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The Bachelor of Nursing/Bachelor of Emergency Health (Paramedic) Degree: How well does it align with course objectives?

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Research

The Bachelor of Nursing/Bachelor of Emergency Health (Paramedic) Degree: How well does it align with course objectives?

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Abstract

Introduction

The Bachelor of Nursing/Bachelor of Emergency Health (Paramedic) Degree (BN/BEH-P) is a four-year on-campus double degree, combining essential units from both the accredited Bachelor of Nursing and Bachelor of Emergency Health courses. Graduates of this course are expected to be well equipped to manage the complexity of emergency care out-of-hospital, in-hospital and at the interface of these settings. The aim of this study was to explore student views of their preparation and intentions towards future practice and the alignment with course objectives.

Methods

A cross-sectional study was employed with a sample of first, second, third and fourth year undergraduate students of the BN/BEH-P. The results were mapped to course objectives by researchers.

Results

Written responses varied considerably making generalisations difficult; however, some common themes did emerge such as a need for greater flexibility in course delivery options, not enough simulation, a need for more clinical placements and better communication between the two schools. The level of satisfaction with course content and delivery was high. Timetabling problems and the allocation of clinical placements were a source of concern for many students and were found to be common to double degrees in general. There was alignment between student perspectives of course delivery with half of eight course objectives, but not in areas such as ethics, evidence based practice, professional communication and cultural values in practice.

Conclusion

The findings are important for students, universities and health services, informing a pedagogical alignment between student preparation and expectations. The findings are expected to provide valuable insight into the student view of undergraduate interprofessional education, how it shapes their intentions for future practice and how students and other stakeholders know if they will receive what is offered and funded.

Keywords:

student; nurse; paramedic; degree program; emergency care; interprofessional

Introduction

The increasing burden of chronic disease coupled with an ageing population is placing a greater reliance on community-based care. As nurses and paramedics begin to manage more acute episodes of chronic health problems in both the hospital and out-of-hospital settings, traditional and pedagogical roles that educate the health workforce in professional silos continue to be challenged (1,2).

Additionally, there will continue to be significant workforce shortages compounded by the steady attrition of specialist qualified nurses and paramedics (3) from both the hospital and pre-hospital systems. Attrition occurs for a number of reasons, including those associated with an ageing workforce and burnout. Health services and policy makers are exploring smarter ways of optimising a diminishing workforce, such as dual qualified health professionals, to meet the needs of communities under changing models of care. Therefore it is timely to invest in the development of multi-skilled health professionals equipped to deal with the increasing complexity of patient care in a range of health care environments (1,2,4-8).

Subsequently, universities have seized the opportunity to offer an increasing number of double degrees that are intended to develop skills involving two or more disciplines. Double degrees are two degrees studied concomitantly. A richer or rounder education can give double degree graduates a competitive edge over those with single degrees, providing specialisation in two fields and increasing employment options (9,10). Moreover, while double degrees increase future opportunities, they do not take double the time to complete as students are granted 'credit' either in recognition of 'double up', or the recognition of units undertaken outside their faculty or discipline area (10). Paramedic and nursing degree courses are a logical match for collaboration due to their synergies in emergency health, particularly emergency care out-of-hospital, in-hospital and at the interface of these two settings. Patients clearly benefit from the care provided by health professionals with knowledge and skills of both of these professions, at the one encounter. The career prospects for the graduate are also enhanced due to having a dual qualification.

A World Health Organization report (11), Framework for Action on Inter-professional Education and Collaborative Practice, emphasises that health and education systems must work together to facilitate the provision of sustainable health services, an effective health workforce and sound health policy (12).

The Bachelor of Nursing/Bachelor of Emergency Health (Paramedic) Degree (BN/BEH-P) aligns with the recommendations of the Productivity Commission's position paper on Australia's Health Workforce by producing graduates responsive to Australian population health needs (8,13). The

Commission proposes that innovative workforce planning is needed to service the health care needs of the community by enabling the delivery of care that crosses current professional boundaries (8).

According to Hickey et al (6) over one-third of undergraduate nursing students study by double degree which are predominantly undertaken by school leavers and those with a Higher School Certificate or equivalent (10). Women have a higher participation rate in double degrees than their male counterparts, although this may simply reflect the trend of women attaining higher tertiary entrance scores than men (6,10). Domestic students far exceed international students in double degree enrolments. This is supported by Moulton et al (9) in their study reporting only 1% of double degree students were international enrolments, compared to 16% for single degrees.

Double degrees potentially provide additional avenues for students who do not want to limit themselves to one area of study or employment. Double degrees attract high achieving students, as they generally require a higher tertiary entrance score than single degree alone. Higher tertiary entry requirements make double degrees extremely competitive, with fewer places generally offered than for single degrees. Notwithstanding, a study by Moulton et al (9) found students who graduate from a double degree are also more likely to undertake postgraduate study. The BN/BEH-P is a four-year on-campus double degree, combining essential units from both the accredited Bachelor of Nursing and Bachelor of Emergency Health courses. Graduates of this course are expected to be well equipped to manage the complexity of emergency care out-of-hospital, in-hospital and at the interface of these two settings (14). The aim of this study was explore student views of their preparation and intentions toward future practice and the alignment with course objectives.

The objectives are:

- Practice in accordance with Australian Nursing and Midwifery Council and the Australian National Training Authority competencies for registration of nurses and endorsed paramedics within Australia
- Work as either a paramedic or a nurse in an interprofessional practice context
- Act as a reflective practitioner recognising the learning needs of themselves and others
- Provide holistic, person-centred nursing and paramedic care as a beginning practitioner in a range of health care settings within local and global perspectives
- Practise in a manner that is reflective of the ethical and legal dimensions of the professions
- Interpret and apply evidence-based practice as a foundation for nursing and paramedic care
- Demonstrate the ability to communicate effectively as a member of the multidisciplinary team
- Incorporate the individual's cultural, spiritual and social values in planning, implementing and evaluating care (14).

Ethics

Ethics approval was obtained from the Monash University Human Research Ethics Committee University Human Research.

Methods

Design

A cross-sectional study was employed with a sample of first, second, third and fourth year undergraduate BN/BEH-P students. The results were mapped back to course objectives by the researchers.

Participants

Inclusion criteria for the study were current enrolment in the BN/BEH-P degree on a full-time on-campus basis. There were no exclusion criteria.

Instrumentation

Students were asked to rate their level of satisfaction with particular units and methods of delivery of course content via an online questionnaire (Survey Monkey) developed by the researchers. The questionnaire was divided into two sections. In the first section, students were asked to rate the value of each subject undertaken for 'preparing them to practise as a nurse/paramedic' via a 4-point Likert scale (1 = least valuable to 4 = most valuable). In the second section students were asked to record their responses on three items, 'methods/modes of course delivery', 'future recommendations for the course', and 'intentions towards future practice' via a combination of 3-point (yes/no/not sure) and 4-point (too many/about right/not enough/unsure) Likert scale questions. Students were also able to provide brief verbal responses to each question via open ended questions. The questionnaire took approximately 15 minutes to complete.

Procedures

Students were informed of the survey during usual teaching/lecture time, and provided with a brief explanatory statement and informed that participation was voluntary and anonymous. Students were given the URL link to complete the questionnaire online.

Results

Participant demographics

A total of 40 students completed the questionnaire. The BN/BEH-P students participated in the survey which was part of a larger study with single degree nursing and single degree midwifery students. In 2012, the total enrolment for the BN/BEH-P course was 166; this represents a response rate of 24%. The breakdown of participation by year was first year

32.5% (n=13), second year 35.0% (n=14), third year 17.5% (n=7) and fourth year 15.0% (n=6).

The majority of students were female (80%, n=32), which is the same as the entire cohort and aged between 18–21 years (70%, n=28). There were no students aged over 40 years enrolled in the course.

Perceived value of units in preparing for practice as a nurse/paramedic: first and second year students reported 'practical' units as 'most valuable'. Examples of practical units include those incorporating anatomy and physiology (first year 72.2%, n=26 and second year 67.6%, n=25), clinical concepts of paramedic practice, (only second year 81.1%, n=30), contexts of nursing (only second year 48.6%, n=17) and health assessment in clinical practice (only first year 50.0%, n=18). 'Least valuable' attitudinal scores were given predominantly to units with a more theoretical basis, such as professional communication (45.9%, n=17). Cultural responsiveness and evidence-based practice were both scored either 'least valuable' or 'not applicable'. Legal issues and concepts was the exception of the theoretical based units, scoring 58.3% (n=21) 'most valuable'. Of third and fourth year students, 68–100% reported that they had not completed their practical and clinical units at the time of the survey and responded 'not applicable'.

Method of course delivery/flexibility

For the item most relevant to lifestyle: 'Do you think your course provides sufficient flexibility?' 39.5% (n=15) recorded 'yes'. Student responses indicated general satisfaction with the number of hours dedicated to lectures and tutorials, with lectures reported as 'about right' by 73.7% (n=28) and tutorial time 'about right' by 73.0% (n=27). Face-to-face hours was also 'about right' as reported by 68.4% (n=26); although 51.4% (n=19) students reported 'not enough' time was allocated to clinical laboratories and simulations 73.7% (n=28), as well as clinical placements 55.3% (n=21) and rotations 52.6% (n=20). The students were allocated 880 nursing and 440 paramedic clinical placement hours during the four-year double degree at that time.

Students' open-ended responses were predominantly about course flexibility, rather than course content:

'The delivery of clinical material has been really good. Links between the clinical skill and practical are highlighted and allow students to get a feel of what they are expected to do out in the workplace'.
'I think the way the course is being taught is really good, however the way the timetables have fallen have resulted in many of us having to travel to uni for just one class on several days of the week, and some of these classes only run for an hour in the middle of the day'.

Future recommendations for the course

Sixty-two percent of students (n=23) responded they would like see more flexibility in how the course was delivered in the future. Students also indicated more online teaching resources (45.9%, n=17) and summer semester options (59.5%, n=22) would be appreciated, but did not think evening classes should be added to the curriculum (67.6%, n=25). Overall students' open-ended responses and future recommendations for the course were positive and constructive.

On simulations as an approach to teaching, 73.7% of participants indicated what was offered was 'not enough' with one participant adding:

'In terms of simulation experiences we do have some with the dummies in the labs but not a lot of full scenario simulation experiences'.

Students (first year 91.7%, second year 69.5%) reported clinical placements as valuable units and they need to be better coordinated for greater student satisfaction:

'Overall excellent, although a shortage of placements can make life difficult'.

'It would be nice to have an elective (now re-introduced) and to have more choice about where to go for clinical placements'.

Coordination and communication more generally was a concern raised by several students:

'Both the nursing and paramedic faculties need to be more coordinated with each other'.

'There was a lack of organisation and communication between paramedic and nursing departments'.

And overall for the course, theory content is perceived to be well delivered:

'Overall the delivery of the theoretical learning has been pretty good. The lecturers are enthusiastic and pitch it at a good level'.

'The theory side of the course is delivered well, and in depth'.

'I'm proud to be a student and overwhelmingly have appreciation for the university, facilities and staff!'

Intention towards future practice

The majority of students (70.3%, n=26) intended to apply for a paramedic position at some time in the next 3 years (54.1%, n=20) intended to undertake a nursing position (some would apply for both) and 18.9% (n=7) were unsure. In relation to the question of graduate years and future directions, students were aware of the advantages of having completed the double degree. For nursing in the emergency department, a graduate of the double degree also has knowledge and skills associated with the pre-hospital emergency setting which is helpful for employers. Likewise, for a paramedic graduate

of the double degree there is an enhanced opportunity to gain employment with ambulance services which may seek to employ paramedics with skill sets of a registered nurse.

Students report on their intentions for future practice:

'I am studying nursing as a bonus for more flexibility in employment; I have little intention to work as a nurse'.

'As I am doing BN/BEH I am doing the nursing part to increase my experience, skill and knowledge level and to broaden my understanding in order to be a better paramedic'.

'I plan on applying to do my graduate year as a nurse after completing my four years and then after completing my nursing grad year intend to do my paramedics grad year and then work as both in some capacity (hopefully!)'.

'I think ultimately I will complete a paramedic grad year and then do my nursing year after while working casually with the ambulance service'.

Students were keen to utilise their extended skills and dual qualification, however they were uncertain as to how they could achieve this:

'I would like more info on grad year options for BN/BEH-P students'.

Alignment with course objectives

The student perspectives on value of units, method of course delivery and flexibility, future recommendations for the course, intention towards future practice and patterns of employment were summarised and backwards mapped to the course objectives by the researchers to inform course design and delivery in the future (Table 1). Objectives 1–3 are well aligned, 4–5 partially aligned and 6–8 poorly aligned; an overall outcome of approximately 50% alignment.

BN/BEH-P

While the aim is to have a 100% match between student perspectives of course delivery and course objectives, course leaders were also aligning with competencies for both professions and the requirements of the accrediting agencies (4).

Discussion

The overall response from the BN/BEH-P student cohort was promising, however, written responses varied considerably making generalisations difficult. In summary, the results of this study show that students found the practical units related to assessment and practice most valuable when compared to theoretical units. They were also mostly satisfied with the teaching hours and delivery but were dissatisfied with inadequate clinical placements, labs and simulation experiences. The majority intended to apply for a paramedic position, and about half would apply for a position in both professions in the next 3 years.

Table 1. Alignment between the course objectives and course delivery of the BN/BEH-P

	BN/BEH-P course objectives	Student perspectives
1.	Practice in accordance with ANMC and ANTA competencies for registration of nurses and endorsed paramedics within Australia	All students on placement and graduates in employment practising in accordance with ANMC and ANTA competencies
2.	Work as either a paramedic or a nurse in an interprofessional practice context	81.1% of respondents intention for future practice in interprofessional context
3.	Act as a reflective practitioner recognising the learning needs of themselves and others	Recognised their requirements for lectures, tutorials, clinical placements, clinical laboratories, simulations
4.	Provide holistic, person-centred nursing and paramedic care as a beginning practitioner in a variety of health care settings within local and global perspectives	Employed in formal interprofessional graduate programs, rural communities, defence force, nursing, paramedic holistic and person-centredness of care may be compromised. (See perspectives, Objective 8)
5.	Practice in a manner that is reflective of the ethical and legal dimensions of the professions	Legal issues and concepts scored 'most valuable' theoretical based unit
6.	Interpret and apply evidence-based practice as a foundation for nursing and paramedic care	Scored 'least valuable' or 'not applicable'
7.	Demonstrate the ability to communicate effectively as a member of the multidisciplinary team	Professional communication scored 'least valuable' scores
8.	Incorporate the individual's cultural, spiritual and social values in planning, implementing and evaluating care	Scored 'least valuable' or 'not applicable'

ANMC = Australian Nursing and Midwifery Council, ANTA = Australian National Training Authority

There was approximately 50% alignment between the course objectives and course delivery of the BN/BEH-P.

The level of satisfaction with course content and delivery was high. Timetabling problems were a source of concern for many students undertaking the BN/BEH-P, including the allocation of clinical placements. A working group was established to liaise with nursing and paramedic clinical offices. Many of the issues students experienced were found to be common to double degrees in general, not just the BN/BEH-P. For example, in a study by Russell et al (10), 72% of double degree students blamed timetabling issues for missed classes, timetable clashes, exhaustive hours and heavy workloads that compromised their performance. The mentoring of senior double degree students was introduced to meet with the students for advice and support. A lack of communication between faculties/schools was also commonly reported by double degree students, as well as multiple assessments due at the same time (10). Student, academic and administration members from each school (nursing or paramedic) joined

committees of management of the partner school (paramedic or nursing). Recommendations and actions to arise from the findings of this study were an active student and staff course management committee developed for management of student issues such as duplication of content and inter-professional assessment tasks. This was established for the BN/BEH-P in addition to the nursing and paramedic committees. The identification of unfulfilled objectives in the areas of ethics, culture professional communication and evidence based practice was surprising, acknowledging the rating scale method meant some units will necessarily be perceived as 'least valuable' by comparison to others. Some of the units were reviewed with education curriculum experts. Assessment task mapping was undertaken by an assessment committee which was formed for all degrees, prompted by the feedback of the students of BN/BEH-P when assessment tasks clashed. Students established greater influence over their timetable, recommending to the nursing and paramedic schools that some units/tutorials were 'double taught' to avoid clashes and unreasonable commencement and finishing hours.

Students were a catalyst for enhanced communication between nursing and paramedic schools and further recommendations which were taken up included regular paramedic and nursing faculty meetings, collaboration in education, publications and research, student representatives from double degree courses on each single degree course management committee and joint meetings of administrative teams. Students prompted further development of inter-professional laboratories and clinical placements to integrate their knowledge and practice and prepare for future employment.

The faculty and students of BN/BEH-P were aware of the potential for the course and for the graduate careers both in Australia and internationally. While the World Health Organization (11) recommends that health and education systems must work together to facilitate the provision of sustainable health services, without relaxation of cross-professional regulations and scopes of practice to allow double degree graduates to practise in both of the disciplines in which they have gained qualifications, some experts say they cannot maximise their contribution to a multi-skilled health workforce with cross-disciplinary expertise (12,6). Graduates of double degrees, such as BN/BEH-P, have the potential to understand the intricate nature of complex problems, and collaborate across multiple disciplinary boundaries to ensure appropriate utilisation and allocation of health services, and ultimately quality patient care and outcomes. It is important that their course leaders ensure the undergraduate experience is fully realised between the course objectives and outcomes.

Limitations

The main limitations are the low sample size and response rate. The study is potentially further limited by the use of convenience sampling. The method may be easier to recruit participants, but may not recruit a representative sample of students, ie. non-response bias. Consequently, those students who did volunteer to participate may themselves bias the results. Previous clinical experience or exposure was not addressed in the questionnaire, nor was previous education qualification. These may have affected results of those who completed the questionnaire. Finally, the use of priority level Likert scales in the questions on perceived values of the units resulted in 'least valuable' attitudinal scores being given to units with a more theoretical base, but they may have been 'perfectly acceptable' to students if a level of acceptability Likert scale was used. This may have resulted in a result of 100% alignment between student views of their preparation, intention towards future practice and course objectives. The choice of questions and scales was standard for all undergraduate courses in the school.

Conclusion

The BN/BEH-P supports the development of a multi-skilled health workforce responsive to Australian population health needs, national workforce policy direction, and reflective of trends in undergraduate health professional teaching through innovative health services programs. Assessment of student views of the alignment between course objectives and course delivery of the BN/BEH-P has provided valuable insight and encouraging evaluative data, some useful recommendations have been implemented. The findings are important for both educators and health services. Students in this small study describe high levels of satisfaction with the content, mode of delivery and preparation for their roles in both paramedic practice and nursing. Ideally the post-graduate experience is interprofessional, modelled on an integrated program of support and practice for both disciplines. Support from health policy makers and regulatory bodies is essential to prepare and incorporate these multi-skilled graduates into the health workforce.

Conflict of interest

The authors declare they have no competing interests. Each author of this paper has completed the ICMJE conflict of interest statement.

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