

ORIGINAL RESEARCH

Competencies for entry-level rural and remote physiotherapy practice: a Delphi approach

AUTHORS



Romany Martin¹ Bachelor of Physiotherapy, PhD Candidate *



Allison Mandrusiak² PhD, Associate Professor



Andric Lu³ Bachelor of Physiotherapy, Manager Affiliations



Roma Forbes⁴ PhD, Senior Lecturer

CORRESPONDENCE

*Ms Romany Martin romany.martin@uq.net.au

AFFILIATIONS

^{1, 2, 4} School of Health and Rehabilitation Sciences, The University of Queensland, St Lucia, Qld 4067, Australia

³ North West Hospital and Health Service, Queensland Health, Mount Isa, Qld 4825, Australia

PUBLISHED

16 October 2021 Volume 21 Issue 4

HISTORY

RECEIVED: 10 October 2020

REVISED: 20 July 2021

ACCEPTED: 23 August 2021

CITATION

Martin R, Mandrusiak A, Lu A, Forbes R. Competencies for entry-level rural and remote physiotherapy practice: a Delphi approach. *Rural and Remote Health* 2021; 21: 6471. <https://doi.org/10.22605/RRH6471>

This work is licensed under a [Creative Commons Attribution 4.0 International Licence](https://creativecommons.org/licenses/by/4.0/)

ABSTRACT:

Introduction: Rural physiotherapy is a challenging area of practice that requires clinicians to respond to the unique factors that contribute to rurality. This study aimed to outline an introductory set of competencies that contribute to effective physiotherapy practice in rural Australia.

Methods: A three-round Delphi study was undertaken using a panel of expert physiotherapists. The panel was asked to provide open-ended responses to the following question: 'What unique knowledge, skills, abilities, attributes or other characteristics do physiotherapists need to possess, or learn in order to provide

effective physiotherapy specifically in a rural or remote setting? These responses were then thematically analysed to create competencies. The competencies were evaluated in the subsequent rounds by the Delphi panel. Consensus was set at 80%. Rural and remote experts were determined through criteria including duration of practice, established expert frameworks, and self- or peer nomination. The publicly accessible Australian *Physiotherapy Association* database was used to access the contact details of 222 physiotherapists working in rural and remote locations across all Australian states and territories. Seventeen expert physiotherapists met inclusion criteria and consented to participation.

Results: Seventeen expert physiotherapists completed round one

Keywords:

allied health, Australia, competencies, Delphi, education, entry-level practice, physiotherapy, pre-professional training, qualitative.

FULL ARTICLE:

Introduction

Seven million people live in rural and remote Australia, constituting 29% of the Australian population¹. These communities face significant healthcare disparities when compared to their metropolitan counterparts, with reduced life expectancy and an increased burden of disease². Physiotherapists are known to contribute to health care in this community; however, there are several barriers to the recruitment and retention of rural physiotherapists. For example, rural physiotherapists report stress associated with managing large caseloads³, having limited support⁴ and providing care across wider clinical areas to more culturally diverse populations than their metropolitan counterparts⁴.

Rural and remote physiotherapy in Australia has evolved to be regarded by some as a discipline in its own right⁵. A 2009 literature review by the Centre for Allied Health Evidence defined additional competencies and skills required of allied health professionals in rural and remote health practice to bridge the gap from metropolitan practice⁶. The domains recognised by the review were clinical, organisational, professional, cultural, team practice, and attitudinal, and are all considered to contribute to effective rural practice⁶. The postgraduate Allied Health Rural Generalist Pathway^{7,8} emerged in response to a need for additional training pathways within the discipline. Such qualifications aim to provide the knowledge, skills and attributes needed of practitioners who best meet the needs of the community⁷. At the graduate level, Beattie and colleagues created an entry to practice framework titled *Developing rural and remote allied health competencies*⁹, which addressed three broad domains of practice: generic, professional and technical. Therefore, although great work has already been done to understand competencies required for effective allied health practice in rural and remote contexts, as well as development of training frameworks to support best practice health care for these communities, work specific to the physiotherapy context is yet to be performed.

To enter the physiotherapy profession, practitioners are required to

with a 100% response rate. Analysis of the expert panel responses yielded an initial 24 competencies. The second round had a response rate of 94.1%, and the third round 93.8%. A final set of 19 competencies was established. The knowledge, skills and attributes featured in the competencies relate to responsiveness to rural locality, adapting to individual community needs and problem solving in response to challenges to practising in rural and remote locations.

Conclusion: This study has introduced a set of competencies that may contribute towards effective physiotherapy practice in the rural setting. The competencies provide a common language for physiotherapists and their employers, and may be used to guide training or mentorship in this setting.

meet the competencies outlined in the physiotherapy practice thresholds in Australia and Aotearoa New Zealand¹⁰. These competencies encompass knowledge, skills and attributes such as 'plan and implement an efficient, effective, culturally responsive and client-centred physiotherapy assessment' and 'advocate for clients and their rights to health care'¹⁰. Competencies can provide credibility and accountability to a profession, by streamlining the expectations of all stakeholders and providing an objective measure of outcomes¹¹. Competencies can also be utilised to create frameworks for pre-professional training and professional development, and can underpin role descriptions.

Employers and education providers advocate for training in preparation for entering and succeeding in the rural workforce^{6,12,13}, and competencies similar to those above may be considered the first step to inform the creation of physiotherapy support. With acknowledgement of the work of Beattie and colleagues regarding competencies for rural allied health practitioners⁹, the work underpinning the postgraduate Rural Allied Health Generalist Pathway⁸, and the physiotherapy practice thresholds in Australia and Aotearoa New Zealand 2015¹⁰, there has been no investigation into the physiotherapy-specific skills that contribute to effective entry-level practice in rural and remote settings. The exploration of competencies that contribute to effective physiotherapy practice in rural settings may inform strategies aimed to enhance the transition from student to clinician in this challenging context. Therefore, this study aimed to identify a set of competencies that contribute to effective physiotherapy practice in rural Australia.

Methods

Study design

The Delphi method aims to reach consensus of opinion of a group of identified experts by providing organised feedback between 'rounds' where experts collate their ideas^{14,15}. The experts independently complete several rounds of a survey, through which they are asked to consider and refine their own opinions and the

de-identified opinions of the other panel members until consensus is reached¹⁶. The Delphi method allows for asynchronous contribution from geographically dispersed experts in rural and remote physiotherapy practice, without the need to have all contributors in the same location and also avoiding potentially destructive group dynamics¹⁷. This method has also been used to define and clarify roles and performance competencies across health care and education^{17,18}.

Participants

Three rounds of online questionnaires were used (detailed below), which exceeds the required two rounds considered adequate for collation of varied and comprehensive expert opinions¹⁷. Agreement between 80% of the panel members was the benchmark selected a-priori to indicate that consensus had been reached¹⁷.

In this study, experts in rural and remote physiotherapy were selected in agreement with expert criteria defined by Jensen et al¹⁹. These criteria include:

- (a) a dynamic, multidimensional knowledge base that is patient-centred and evolves through therapist reflection,*
- (b) a clinical reasoning process that is embedded in a collaborative, problem-solving venture with the patient,*
- (c) a central focus on movement assessment linked to patient function, and*
- (d) consistent virtues seen in caring and commitment to patients¹⁹.*

In addition to these criteria, experts were required to have worked full-time in a rural or remote workplace for a minimum of 5 years over the previous 10-year period. This aimed to ensure sufficient experience as well as recency of rural and remote practice. The Modified Monash Model (MMM) was chosen to classify rural and remote areas²⁰.

The usefulness of findings from the Delphi method depends on the breadth of perspectives obtained¹⁷. The publicly accessible Australian Physiotherapy Association database²¹ was used to access the contact details of 222 physiotherapists working in rural and remote locations across all Australian states and territories. Physiotherapists were contacted by email and asked to consider the criteria above and nominate themselves or their peers to participate. Physiotherapists were encouraged to consider nominating peers outside of their setting of practice to promote diversity of the sample. A minimum of 15 members for the initial panel¹⁴ was determined, with a first-to-consent approach applied to the purposive sampling. Eligible participants were sent the round one survey from the lead researcher by email. Participants were assured that their responses would remain de-identified.

Data collection

The Delphi question was designed following a review of the literature and through collaboration with the research team

including a panel of expert academics, researchers and physiotherapists working in rural and remote locations. This question aimed to elicit detailed and specific responses that would allow for thematic analysis in combination with other participants' responses, for the generation of competencies¹⁷. Round one was piloted by a convenience sample of physiotherapists ($n=28$) who were contacted through the initial recruitment, but did not meet the inclusion criteria of the study. This was undertaken to refine the structure and content of the Delphi question. No changes were required as a result.

The initial round of the Delphi was created in an online survey program and sent as a link to consenting panel members. Round one contained both demographic questions and the open response question of the Delphi:

What unique knowledge, skills, abilities, attributes or other characteristics do physiotherapists need to possess, or learn in order to provide effective physiotherapy specifically in a rural or remote setting?

Data analysis

The responses from round one were thematically analysed²² as per Delphi protocol¹⁴, with the assistance of NVivo v10 (QSR International; <https://www.qsrinternational.com/nvivo-qualitative-data-analysis-software/support-services/nvivo-downloads>) to review and categorise the data. The lead researcher (RM) undertook training in qualitative analysis and the use of NVivo prior to immersing in the raw data, with the aim of identifying possible competencies suggested by the expert panel. All data were read several times to ascertain the intended meaning of the participants, and then coded with initial themes and subthemes. This step was repeated independently by another researcher (RF) to ensure the creditability of the findings. To ensure the validity of the results, an experienced rural physiotherapist (AL), not involved as a participant, reviewed the data, codes and themes to aid in the verification of findings. All potential themes were then reviewed and discussed by the research team.

Delphi process

A total of 127 items were provided by the panel in round one, which resulted in 22 competencies following data analysis (Fig1). The 22 competencies derived from round one were presented to the expert panel in round two in a table format. Participants were invited to consider each competency and indicate whether they felt that it was 'important for most rural and remote physiotherapists', 'important for only some rural and remote physiotherapists' or 'not important for rural and remote physiotherapists'. Questionnaires were individualised to each participant to include their answers from round one along with the 22 competency items. Each survey also included an open text space for participants to raise concerns or provide additional information regarding the competencies. Each round of the Delphi was open for 3 weeks, with prompting emails sent to non-responding participants 1 week prior to closure.

A total of seven panel members provided additional responses in

the open text space during round two. This resulted in two new competencies being presented to the expert panel in round three (totalling 24 competencies for panel consideration). Round three

followed identical procedures to round two. At the completion of round three, no additional free text comments were provided by the respondents, signalling the completion of the survey rounds.

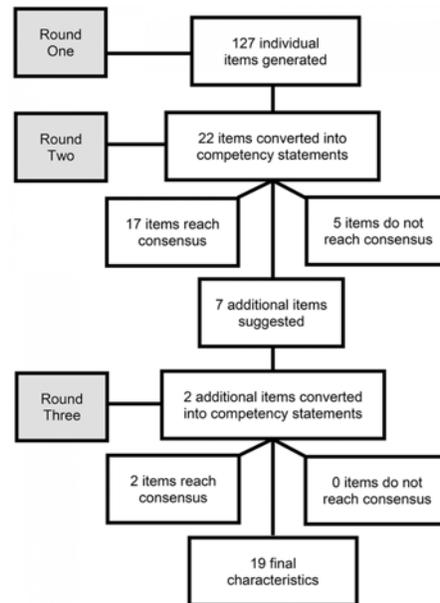


Figure 1: Data analysis rounds one, two and three.

Ethics approval

Ethics clearance was obtained from the University of Queensland Human Research Ethics Committee (approval number 2019002084).

Results

A purposive sample of 17 expert physiotherapists agreed to participate. All 17 panel members completed the first round (100% response rate), 16/17 completed the second round (94.1% response rate), and 15/16 completed the third round (93.8% response rate). The responses from participants who completed rounds one and two were not removed if they did not respond in subsequent rounds, as consistent with the Delphi approach¹⁶. Reported reasons for attrition included participants taking periods of annual leave and failing to complete the survey within the required timeframe.

Rural experience among the panel had a range of 5–36 years, with an average of 17.5 years. Over half of the participants were female (10/17, 58.8%) with most participants (8/17, 47.1%) based in large rural towns (MM 3), followed by medium rural towns (MM 4) (4/17, 23.5%), small rural towns (MM 5) (3/17, 17.7%), and remote

communities (MM 6) (2/17, 11.8%). Additional demographic information is outlined in Table 1. Most participants (13/17, 76.5%) identified as working in a ‘musculoskeletal and/or sports private practice’ setting, with four other settings identified. The Health Workforce Australia classification system was used to define the respondents’ physical setting of work; however, the ‘musculoskeletal and/or sports private practice’ category does not reflect their clinical practice. The respondents worked across a broad range of clinical areas within their identified settings of practice, and a breakdown of their clinical expertise across the seven major disciplines of physiotherapy is presented in Table 2.

Of the 24 competencies presented to the panel, consensus was reached on a total of 19. These were considered by a consensus of 80% of the panel as ‘important for most rural and remote physiotherapists’. Five competencies did not achieve consensus (Table 3). No competencies achieved consensus as being ‘important for only some rural and remote physiotherapists’ or ‘not important for rural and remote physiotherapists’. Of the final set of 19 competencies, five achieved 100% agreement by the panel. The final set of competencies is outlined in Table 4 alongside the levels of consensus that were achieved for each competency.

Table 1: Demographic characteristics of the Delphi panel

Variable	n (%)
Gender	
Male	7 (41.2)
Female	10 (58.8)
Age (years)	
20–29	0 (0)
30–39	5 (29.4)
40–49	3 (17.7)
50–59	9 (52.9)
≥60	0 (0)
Physiotherapy experience (years)	
5–9	2 (11.8)
10–14	3 (17.7)
15–19	1 (5.9)
20–24	2 (11.8)
25–30	4 (23.5)
≥30	5 (29.4)
Rural experience (years)	
5–9	5 (29.4)
10–14	2 (11.8)
15–19	1 (5.9)
20–24	5 (29.4)
25–30	3 (17.7)
≥30	1 (5.9)
Primary scope of practice	
Musculoskeletal	13 (76.5)
Aged care	1 (5.9)
Women's/men's health	1 (5.9)
Occupational health	1 (5.9)
Rural generalist	1 (5.9)
State	
Queensland	4 (23.5)
Victoria	4 (23.5)
New South Wales	3 (17.7)
Western Australia	3 (17.7)
South Australia	2 (11.8)
Tasmania	1 (5.9)
Australian Capital Territory	0 (0)
North Territory	0 (0)
Location	
Large rural towns (MM 3)	8 (47.1)
Medium rural towns (MM 4)	4 (23.5)
Small rural towns (MM 5)	3 (17.7)
Remote communities (MM 6)	2 (11.8)
Very remote communities (MM 7)	0 (0)

MM, Modified Monash.

Table 2: De-identified panel member details

Participant number	Location of practice	Percentage to clinical area(s) primarily undertaken during current clinical practice							MMM scale
		MSK	Cardio	WH	Paeds	NE	Aged care	Sports	
1	Qld	75	5	–	–	5	5	10	4
2	Qld	5	–	95	–	–	–	–	3
3	Vic	75	–	5	–	5	5	10	5
4	Qld	50	–	–	–	–	10	40	4
5	Qld	30	20	10	10	20	5	5	5
6	NSW	90	–	–	–	–	–	10	3
7	Vic	40	5	–	20	5	25	5	4
8	NSW	50	–	–	–	3	2	45	3
9	Tas	90	–	–	–	–	2	8	3
10	Vic	25	25	–	–	–	50	–	4
11	NSW	60	–	–	–	–	–	40	3
12	SA	60	–	–	10	–	–	30	3
13	WA	60	–	5	–	5	10	25	5
14	Vic	60	–	–	–	–	30	10	3
15	WA	40	–	5	–	5	30	20	6
16	WA	60	–	–	–	–	–	40	6
17	SA	70	–	–	–	10	10	10	3

Cardio, cardiorespiratory. MMM, Modified Monash Model. MSK, musculoskeletal. Neuro, neurological. Paeds, paediatrics. Qld, Queensland. NSW, New South Wales. SA, South Australia. Tas, Tasmania. Vic, Victoria. WA, Western Australia. WH, women's health.

Table 3: Rural and remote physiotherapy competencies that did not reach consensus

Excluded competencies: Rural and remote physiotherapists must demonstrate the ability to:	Agreement n (%)
<i>(Reason for removal: did not reach expert consensus)</i>	
Practise with cultural awareness of indigenous populations	12/16 (75)
Understand the social importance of the community on determinants of health	12/16 (75)
Participate as an active member of the community	10/16 (62.5)
Provide effective physiotherapy care for socially isolated persons or communities	9/16 (56.3)
Maintain an active role with professional networks	12/16 (75)

Table 4: Entry-level rural and remote physiotherapy competencies list

Competencies: Rural and remote physiotherapists must demonstrate the ability to:	Agreement n (%)
Practise flexibly	16/16 (100)
Practise independently	13/16 (81.3)
Understand the needs of rural communities and their residents	15/16 (93.8)
Understand the impact of the socioeconomic context on their unique rural setting	14/16 (87.5)
Understand the unique social and occupational requirements for those living in a rural setting	15/16 (93.8)
Advocate for health promotion within the community	14/16 (87.5)
Practise effectively and sustainably with limited resources	14/16 (87.5)
Provide effective physiotherapy care for a range of clinical conditions across the lifespan	16/16 (100)
Value the clinical experience of colleagues in rural practice	15/16 (93.8)
Maintain integrity as a recognisable healthcare professional within the community	15/16 (93.8)
Proactively manage their own health and resilience to meet the ongoing challenges of rural practice	16/16 (100)
Manage potential ethical conflicts when practising in a rural setting	14/16 (87.5)
Understand the role of other members of the healthcare team	16/16 (100)
Maintain effective working relationships with members of the healthcare team	14/16 (87.5)
Pursue additional skill development in rural physiotherapy practice including self-directed learning	16/16 (100)
Use reflection to advance own knowledge and skills	13/16 (81.3)
Seek the expertise of others where required	13/16 (81.3)
Educate other members of the multidisciplinary team on aspects of physiotherapy care	13/15 (86.7)
Practise with knowledge of community services and specialist referrals available for effective care coordination	13/15 (86.7)

Discussion

This study has explored the attributes that contribute to effective physiotherapy practice in rural Australia. The attributes are presented as a set of 19 competencies and reflect the complexity of rural physiotherapy practice. The competencies also emphasise the importance of providing health care that is responsive to rurality and considers broader constructs such as isolation, resource limitations and the social determinants of health. These competencies add to the body of work that explores effective practice in rural Australia, furthering the literature in the scope of entry-level physiotherapy practice. The competencies are a preliminary step in providing a common language for physiotherapists and their employers, and may be used to guide mentorship and training in this setting. In outlining attributes that contribute to effective practice, these competencies may also have a role in ensuring positive experiences in rural settings and may contribute to discussions around recruitment and retention.

The knowledge, skills and attributes represented by these competencies reflect the factors that add complexity to rural and remote practice, for example the ability to 'understand the needs of rural communities and their residents', 'understand the impact of the socioeconomic context on their unique rural setting' and

'understand the unique social and occupational requirements for those living in a rural setting'. The Allied Health Rural Generalist Pathway competencies encourage the deliberate fostering of these skills to overcome the challenges presented by rural practice, for example recommending 'appropriate and relevant community engagement mechanisms in rural and remote settings'⁷. The Allied Health Rural Generalist Pathway, combined with the findings of this study, encourage physiotherapy education providers to consider the inclusion of such awareness and skills in pre-professional training.

Several competencies generated concern the intrinsic skills of physiotherapists to problem solve in response to challenges to practising in rural and remote locations, including the ability to 'practise flexibly', 'practise independently', and 'practise effectively and sustainably with limited resources'. The inclusion of independence and sustainability competencies by the expert panel was not surprising, given that professional isolation and resource limitations are considered significant challenges for rural and remote health practitioners⁶. These skills further reflect the clinical adjustments required of physiotherapists working in a rural and remote health care model²³. Similar skills relating to adaptation and initiative in the face of scarcity have been identified as strengths of health practitioners working in this area²⁴. Beattie et

al's framework also advocates for the acquisition of generic competence such as leadership and management, on entry to the rural workforce⁹. The additional skills that contribute to effective practice in the rural setting may highlight the disparity between rural and metropolitan practice. This study presents the competencies that contribute to responsive practice in rural settings, and may encourage new graduates to consciously foster these skills when working rurally.

The competencies developed within the present study are particularly relevant to the retention challenges faced in rural and remote physiotherapy settings. Warburton and colleagues (2014) identified that, in rural and remote settings, workplace support was a strong extrinsic factor that contributed to retention of healthcare practitioners²⁵. The final set of competencies featured skills valuing the resources and supports available; for example the ability to 'value the clinical experience of colleagues in rural practice'. A literature review conducted by Campbell and colleagues identified that the intrinsic qualities of rural and remote work, such as the ability to be flexible and autonomous, were viewed as beneficial to working in the setting³. Attainment of these competencies in addition to the Physiotherapy Practice Thresholds in Australia and Aotearoa New Zealand (2015)¹⁰ may create positive steps towards actions that may enhance retention. The competencies highlight the knowledge, skills and attributes required for effective practice in rural and remote settings; supporting entry-level physiotherapists to attain these may improve the sustainability of their practice, and subsequently their retention in this workforce.

The concept of independence as a competency was not unexpected considering the recognition of the ability to work autonomously as a key requirement for other health professionals working in rural and remote settings²⁶, and the first-contact practitioner role of physiotherapists. It is known that practitioners who are able to develop a sense of professional autonomy may find rural and remote practice more satisfying and rewarding⁶, supporting the inclusion of a competency addressing independence. The opportunity to practice with autonomy must be considered in the context of current literature, which suggests that what are viewed as incentives by some may be viewed as disincentives by others²⁷.

The literature reviewed by the Centre for Allied Health Evidence highlighted the many non-clinical domains of competence required of rural and remote practitioners⁶. In the present study, several competencies representing non-clinical domains were included in the final set, such as the ability to 'maintain integrity as a recognisable healthcare professional within the community', and 'proactively manage their own health and resilience to meet the ongoing challenges of rural practice'. Existing literature that considers all domains must be prioritised when referring to professional development and career progression, as opposed to effective entry-level practice.

Two competencies that did not reach expert consensus were 'practice with cultural awareness of indigenous populations' and 'understand the social importance of the community on determinants of health'. These potential competencies were

identified in the rural practice literature review undertaken prior to data collection. It is hypothesised that although these are fundamental to all physiotherapy practice, they did not reach consensus because they may not be applicable exclusively to all rural settings across Australia.

The creation of specific competencies for rural and remote physiotherapy practice may serve several purposes. Primarily, this set of competencies provides insight and a common language for individuals interested in the requirements of entry-level physiotherapists working specifically in rural or remote locations. This may facilitate a shared approach between educators regarding the requirements for professional development in this context. This study may also have relevance for guiding current curriculum or the potential for refining pre-professional training related to rural and remote physiotherapy education. Further inquiry into the feasibility of including specific rural and remote training into existing preprofessional programs or through individual approaches holds merit. As demonstrated by Strasser and Neusy, positive clinical and educational experiences in rural health during pre-professional training are strongly associated with entering the rural workforce¹², which in turn informs curriculum design. Also, these entry-level competencies identify the knowledge, skills and attributes required of physiotherapists who are transitioning from student to clinician in the rural setting. As the competencies reflect the skills required to be effective, their use to guide new-graduate training may contribute to positive experiences in the rural setting. Ensuring that new graduates are appropriately prepared to deliver effective care may contribute to their retention to the rural workforce. Given the common challenges of rural and remote practice, these competencies may be potentially modified to suit other health disciplines. This article presents an introductory exploration of competencies for effective entry-level practice in rural and remote settings. Further research is required to gain a deeper understanding of the opinions of physiotherapists working in specific rural and remote settings (such as hospitals and aged care), as well as further research to establish the need for competencies that detail the unique skills of rural physiotherapy practice.

Limitations

This study has only considered rural and remote physiotherapy practice in Australia, and the generality of the findings may be limited as other nations were not represented. This is reinforced by the geographic challenges and cultural variables that may be considered unique to the Australian context. Attrition occurred from the expert panel in round two ($n=1$) and round three ($n=1$), and the effect of this missing data is unknown. Over three-quarters of the panel identified as working most of their time in a 'musculoskeletal and/or sports private practice' setting. Despite this representing the respondent's location of practice rather than their clinical caseload, the skewed representation may have biased the final set of competencies toward musculoskeletal practice. All seven of the major disciplines of physiotherapy in Australia were represented within the panel members' workloads. Furthermore, a previously established consensus threshold of 80% was selected to achieve the aims of the study; however, if the panel had been

required to achieve 100% agreement the ongoing deliberation may have altered the final set of competencies.

Conclusion

This study has introduced competencies that detail the attributes

contributing to effective physiotherapy practice in rural Australia. These competencies support the understanding of rural and remote physiotherapy as an area of practice with unique challenges and may inform pre-professional preparation and new-graduate support.

REFERENCES:

- 1 Australian Bureau of Statistics. *Labour force, Australia, detailed-electronic delivery*. ABS cat. no. 6291.0.55.001. 2017. Available: [web link](#) (Accessed 10 October 2020).
- 2 National Rural Health Alliance. *Advocating RACCHOs model of health care (the case for better health care)*. 2021. Available: [web link](#) (Accessed 4 June 2021).
- 3 Campbell N, McAllister L, Eley D. The influence of motivation in recruitment and retention of rural and remote allied health professionals: a literature review. *Rural and Remote Health* 2012; **12**: 1900. DOI link
- 4 Sheppard L. Work practices of rural and remote physiotherapists. *Australian Journal of Rural Health* 2002; **9(2)**: 85-91. DOI link, PMID:11259962
- 5 Sheppard L, Nielsen I. Rural and remote physiotherapy: its own discipline. *Australian Journal of Rural Health* 2005; **13(3)**: 135-136. DOI link, PMID:15932481
- 6 Centre for Allied Health Evidence. *Literature review supporting the transition of allied health professionals to remote and rural practice*. Adelaide: University of South Australia, 2009.
- 7 Australian Healthcare and Hospitals Association. *An accreditation system for rural generalist education and training for the allied health professions*. 2018. Available: [web link](#) (Accessed 10 October 2020).
- 8 Services for Australian Rural and Remote Allied Health. *The Allied Health Rural Generalist Pathway*. 2020. Available: [web link](#) (Accessed 10 October 2020).
- 9 Lin I, Beattie N, Spitz S, Kilmurray D. *Developing competencies for rural and remote allied health professionals in Western Australia*. 10th National Rural Health Conference. 2009. Available: [web link](#) (Accessed 10 October 2020).
- 10 Physiotherapy Board of Australia. *Physiotherapy practice thresholds in Australia and Aotearoa New Zealand*. 2015. Available: [web link](#) (Accessed 10 October 2020).
- 11 Gruppen L, Mangrulkar R, Kolars J. The promise of competency-based education in the health professions for improving global health. *Human Resources for Health* 2012; **10**: 43. DOI link, PMID:23157696
- 12 Strasser R, Neusy AJ. Context counts: training health workers in and for rural and remote areas. *Bulletin of the World Health Organization* 2010; **88(10)**: 777-782. DOI link, PMID:20931063
- 13 Dalton LM, Routley GK, Peek KJ. Rural placements in Tasmania: do experiential placements and background influence undergraduate health science student's attitudes toward rural practice? *Rural and Remote Health* 2008; **8(3)**: 962. DOI link, PMID:18767916
- 14 Giannarou L, Zervas E. Using Delphi technique to build consensus in practice. *International Journal of Business Science and Applied Management* 2014; **9(2)**: 65-82.
- 15 Chia-Chien H, Brian AS. The Delphi technique: making sense of consensus. *Practical Assessment, Research & Evaluation* 2007; **12(10)**: 1-8.
- 16 Krippendorff K. *Content analysis: an introduction to its methodology*. 3rd ed. Los Angeles, CA: SAGE, 2013.
- 17 Keeney S, Hasson F, McKenna HP. *The Delphi technique in nursing and health research*. Chichester: Wiley-Blackwell, 2011. DOI link
- 18 Forbes R, Mandrusiak A, Smith M, Russell T. Identification of competencies for patient education in physiotherapy using a Delphi approach. *Physiotherapy* 2018; **104(2)**: 232-238. DOI link, PMID:28779970
- 19 Jensen GM, Gwyer J, Shepard KF. Expert practice in physical therapy. *Physical Therapy* 2000; **80(1)**: 28-43. DOI link
- 20 Australian Bureau of Statistics. *Modified Monash Model 2019*. Available: [web link](#) (Accessed 10 October 2020).
- 21 Australian Physiotherapy Association. 'Find a physio' database. Available: [web link](#) (Accessed 5 September 2019).
- 22 Braun V, Clarke V. Using thematic analysis in psychology. *Qualitative Research in Psychology* 2006; **3(2)**: 77-101. DOI link
- 23 Martin R, Mandrusiak A, Lu A, Forbe R. New-graduate physiotherapists' perceptions of rural practice. *Australian Journal of Rural Health* 2020; **28(5)**: 443-452. DOI link, PMID:32985085
- 24 Longenecker RL, Wendling A, Hollander-Rodriguez J, Bowling J, Schmitz D. Competence revisited in a rural context. *Family Medicine* 2018; **50(1)**: 28-36. DOI link, PMID:29346700
- 25 Warburton J, Moore ML, Clune SJ, Hodgkin SP. Extrinsic and intrinsic factors impacting on the retention of older rural healthcare workers in the north Victorian public sector: a qualitative study. *Rural and Remote Health* 2014; **14(3)**: 2721. DOI link, PMID:25160873
- 26 Young L, Larkins SL, Sen Gupta TK, McKenzie SH, Evans RJ, Crowe MJ, et al. Rural general practice placements: alignment with the Australian Curriculum Framework for Junior Doctors. *Medical Journal of Australia* 2013; **199(11)**: 787-791. DOI link, PMID:24329659
- 27 Heaney SE, Tolhurst H, Baines SK. Choosing to practice in rural dietetics: what factors influence that decision? *Australian Journal of Rural Health* 2004; **12(5)**: 192-196. DOI link, PMID:15588261

This PDF has been produced for your convenience. Always refer to the live site <https://www.rrh.org.au/journal/article/6471> for the Version of Record.