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Employment patterns of Notre Dame graduate physiotherapists 2006–12: Targeting areas of workforce need

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Abstract

Background: The Australian physiotherapy workforce is changing both in demographics and service needs. Physiotherapy curriculum and clinical education focus is ideally based on up-to-date knowledge of this changing workforce.

Aim: The aim of this study was to determine the employment patterns of Physiotherapy graduates from The University of Notre Dame Australia (Notre Dame).

Method: An online survey was conducted of Notre Dame Physiotherapy graduates (2006-2012) with a 50% response rate (n=157).

Results: Survey results established the employment location, employment status, healthcare sector, area of practice, salary and employment history of Notre Dame graduates. The results highlighted links between curriculum, clinical placements and workforce areas, with the spread of workforce directly linked to focuses in the undergraduate curriculum.

Summary: This study highlighted the impact of directing undergraduate curriculum and clinical placement experiences towards areas of workforce need. The findings identify the importance of producing graduates equipped to meet the changing service needs of the healthcare industry.

What is known about the topic?

No previous studies have been conducted on the employment patterns of Notre Dame physiotherapy graduates and specifically the impact of targeting curriculum and clinical placements toward areas of workforce need.

What does this paper add?

Through a self-administered survey design, this study demonstrated that Notre Dame Physiotherapy graduates have increased uptake in areas targeted within the curriculum, specifically geriatrics, paediatrics and rural health. Although graduates were more attracted to the rural health setting, they were not retained.

What are the implications for practitioners?

This study informs educational institutions and workforce planners on the importance of linking curriculum, clinical placements and workforce to develop a sustainable workforce adaptable to clinical settings and areas.

Introduction

Physiotherapy workforce studies have highlighted the changing demographics of the Australian physiotherapy labour force with more males entering the profession together with an ageing workforce.¹⁻³ A 2014 report from the Physiotherapy Board of Australia detailed 26 123 registered physiotherapists in Australia as of June 2014, of which 69% were females, with less than half (45.1%) aged under 35.⁴ Similarly, Health Workforce Australia's report 'Physiotherapists in Focus' identified the average age of employed physiotherapists in 2014 as 38.6 years.⁵

To date, workforce data have highlighted that greater than half of all physiotherapists in Australia work in the area of musculoskeletal physiotherapy.⁵ This is despite widespread concern regarding the ageing population and subsequent health service needs of this sub-set of the population, including increasing physiotherapy consultations.⁶ A review of Western Australian graduate physiotherapists from the Curtin University of Technology (2000-2004), utilised a self-administered survey to determine employment patterns.² 40.3% of graduates were working in the musculoskeletal area, compared to 20.3% in aged care. Of concern, 65% of graduates surveyed revealed their intention to leave the profession within 10 years, with only 25% predicting a long-term career in physiotherapy. Although there has been no direct link established between career intentions and attrition, this self-prediction of attrition may indicate a future workforce shortage of more experienced physiotherapists in Western Australia.

The School of Physiotherapy enrolled its first students on the Fremantle campus of The University of Notre Dame Australia in 2003, as the second physiotherapy program in Western Australia. The

inaugural graduates in 2006 totalled 29 with numbers increasing to 71 graduates in 2012. Combined graduate numbers 2006-2012 were 345. The School was commenced with an emphasis on targeting areas of workforce need in the healthcare industry in Western Australia, including geriatrics/aged care, paediatrics and rural health. Clinical education is introduced early into curriculum with students in Years 1 and 2 introduced to the clinical areas of paediatrics and geriatrics through community hours and volunteering as part of their Pre-Clinical Experience (PCE). Formal clinical placements are also linked closely to curriculum delivery. Greater than half the year group, on average, attend a five-week geriatrics clinical placement immediately following their nine-week gerontology unit in Year 2. Additionally, students receive education on the role and impact of working in the rural healthcare industry early in the course, as part of their second year clinical preparation unit. All students subsequently complete a rural health placement in second, third or fourth year.

Mulcahy et al's study was conducted on physiotherapy graduates from 2000-2004.² No studies have been published since then on the impact of physiotherapy graduates on the Western Australian workforce. Further, no research has been conducted on the influence of Notre Dame graduates, specifically related to clinical areas of workforce need. Thus the aim of this study was to determine the employment patterns of Notre Dame graduate physiotherapists in Western Australia comparing with existing data; with the secondary aim to determine the impact of directing curriculum and clinical education towards areas of workforce need.

Specifically the research questions for this study were:

1. What are the employment patterns of Notre Dame physiotherapy graduates?
2. Are Notre Dame physiotherapy graduates taking up positions in the rural setting and the clinical streams of geriatrics and paediatrics at a greater rate compared to Western Australian and national physiotherapy workforce data?

The findings of this study will inform Notre Dame of its impact on workforce and role in targeting pre-clinical experiences and coordinating curriculum and clinical education placements. It may assist with further development of the undergraduate curriculum and may also inform other educational institutions involved in physiotherapy education programs. Findings will also inform the profession of the current graduate employment patterns specific to one university.

Methods

This study employed a descriptive survey design with Notre Dame physiotherapy graduates (2006-2012) invited to undertake a self-administered online survey. Bachelor of Physiotherapy graduate details were accessed from the School of Physiotherapy alumni database and via internet searches including the Australian Health Practitioner Regulation Agency (AHPRA) website, Australian Physiotherapy Association's (APA) 'Find a Physio' website and Google®. Current contact details were accessible for 315 graduates.

The survey tool was adapted from Mulcahy et al's study² and underwent a process of expert validation followed by a pilot study of 10 physiotherapists in the workforce who had not graduated from Notre Dame. Changes following the pilot study included alterations to question wording and structure. The survey established the employment location, employment status, healthcare sector, area of practice, salary and employment history of Notre Dame graduates. Respondents were asked to identify the clinical area of their current (primary) physiotherapy job, as well as any secondary positions, and also provide information on employment history specific to the areas of geriatrics/aged care, paediatrics and rural health.

In February 2014, the survey was sent to contactable graduates via email with a personal identifier to allow individualised follow-up. The survey link included a participant information sheet and completion of the survey indicated the implied consent of participants. Follow-up emails for non-respondents were conducted over the next month along with two text reminders. Physiotherapy administrative staff were responsible for allocation of personal identifiers and distribution of the

emails and texts to blind the researchers from identifiable data. Two forms of contact were utilised to improve the response rate of participants.

Ethics approval was gained for this study from the Human Research Ethics Committee of The University of Notre Dame Australia (013161F).

Data analysis

Survey responses were exported from the online survey program Survey Monkey to Microsoft Excel for cleaning and further transferred for analysis to IBM SPSS Statistics 22. Simple descriptive statistics were performed on the data, along with chi-square analysis using Fisher's exact test, to determine statistically significant relationships between categorical variables. Significant findings were determined by a *p*-value of less than 0.05. Qualitative responses to survey items were coded by the researchers into concepts and further into relevant categories of data, with stages of analysis conducted as recommended by Braun and Clarke.⁷

Results

Participants

The number of survey respondents totaled 157 or 50% of contactable Notre Dame physiotherapy graduates as detailed per year level in Table 1.

Table 1: Survey respondents per year level of graduation

Year of graduation	Number of graduates	Number of contactable graduates	Number of survey respondents (% of contactable graduates)
2006	29	26	13 (8%)
2007	38	33	15 (10%)
2008	49	46	24 (15%)
2009	60	55	29 (19%)
2010	59	53	24 (15%)
2011	48	43	23 (15%)
2012	71	59	29 (19%)
Total	354	315	157 (50%)

The majority of respondents were female (71%) and the mean age was 27.4 years.

Employment status and hours worked

76% of respondents (n=119) were employed full-time in physiotherapy and 10% were employed part-time. 2.5% were working part-time in physiotherapy and part-time in another profession. 2.5% were employed full-time in another healthcare profession whilst 1.3% were employed full-time in another profession unrelated to healthcare. 3.8% of respondents were on leave of greater than 3 months from the profession and 1.9% (n=3) were currently unemployed.

The average number of paid hours of work per week by Notre Dame physiotherapy graduates was 34.7 (SD 12.3). On average, males worked longer hours than females with an average of 37.4 hours (SD 9.4) compared to 33.5 hours (SD 13.2).

Professional registration and membership

Of the 157 respondents, only five (3%) were not registered with AHPRA. By comparison less than half of the respondents (46%) were members of the Australian Physiotherapy Association. When reviewing per clinical area of practice, over half of the graduates working in musculoskeletal and paediatrics were members of the APA, however graduates working in the areas of cardiorespiratory, neurology and geriatrics were less likely to be members. Qualitative text analysis of responses was conducted with 81 of the 85 non-members providing reasons for not joining the professional body. The most common theme from the responses was cost outweighing benefits with 53 (65%) highlighting that the expense of membership was not worthwhile. One graduate wrote that the membership is 'too expensive with not enough incentives/benefits to justify the expense'.

Salary and income satisfaction

The modal salary bracket for graduates (26%) was \$65,001-75,000 Australian dollars (AUD). 6% of respondents were on a salary <\$50,000 AUD and one respondent reported earning >\$145,000 AUD.

The salary brackets of respondents for this question (n=144) is presented in Table 2.

Table 2: Annual gross salary bracket of survey respondents

Salary (AUD)	Frequency (n)	Percentage (%)
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< \$50 000	10	7
\$55 000 – 65 000	23	16
\$65 000 – 75 000	37	26
\$75 000 – 85 000	31	22
\$85 000 – 95 000	18	13
\$95 000 – 105 000	19	13
\$105 000 – 115 000	2	1
\$115 000 – 125 000	1	1
\$125 000 – 135 000	2	1
\$135 000 – 145 000	0	0
\$145 000 +	1	1

Respondents were asked to rate their income satisfaction with data grouped for analysis into dissatisfied, neither satisfied nor dissatisfied and satisfied. 32 (22%) of respondents reported to be dissatisfied with their income with 24% neither dissatisfied nor dissatisfied. Those who were satisfied with their income were most likely to be in the salary bracket \$75,000-85,000 AUD compared to those who were dissatisfied who were most likely to be earning between \$65,000 and 75,000 AUD. There were no statistically significant differences between salary satisfaction and gender ($p=1.00$); and salary satisfaction and age ($p=1.00$).

Employment location

146 respondents provided postcodes for their current employment. These postcodes were assigned to regions as per the Australian Government Department of Health classifications. The majority of participants (82%) were working in a 'Major city' with eight working in 'Inner regional', seven working in 'Outer regional', one in 'Remote' and four working in 'Very remote' locations. Seven respondents were currently working overseas.

Current healthcare sector and clinical area of practice in primary job

A greater number of respondents were working in the private sector (48%) compared to the public sector (46%), with 6% of respondents working in the not-for-profit sector in their primary job. For

those graduates working in the private sector, 93% held associate positions with the remaining respondents in a principal position. In the public sector, 59% of respondents were in junior positions with the remaining holding senior positions. There were gender differences between public and private sectors with more male graduates (56%) working in the private sector compared to females. There was no statistically significant difference in average hours worked between respondents in the public and private sectors ($p=0.865$).

The majority of survey respondents reported working in more than one clinical area of practice in physiotherapy in their primary job. Table 3 presents the clinical areas of practice reported by respondents in their primary job. The total percentage of responses is greater than 100 as respondents could choose more than one clinical area.

Table 3: Percentage of respondents per clinical area of employment, in their primary job

Clinical area of employment	Number of Respondents (n)	Percentage of Respondents (%)
Musculoskeletal Orthopaedics	50	36
Geriatrics/Aged care	47	33
Musculoskeletal Sports	45	32
Musculoskeletal Manipulative	40	28
Cardiorespiratory	32	23
Neurology	27	19
General work in many areas	28	20
Pilates	22	16
Occupational Health/Ergonomics	18	13
Paediatrics	18	13
Women's Health	16	11
Management	15	11
Education	15	11
Disability	10	7
Aquatic	10	7
Health Promotion	8	6
Other	8	6
Research	3	2

Employment in geriatrics, paediatrics and rural health since graduation

46% of respondents reported that they had worked in the clinical area of geriatrics/aged care since graduation, 19% reported that they had worked in paediatrics and 30% of graduates had worked in rural health. 30% reported that they had never worked in any of these three areas since graduation.

Respondents were asked to provide comments on their reasons for leaving geriatrics, paediatrics or rural healthcare if they were not currently employed in this area but had previously worked in one or more area since graduation. Of the 42 respondents who reported having worked in a rural area, 15 provided comments on why they left their rural position. Eight reported leaving due to family commitments including one who commented that they had 'returned to Perth because of my partner', whilst three of the respondents reported leaving due to the remoteness of their positions. One respondent commented 'it was too remote and not enough outside of work to keep me there'. Two participants reported leaving due to travel. A further two reporting a lack of professional support, with one of those respondent's commenting that they 'left due to small team with insufficient clinical support for a new graduate'.

Discussion

One of the primary aims of this study was to determine the employment patterns of Notre Dame graduate physiotherapists, and determine any variations from nationwide or local data. Schofield and Fletcher highlighted a shift towards physiotherapists working longer hours due to masculinisation of the profession.¹ Their study reported that in 2001, 27% of physiotherapists were working more than 41 hours a week, compared to 18% in 1986. This was not evidenced in the results of this study with only 12% of respondents working longer hours, as defined by Schofield and Fletcher.¹ Gender differences in hours worked were reported by the Australian Institute of Health and Welfare's report on the allied health workforce, with male physiotherapists in 2012 working on average 40.7 hours a week compared to 31.5 hours for women.⁸ Male graduates from Notre Dame were also working on average longer hours than females, at 37.4 hours compared to 33.5 hours.

Professional body membership was held by only 46% of respondents in this study. This was less than the numbers reported in Mulcahy et al's study² highlighting a potentially concerning drop in graduate physiotherapists' views on the benefits of membership. Since this study the Australian Physiotherapy Association has introduced professional indemnity cover as an added benefit to

members which may have resulted in an increase in graduate memberships in 2014. Of concern, however, was the decrease in membership in certain clinical areas of practice, particularly geriatrics/aged care. If geriatrics/aged care is acknowledged as a growth employment area as indicated by the findings of this study, along with the recognised need for healthcare services to support the ageing population; further incentives and/or education may be needed to direct graduate physiotherapists in this clinical stream towards professional body membership.

A further aim of this study was to explore whether Notre Dame graduates were taking up positions in areas of geriatrics/aged care, paediatrics and rural health at a greater rate compared to physiotherapy workforce data. Nationwide data collected in 2012⁵ reported 14% of physiotherapists working in aged care and 6% in paediatrics, comparative to Notre Dame graduates at 33% working in geriatrics/aged care and 13% in paediatrics. However caution should be taken in interpreting these results, as nationwide reporting identified physiotherapists' primary scope of practice allowing only one chosen field.⁵ This study allowed for reporting of greater than one field, as per Mulcahy et al's study, although it is pertinent to note that respondents were reporting on their 'primary' physiotherapy position, as opposed to any secondary employment positions. When compared to Western Australian data collected with the same tool², Notre Dame graduates appear to be taking up positions in these clinical areas at a greater rate, with previous data reporting 20% of graduates working in aged care and 10% in paediatrics.

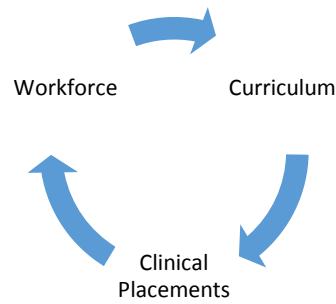
30.2% of respondents reported working in rural health since graduation. This is promising data when compared to Australian workforce studies⁵, however these numbers were not sustained when compared with respondents' current work locations, with 13.7% currently working rurally. These data demonstrate that Notre Dame graduates are encouraged to 'go rural' however they are not being retained in the rural health workforce. Continued opportunities assisted by targeted incentives, particularly for allied health students, are required for educational institutions to

continue rural health placement opportunities, allowing students to experience the rural workforce prior to graduation.⁹

It can be proposed that increasing student clinical placements in rural areas may increase the uptake of jobs in the rural sector once students have graduated, however retention needs to be addressed. Reasons provided by graduates as influencing their choice to leave rural positions can be grouped into: family commitments; remoteness; poor community involvement; and a lack of professional support. These themes are consistent with Campbell et al who reported poor access to professional development, professional isolation and insufficient supervision, along with decreased participation in the community, to have negative effects on retention of rural workers.¹⁰ Gillham and Ristevski highlighted the importance of family friendly work hours resulting in a positive effect on retention of rural staff.¹¹ Of note, remuneration was not a factor identified by graduates as influencing their decision to leave. This is consistent with Gillham and Ristevski who reported financial incentives as influencing attraction to rural health, not retention.¹¹ Although there were relatively small numbers of graduates responding to this question, with further support from the literature, recommendations can be made to improve retention. Increasing professional support and development, improving flexibility to allow for family commitments and applying strategies to improve community involvement may aid the retention of the rural physiotherapy workforce.⁹⁻¹³

Results from this study are promising in identifying a relationship between curriculum focus, clinical training and uptake of jobs, providing evidence for work integrated learning influencing the ability to build capacity in the workforce. Thus as per Figure 1, if curriculum and clinical placements can be closely linked through both content and timing, clinical placement experiences may influence workforce uptake. Ideally workforce should in turn direct curriculum focus, as was initially planned in the development of the Physiotherapy program at Notre Dame.

Figure 1: The Workforce-Curriculum-Clinical Placement cycle for building workforce capacity



Health Workforce Australia reported the clinical training settings and location of placements for physiotherapy students in 2012, identifying the majority of clinical training settings in acute settings (38%) and sub-acute care (18%), with less than 5% in aged care.¹³ Notre Dame students are introduced to the aged care setting through targeted placements following gerontology curriculum in second year of the program, with over half of each cohort attending a geriatrics placement at that time in the program. In 2014, 25% (n=14) undertook a placement within a residential aged care facility and a further 29% (n=16) in public health aged care/geriatric settings.

A recent report from the University of Sydney identified that there are difficulties in identifying the benefits to service providers of student placements.¹⁴ The report highlighted that benefits should be recognised as broad ranging beyond the provision of direct service delivery. This study provides evidence, through demonstrating a link between clinical placements and uptake of jobs in targeted clinical areas and locations, that there is benefit to service providers in undertaking student placements. It should encourage service providers to initiate or continue to support clinical education opportunities. Further, it can be hypothesised that ensuring the link between curriculum, clinical placements and workforce may result in graduates who are better equipped for the demands of the future workforce, with more realistic career expectations regarding clinical areas and locations.

Although the results of this study are promising, the authors acknowledge the limitations including the survey response rate of 50% of contactable graduates. Due to the response rate, caution needs to be made when generalising the findings of this study. However, it is pleasing to note that all

graduate year groups were represented in the results, providing a cross-section of years of experience and subsequent graduate outcomes.

Conclusion

In summary, Notre Dame's focus on linking curriculum and clinical placement experiences through content and timing, has resulted in positive outcomes for the workforce as demonstrated by the findings from this study. Survey results demonstrated increased employment uptake in the areas of paediatrics, geriatrics/aged care and rural health, compared to local and nationwide data. Although graduates are not being retained rurally, they appear to be retained in both the paediatrics and geriatrics clinical streams. It is recommended that further emphasis is placed on supporting rural workers through professional and community involvement to improve retention. Additionally, further research is required to identify the tangible benefits to service providers, beyond direct service provision by students, of clinical education experiences and their link to workforce outcomes.

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