of nurses for PHC, particularly in roles or settings which are not widely understood, underreported or where there has been limited pre-registration clinical exposure, has implications for both the supply and practice readiness of the future PHC nursing workforce (Brown, 2018; Scully, 2011). While these issues continue to be topics of debate even in familiar and relatively well-researched acute care settings (El Haddad, Moxham, & Broadbent, 2017), they are under researched and therefore unfamiliar clinical settings are particularly daunting for students and new professionals who possess beginning skill sets (Phillips, Kenny, & Esterman, 2017).

As populations age, disease burden grows and the health system continues to shift care from the hospital to the community, increasing demand for services in the primary health care setting seems inevitable. Older people with frailty, who are high users of services in the community setting (Sadler et al., 2018), often require home nursing when no longer able to access facility-based services (Murray-Parahi, Edgar, Descallar, Comino, & Johnson, 2017).

Compared with acute care and even facility-based placements in the community, there are unique challenges in the clinical supervision of undergraduates for nursing roles in the home setting (Bos, Löfmark, & Törnkvist, 2009). Community nursing tends to use individual supervision models (Bos, Alinaghizadeh, Saarikoski, & Kaila, 2012) and opportunities for undergraduate nurses to experience authentic community nursing roles are limited (Byfield, East, & Conway, 2019; Peters, McInnes, & Halcomb, 2015; van Iersel,

Latour, de Vos, Kirschner, & Scholte op Reimer, 2016). Increasing demand for services, greater role complexity and the added responsibility for supporting the educational needs of pre-registration nursing students have increased the workload of community nurses (Kenyon & Peckover, 2008; Strandås, Wackerhausen, & Bondas, 2019).

Only one Australian study has examined the preparation of nurses for PHC roles (Keleher, Parker, & Francis, 2010). Using a content analysis approach, the researchers examined online undergraduate nursing curricula documents for PHC content and found the preparation of nurses for PHC roles was limited and patchy (Keleher, Parker, & Francis, 2010). A systematic review of curricula studies in the United Kingdom (UK) by Roxburgh et al. (2008) reported five major curricula changes in Scotland since 1980 were either driven by new ideas in teaching and learning or changes in the delivery of health care (similar to Australia's shift in care). However, only two of the studies they examined used content analysis and neither examined PHC content.

2. Study aims

The aim of this study was to systematically review, measure, and describe PHC content in Australian nursing school curricula and the point where this occurred in the undergraduate degree. The following research questions guided the study,

- 1 How are next generation nurses prepared for PHC roles, including nursing roles enacted in the home setting?
- 2 How much PHC content is offered in the undergraduate nursing curriculum in Australian Nursing Schools?
- 3 At what stage, or in what year of the nursing degree is PHC content offered?

3. Methods

3.1. Setting, sample & sample size

At the time of data collection in February 2017, there were 34 Australian universities offering nursing degrees. During that time, 29 universities offered *pre-registration* undergraduate nursing degree courses and all were included in this study.

It should be noted, the term 'pre-registration' was also applied to 'accelerated' courses by some universities. 'Accelerated' courses are designed to meet registration requirements and demands of students wishing to fast track or complete their nursing degree earlier. There were two variations of accelerated undergraduate nursing courses. The first offered enrolled nurses and overseas-trained nurses seeking registration in Australia, exemption from certain subjects through recognition of prior learning. This essentially provided a shorter course. The second option also allowed students to undertake an accelerated program but with a full complement of subjects compressed into two instead of three (or four) years. Successful completion of either study pathway ultimately led to professional registration, but in the context of our study, 'pre-registration' referred to a complete or comprehensive undergraduate degree with a full complement of subjects leading to nursing registration. Complete degrees were offered over 6 semesters (or trimesters) of full time (or part time) equivalent study over 2, 3 or 4 years in one instance.

3.2. Inclusion & exclusion criteria

Australian universities offering single, pre-registration, undergraduate nursing degrees were included in the study. Universities offering only postgraduate entry, double degrees or 'abridged'

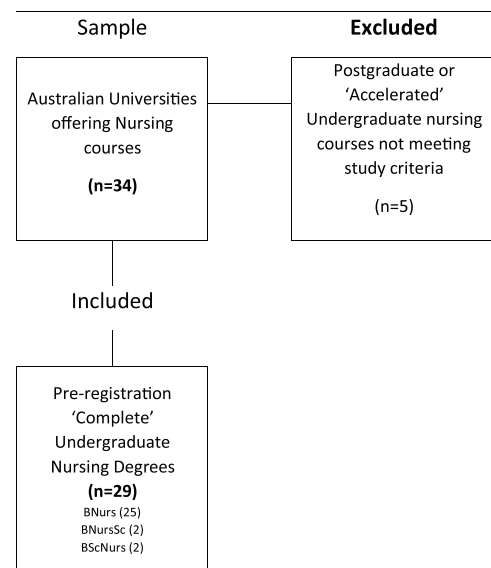


Fig. 1. Flow diagram - Sample [inclusion and exclusions].

undergraduate degrees (n=5) were excluded (See Fig. 1). One undergraduate degree was reported on the university website as a four-year degree with a postgraduate component. However, the postgraduate subjects (offered in either semester of the fourth year) were also identified as prerequisites for the qualification of registered nurse and therefore included in the sample.

3.3. Study design

Educational research allows for the adoption of prospective and systematic methods to address educational challenges and facilitates a systematic reflection of educational activities (McKenney & Reeves, 2019). For this project, a content analysis approach was used to systematically identify, collect, code, measure and analyse data (Downe-Wamboldt, 1992) extracted from curriculum documents sourced from respective university websites in Australia. Content analysis may use both qualitative and quantitative methodologies to determine the meaning or frequency of phenomena (White & Marsh, 2006). This method is particularly well suited to research involving the practice and education of nurses and other helping professionals (Downe-Wamboldt, 1992).

3.4. Data

Sources of data were nursing curricula documents that were publicly available on the websites of universities. These were freely accessible through respective university nursing schools, and likely sourced by prospective undergraduate students. Curricula documents, also referred to as artefacts or curriculum artefacts, were any online materials containing details about the course and structure such as, aims and objectives, course unit or subject outline, clinical practicum, delivery options and prospectus (where available). Using this method, we were able to identify where and at what stage (or year) of the degree PHC content was located in the undergraduate nursing curricula of Australian nursing schools.

3.5. Framework and data extraction

Before undertaking a comprehensive search for curriculum artefacts through individual university websites, we developed a sampling framework. This initially included searching the Universities Australia website for the contact details of all Australian

universities offering nursing degrees. Uniform Resource Locator (URL) links from all universities in Australia with nursing schools where data were retrieved, was acquired through the Universities Australia website and confirmed all the corresponding websites. The Google search engine was used to locate national and local nursing organisation websites where numerous links to undergraduate nursing courses were found. A search of these sites revealed no new results, confirming all relevant universities had been included.

The procedure for extracting data from websites was as follows:

- 1 A list of universities offering nurses degrees were identified and drawn from Universities Australia. Information provided by Universities Australia included a detailed list of all Australian universities including URL links to homepages.
- 2 A sampling framework was developed to extract data from university websites. Each link was confirmed with corresponding universities and checked for nursing school and undergraduate degrees. Online search engines, including national nursing organisations and government websites revealed no further universities or undergraduate nursing degrees, confirming the reliability of the sampling framework.
- 3 Initially, data collection was purposely inclusive to avoid missing any information. All information about each undergraduate nursing degree was included. Information was reviewed in depth and data from pre-registration university nursing degrees not meeting criteria were excluded.
- 4 Based on the heterogeneity of format and media, a decision was made to capture only information related to subject title and subject outline. This proved to be a more accurate measurement of PHC content.
- 5 Artefacts were examined for information related to subject title and subject outline. Most were clearly listed on the respective university websites and were transferred in the original format (verbatim) to pre-prepared tables.
- 6 A terminology matrix with key PHC terms developed in an earlier literature review (Murray-Parahi et al., 2016) was used to classify explicit and implicit PHC terminology (see Table 1).
- 7 Data were retrieved, coded, scored and analysed by the first author.
- 8 Data coding and scoring of PHC content was validated by a second researcher (PMD). Interrater reliability was determined by the consistency of agreement between the two researchers.

Curriculum artefacts obtained from respective university websites were converted from normal web format or Hyper Text Mark-up Language (HTML) to portable document format (PDF) for images. Textual content was systematically saved and stored on an Excel spreadsheet and Word files for later analysis. Regardless of file type, hyperlinks were established directly to the respective university sites via their URLs, which facilitated regular checking and final validation of this information. However, as more latent subject content was revealed, increasing numbers of hyperlinks eventually became unmanageable. Thereafter, new data (and subsequent evidence of PHC content) were gathered in a folder and appended to the corresponding university PDF (master file) using a PDF writer. This way PDFs could also be analysed for word frequency using NVivo Version 10 and increased the list of PHC synonyms.

Reliability issues usually grow out of the ambiguity of word meanings in content analysis (Weber, 1986), so a terminology matrix (see Table 1) was also created. An earlier integrative literature review (Murray-Parahi et al., 2016) also used a similar method that informed the data extraction tool and which was also refined with each iteration (See Fig. 2).

Combined with WHO definitions of PHC, this earlier research followed King, Long, and Lisy's (2014) logic grid which facilitated logical word creation. Like the earlier literature review, synthe-

sis was an iterative process and included broad PHC terms which resulted in a word list that incorporated explicit and implicit PHC terms (see Table 1. Terminology Matrix). PHC nomenclature was contained on an excel spreadsheet and also linked to each university master file, again for easy retrieval. This facilitated the identification of more PHC content in subject outlines that might otherwise have been overlooked because the PHC content in subject titles was either absent or ambiguous.

Prior to analysis, all course and subject information, retrieved earlier from respective university websites, were transferred verbatim into discrete tables. Each university (and associated undergraduate degree course) was assigned an individual Microsoft Word file containing a table that was populated with every subject code, title and all outline information in the original format. Only headers ('*subject code*'; '*subject title*'; '*subject content*') and font were standardised, all other information remained unchanged to preserve integrity of the data (see Fig. 2).

3.6. Scoring tool

Data were expressed as either *explicit*, *implicit* or *absent* in the curricula and highlighted then scored accordingly (see Table 2). As each curriculum artefact was examined for PHC content, relevant text was colour-coded green for 'explicit' or blue for 'implicit' PHC content. Implicit content was then further categorised as 'mentioned', 'inferred', or 'ambiguous'. Capstone courses were highlighted pink and other key course information was highlighted yellow. Highlighting various levels of PHC terminology and acute care made it easier to differentiate between the various categories, note emphasis, and score PHC content accordingly. Results were then entered on to a scoring sheet along with researcher notes describing any other findings or points of interest that might be discussed or actioned later (see Fig. 3).

3.7. Data analysis

Content analysis is used as a data reduction technique for compressing many words or text into fewer content categories based on explicit rules of coding that are systematic and replicable (Berelson, 1952). Categories were developed based on the earlier literature review and search terms related to the overarching PHC philosophy (Murray-Parahi et al., 2016). This ensured both comprehensive and narrow definitions of PHC were included. Once coded and scored, data were entered into SPSS for further analysis. Initially, PHC content was coded according to all PHC information in whatever format it appeared. Stolley and Hill (1996) referred to this in their content analysis study of the elderly in undergraduate sociology course text books as 'unique page space'. This was also successfully used in the nursing literature to demonstrate the role of the media as a source of health information for young women (Raftos, Jackson, & Mannix, 1998). However, the heterogeneity of undergraduate nursing websites we sampled did not facilitate a similar unit of metric. Instead, only data that represented subject title and subject outline were analysed.

3.8. Emphasis

While curricula artefacts did not always refer to 'subject titles' or 'subject outlines', this information was consistently represented in data retrieved from all university websites in the sample. Once identified, these data were imported into tables and hard copies of the documents produced were then scanned for titles or subtitles containing keywords (Weaver & Jackson, 2012) related to PHC content. Emphasis was measured using a variation of "unique page space". This was achieved by simply recording the presence or absence of PHC content in subject titles and subject outlines

Table 1
PHC Terminology Matrix.

Explicit [Manifest]	Implicit [Latent]									
	Philosophy	Nursing Roles (home)	Challenges/benefits	Nursing Roles (other) i.e. facility +/- home/			Population/ Public Health			Acute care
“Primary Health Care”	Access & equity	Community nurse	Autonomy Vs - Isolation	Mental health	Practice nurse	Relationship	Assessment	Client	Infection control	Medical
	Social justice Person centred	District nurse Care coordinator	Home alone Continuity of care	Wound care team Palliative care	Aboriginal General practice nurse	Client Consumer	Health promotion Disease Prevention	consumer Patient focussed	Incidence Health status indicators	Curative Episodic
	Holistic	PHN [Primary Health Nurse]	Early discharge Home =Familiar environment	Child and family	Refugee health	User	Surveillance	Communicable disease Screening & management	Isolation	Biomedical model Health as the absence of illness
	Affordable Health care	Case Manager		Well child services	Forensic health	Customer	CDSM [Chronic Disease Self-Management]		Quality assurance	
		Hospital In The Home District	Integrated health care Nurse-led clinics	Aged care Sexual Health	Generic Vs Specialist Day care centre	Patient	Sanitation	Determinants of health Morbidity & mortality	Individual & community Quarantine	Task
		Domiciliary CHN [Community Health Nurse]	Patient focussed	Home care Pharmacy	HACC Disability Post-acute care		Chronic disease Health disparity	Immunisation Disease management	Quality of Life	

24. University Name: (URL link: <http://www.universityname.edu.au/futurestudents/find-a-course/courses>)

Subject Code	Subject Title	Subject Outline/Description	Coding	Score
		1 st Year: Autumn Semester		Title/Outline
100069	Subject title as retrieved from website	Course outline data, exactly as it appears on website, is transferred into this table as subject code, title or outline. Curriculum Artifacts may contain information about focus, learning strategies, expected outcomes, goals, objectives, type of subject i.e. capstone, context & subject content	Describes strong or weak PHC link Focus – i.e. acute care	0/1 0/1
200069	First digit of Subject Codes generally indicates year	Explicit PHC content is simply "Primary Health Care", implicit terminology are synonyms, or words related to philosophy or elements of PHC, such as health access and equity, health promotion, illness prevention	Explicit content supersedes implicit content	0/1
300069	Primary Health Care Nursing	Example of explicit PHC content in Subject Title and Subject Outline		1/0

Fig. 2. Data Extraction Tool.

Table 2 Scoring Categories.

	Categories	PHC Content	
Manifest (Explicit)	A. Explicit PHC content was identified by the presence of the term "primary health care" in either the subject title or subject outline and there was corroborating evidence of PHC content (other than the term "primary health care").	Subject Titles (n = 694)	Subject Outlines (n = 694)
		12 (<2%) NB Majority of explicit PHC content offered in 1st & 3rd year	32 (<5%)
Latent Content (Implicit)	B. Mentioned – refers to explicit content with a weak PHC association. No evidence of PHC synonyms, context, or content (other than "primary health care") mentioned in either subject title or subject outline. Explicit PHC terminology and/or synonyms are absent in corresponding title or outline.	3	18
	C. Inferred – is implicit or latent PHC content generally having some corroborating evidence or more than 1 PHC synonym such health promotion, illness prevention, social justice or other key elements of PHC philosophy. "Primary health care" is not explicitly mentioned.	8	15
	D. Ambiguous - grey areas, may contain only 1 synonym of PHC or have a weak association with role or site of care.	7	89
Nil	Latent PHC Content:	18	122
	E. No mention – discrete acute care or other focus with no reference to explicit PHC or the use of PHC synonyms.	664	540
Overall PHC Content:		45 (664)	147 (540)

24. University Name: (URL link: http://www.universityname.edu.au/futurestudents/find-a-course/courses) (Accession date)			
URL: http://handbook.universityname.edu.au/directory/stm91040.html (Accession date)			
Total Subjects: (including elective = average 24) n=3	Subject Title		Subject outline
	Explicit (Manifest) "PHC" Content: 1	Explicit (Manifest) "PHC" Content: 1	
	Implicit (Latent) : 1	Implicit (Latent): -1	
	Capstone: 0	Capstone: 1	
	Weak Association (total): 0	Weak Association (total): (-1)	
	Key information	URL validation*	
Notes:			
<ul style="list-style-type: none"> • Researcher records issues with websites, such as access, URL's checked every time researcher accesses file to ensure validity and currency of data • Coding or other methodological problems are recorded and resolved 			

Fig. 3. Scoring Tool.

Undergraduate Year	Explicit	Implicit			None	Total
	A. Explicit	B. Mentioned	C. Inferred	D. Ambiguous	E. No content	
First	7 (14)	1 (5)	1 (3)	1 (18)	238 (208)	248 (248)
Second	1 (2)	0 (10)	1 (6)	3 (32)	205 (160)	210 (210)
Third	4 (13)	2 (3)	4 (4)	3 (34)	179 (138)	192 (192)
Fourth	0 (0)	0 (0)	1 (1)	0 (2)	7 (5)	8 (8)
Total:	12 (29)	3 (18)	7 (14)	7 (86)	629 (511)	658 (658)

Fig. 4. PHC Content in Australian Undergraduate Curricula by Year - Subject Title (Subject Outline).

Table 3
PHC Content in Australian Undergraduate Curricula by University - **Subject Title** (Subject Outline).

University	Explicit		Implicit				None		Total			
	A. Explicit		B. Mentioned	C. Inferred	D. Ambiguous		E. No content					
1.	0	(0)	0	(0)	0	(1)	3	(8)	21	(15)	24	(24)
2.	1	(3)	0	(3)	0	(2)	0	(3)	23	(13)	24	(24)
3.	0	(0)	0	(0)	1	(2)	0	(3)	18	(14)	19	(19)
4.	2	(2)	0	(4)	0	(0)	0	(3)	18	(11)	20	(20)
5.	0	(0)	0	(4)	1	(1)	0	(5)	31	(22)	32	(32)
6.	0	(0)	0	(0)	2	(1)	0	(5)	20	(16)	22	(22)
7.	1	(1)	0	(0)	0	(0)	0	(4)	23	(19)	24	(24)
8.	0	(0)	0	(0)	0	(0)	0	(2)	15	(13)	15	(15)
9.	1	(1)	0	(0)	0	(0)	0	(3)	19	(16)	20	(20)
10.	0	(1)	0	(0)	1	(0)	0	(1)	23	(22)	24	(24)
11.	1	(2)	0	(0)	0	(0)	1	(3)	24	(21)	26	(26)
12.	1	(1)	0	(0)	0	(0)	0	(0)	21	(21)	22	(22)
13.	0	(0)	0	(0)	0	(0)	0	(2)	17	(15)	17	(17)
14.	0	(0)	0	(0)	0	(0)	2	(8)	24	(18)	26	(26)
15.	0	(0)	0	(1)	0	(1)	0	(4)	17	(11)	17	(17)
16.	0	(1)	0	(1)	0	(0)	0	(1)	21	(18)	21	(21)
17.	0	(0)	0	(0)	1	(1)	0	(2)	30	(28)	31	(31)
18.	0	(1)	0	(0)	0	(0)	0	(1)	19	(17)	19	(19)
19.	0	(0)	0	(1)	0	(0)	0	(1)	22	(20)	22	(22)
20.	2	(1)	0	(0)	0	(1)	0	(1)	32	(31)	34	(34)
21.	1	(3)	0	(4)	0	(0)	0	(2)	23	(15)	24	(24)
22.	0	(1)	0	(0)	0	(1)	0	(8)	19	(9)	19	(19)
23.	1	(1)	0	(0)	0	(1)	0	(1)	23	(21)	24	(24)
24.	0	(2)	0	(0)	0	(0)	0	(2)	26	(22)	26	(26)
25.	0	(0)	0	(0)	0	(1)	1	(4)	24	(20)	25	(25)
26.	0	(3)	3	(0)	0	(0)	0	(1)	19	(18)	22	(22)
27.	0	(3)	0	(0)	1	(1)	0	(3)	35	(29)	36	(36)
28.	0	(2)	0	(0)	1	(1)	0	(7)	30	(21)	31	(31)
29.	1	(3)	0	(0)	0	(0)	0	(1)	27	(24)	28	(28)
Total	12	(32)	3	(18)	8	(15)	7	(89)	664	(540)	694	(694)
	12 (32)		18 (122)						664 (540)		694	

[yes=1; no=0] and where this occurred by year of degree (see Fig. 4). This was further categorised as explicit or implicit PHC content. However, if there was no PHC content and if acute care was the predominant feature or explicitly mentioned, then this was reported as acute care content. Emphasis was the predominance of PHC (or acute care) in subject title or outline.

3.9 Rigour

Over the course of the study, curriculum artefacts were checked several times by the first author to ensure reliability and validity of the data contained in the undergraduate nursing curricula sampled. The process of checking content validity was facilitated through the use of hyperlinks that were set up at the time of data collection to track and access subject codes, titles and outlines. A sample (10%) of the coding was checked by a second researcher (PMD). This tested the reliability of the protocol (Lacy, Watson, Riffe, & Lovejoy, 2015) and subsequently validated the coding.

4. Results

4.1. Main results

There were 29 pre-registration undergraduate nursing degrees identified in this study leading to professional registration with the Australian Health Practitioner Regulation Agency (AHPRA) (see Fig. 1). This included 25 Bachelor of Nursing (BNurs), two Bachelor of Nursing Science (BNursSc) and two Bachelor of Science in Nursing (BScNurs) undergraduate nursing degrees. Some universities offered a range of subjects and courses over multiple campuses, but for the purposes of data retrieval and analysis, these were reported as a single participant or case.

Depending on the number of electives and clinical placements, undergraduate degrees had an average of 24 subject titles and out-

lines (range: 17–32). Nomenclature and course/subject codes did not always indicate the year and there was wide variation between some universities regarding credit points, but this was generally explained in course handbooks or other curriculum artefacts. There were a total of 694 undergraduate nursing subject titles and subject outlines identified through these university websites. All were examined for explicit or implicit PHC content, then coded and scored accordingly

4.2. Explicit content

Explicit content was defined simply as the presence of the term “primary health care” in the artefact retrieved. Details of explicit and implicit PHC content by academic year are outlined in Fig. 4, and by university in Table 3. Only 12 subject titles (<2%) and 32 subject outlines (<5%) out of 694 subjects in the undergraduate nursing curricula contained explicit PHC content. Most of this content was found in the first and third year of the degree. There was a predominance of acute care content throughout the curriculum. Apart from an occasional reference to the possibility of clinical practice occurring in the home setting, there was rarely any mention of this setting or exposure to nursing roles outside the acute care setting. When PHC was mentioned in conjunction with community nursing placements, these were most frequently paired with facility-based mental health placements, however explicit reference to the home setting in this context was not identified. Community nursing was the most common nomenclature used in association with PHC nursing roles; practice nurse, primary nursing or general practice nursing were only mentioned in two curricula artefacts.

Upon further examination, and after extending the word matrix to incorporate more PHC synonyms, additional implicit PHC content was revealed deeper in the data. This content is referred to as *implicit* PHC since it was latent in nature. This process also uncovered additional PHC synonyms within the course outlines that were

not mentioned in the title but led to a full review of the curriculum artefacts. The PHC content in the undergraduate nursing curriculum for each university is represented in the sample presented in [Table 3](#).

5. Discussion

This study has examined the PHC content in the Australian undergraduate nursing curricula. The PHC content came from curricula artefacts available in the public domain and sourced from the respective university websites of Australian schools of nursing who offered undergraduate nursing degrees. Like [Keleher et al.'s \(2010\)](#) study, we found a variation in the amount and quality of online curricula information contained in faculty handbooks sourced through university websites and a blurring of terms like, community, primary care and primary health care. This also mirrored the findings of an earlier integrated literature review prompting the authors to use a raft of PHC synonyms to uncover potentially latent or hidden PHC content in the titles ([Murray-Parahi et al., 2016](#)). A similar approach was taken in this curriculum review, revealing additional PHC synonyms within the course outlines that were not mentioned in the titles. Determining contextual meaning also validated the PHC content of some course outlines while excluding other weak explicit PHC content.

Despite the importance ascribed to PHC by health care policy and by most universities in their supplemental curricula documents, this study found limited explicit PHC content in the undergraduate nursing curricula. Current curricula content calls into question undergraduate nursing student preparation for these roles and future PHC demand. Perhaps nursing curricula available on university websites simply intends to attract future students based on their current knowledge of nursing roles. In their content analysis of college view books, [Hartley and Morphew \(2008\)](#) contend that students looking for “a good job” have influenced (university) website content, so it is important to pay attention to what institutions of higher learning have to say and what is being “sold” to prospective students. This study found there was limited PHC content identified in the undergraduate curricula of Australian nursing schools but there was an emphasis of acute care content, indicating preparation for PHC nursing roles was also limited. While more implicit PHC content was identified, this was often found hidden behind ambiguous subject titles or within subject outlines with weak or less than comprehensive PHC content. Explicit PHC content was more likely to be found in subject outlines than subject titles, but upon closer examination there was also little evidence of the comprehensive notion of health normally associated with PHC. “Primary health care” was used as an explicit word or phrase in a number of subject outlines, yet the actual context often related to a non-PHC meaning or used language not normally associated (or weakly associated) with PHC.

Although these findings again confirmed [Keleher et al.'s \(2010\)](#) earlier work demonstrating limited PHC content in the undergraduate nursing curricula in Australia, there was some alignment of pedagogy and policy identified in our study. As one of the nine National Health Priority Areas [NHPA] which seek to focus public attention and health policy on the burden of disease ([Australian Institute of Health Welfare, 2018](#)), mental health was widely featured in the curricula of all universities sampled. While other priority areas were discussed, mental health was explicitly mentioned in at least one subject title and outline of every curricula sampled and often paired with community nursing and community clinical placements. However, community mental health nursing roles occurring within the home setting were not discussed. The importance of PHC is widely acknowledged in both nursing curricula and health policy, yet in reality, as the results of this study show,

the predominant focus remains skewed towards acute care nursing specialties and facility-based care in the community ([World Health Organization, 2017a](#)).

When undergraduate nursing curricula primarily focuses on acute care nursing, the preparation of next generation nurses for PHC enactment and roles in this setting is questionable as it does not follow the current emphasis in health care policy ([Simpson & Richards, 2015](#)). However, researchers, educators and service providers are cognisant of these limitations. One community health review posited diverting services away from the home to facility-based community care as a more efficient use of services, which may even ameliorate the supervision issues associated with these roles ([Murray-Parahi et al., 2017](#)). Others studies emphasise timing within the degree, type and preparation for placements, including positive acculturation into community nursing role, closer mentor relationships, and opportunities to practice and master clinical skills in the setting ([Murphy, Rosser, Bevan, Warner, & Jordan, 2012](#); [Serrano-Gallardo et al., 2016](#)).

Perhaps a PHC renaissance is required ([The Lancet, 2018](#)) or simply embed explicit and implicit PHC content throughout the curricula and matching these efforts in the clinical practice setting to ensure next generation nurses are exposed to authentic clinical practice opportunities. Providing seamless theory-practice experiences to bridge existing theory-practice gaps will require the input and commitment of all stakeholders to PHC principals and building a sustainable PHC health workforce. Role ambiguity and providing clinical opportunities for new graduates have been an issue in PHC settings and may have made these roles unpopular career choices for Australian graduates in the past ([Gilmour, Huntington, Slark, & Turner, 2017](#)). Simply stated, nursing roles and specialties in the acute care setting have a higher public profile and are more familiar to next generation nurses than PHC nursing roles ([Byfield et al., 2019](#)). That said, the focus and work of community nurses has changed over the years because of the same health policies driving the shift in care from hospital to the home ([Hallett, Madsen, Pateman, & Bradshaw, 2012](#)). Increasing demand for acute and complex care delivery in the home setting due to earlier hospital discharge clearly requires both acute and PHC skill sets. Strengthening PHC in the curricula, by promoting community nursing as a viable career option and increasing numbers of placements in the PHC setting ([Brookes, Davidson, Daly, & Hancock, 2004](#); [Happell, 1998](#); [Peters et al., 2015](#)) may alter this trend.

6. Strengths and limitations

Measuring PHC content in undergraduate curricula and exploring the preparation of undergraduates for nursing roles in the home setting was the focus of this study. Understanding PHC content offered in the undergraduate nursing curricula may offer insight into future marketing, curriculum planning and the clarity of information universities provide on their websites. A strength of the study was using the same online information freely accessed by potential next generation nurses who may be seeking information about future careers in PHC. A key limitation of the study was that curricula documents may not reflect the actual content being delivered, however these findings do provide universities the opportunity to review online content and make PHC more explicit.

Original curricula documents were not sought for this study because they often incorporate proprietary or intellectual property and are rarely made available outside the institution. These documents may have provided more information and therefore altered the amount of PHC content. Another possible limitation may have been the exclusion of undergraduate nursing degrees offered by other non-university institutes of higher education. Future studies may consider a mixed methods approach using original curricula

documents or include survey and interview of specific schools to verify primary care content (Betony, 2012).

7. Conclusions

Limited PHC content and an emphasis on acute, episodic care in the curricula diminish the importance of PHC. As prospective students presumably access the same online curriculum artefacts used in our study, hidden PHC content in the curricula may be a barrier for nursing students seeking roles in that setting. Addressing these gaps is something that requires action on multiple fronts and through the involvement of key stakeholders, requires a shift in thinking about nursing roles in the future. Building a sustainable workforce will require greater support to prepare next generation nurses, particularly in PHC roles by providing authentic clinical practice in community settings. Recommendations include making PHC content, particularly accessible online university course information, more explicit. Monitoring the quantity and quality of PHC content within the undergraduate curricula and exposing student nurses to authentic community nursing roles is essential for future workforce development.

Author agreement

This article has not been published nor is it being considered for publication elsewhere. All authors agree to abide by the copyright terms and conditions of Elsevier and have seen and approved this manuscript.

Ethical statement

As a curriculum review, this phase of the study did not involve human or animal research. Curricula artefacts were accessed from the websites all universities in Australia offering undergraduate nursing degrees, presumably the same information accessed by prospective nursing students. The study was approved by the University of Technology Sydney Ethics Committee (HREC ref: 2014000362). Online artefacts were obtained through open access web-based platforms, therefore consent from respective universities was not required. The universities in this sample are not identified by name or level of PHC content.

This was a PhD project (PMP) and there were no outside sources of funding sought or given for this research. No conflict of interest exists and the authors have no financial interest in products arising from the research since these will be made freely available to stakeholders and disseminated widely.

Conflict of interest

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CRedit authorship contribution statement

The paper properly credits the meaningful contributions of co-authors and co-researchers.

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