

RESEARCH

An evaluation of research capacity and culture in a sample of Western Australian Allied Health professionals

¹Janine Matus*, ²Jessica E. Tearne*, ³Kellie Blyth, ¹Stephanie Coates, ¹Sara Pearson, ^{3,4}Vinicius Cavalheri

¹Department of Occupational Therapy Fiona Stanley Fremantle Hospital Group; ²Department of Clinical Psychology Fiona Stanley Hospital; ³Allied Health, South Metropolitan Health Service, Health Department of Western Australia; ⁴School of Physiotherapy and Exercise Science, Curtin University, Western Australia. * Equal first authorship

Abstract

Background: The aim of the present study was to measure perceived Allied Health research capacity and culture within the South Metropolitan Health Service (SMHS) and describe strengths, barriers and motivators to undertaking research.

Method: Cross-sectional survey. Allied Health professionals within SMHS were invited to complete the Research Capacity and Culture (RCC) tool. The tool consists of 52 questions examining self-reported success or skill in a range of areas related to research capacity or culture across three domains: (i) the organisation; (ii) the team (i.e. professional group); and (iii) the individual. Each question uses a 10-point numeric rating scale where 10 is the highest possible level of skill or success. Scores for items were categorised as “low” (median <4), “moderate” (median ≥4 and ≤6.9) and “high” (median ≥7) level of skill or success. Data were collected electronically via Survey Monkey for five weeks in February and March 2020.

Results: 320 Allied Health professionals (37% of the SMHS workforce) responded to the survey. Overall, respondents considered their organisation and professional group to be moderately successful in supporting and valuing research. On an individual level, common strengths were in finding relevant literature, critically reviewing the literature and integrating research findings into practice. Areas of weakness included securing research funding, writing ethics application and manuscripts. Motivators for engaging in research were to develop skills, address gaps in clinical practice, increase job satisfaction and provide opportunities for career advancement. Enablers included having dedicated time for research, access to research mentors and encouragement from managers. The most commonly reported barriers to engaging in research included a lack of time, funding and suitable backfill, other work roles taking priority, and a lack of research skills.

Conclusions: In order to increase research culture and capacity of the Allied Health professionals at SMHS, ongoing support and investment of resources is paramount. Initiatives should focus on strengthening existing motivators and mitigating key barriers to research engagement.

Tasman Medical Journal 2021; 3(1): 23-29.

Introduction

Research should be one of the pillars of a resilient flexible health system,¹ and building research capacity is crucial for maintaining or improving quality of care and patient outcomes. Translational research is an important phase of the research process. Allied Health professionals (AHP) comprise a significant and vital proportion of the

Australian healthcare workforce across several professional categories. Such personnel are uniquely placed to design, generate, and execute clinically meaningful research, and translate it into practice.^{2,3} However, the literature indicates that the research culture within Allied Health is overshadowed by prioritisation of delivery of clinical services, and is hampered by a number

of barriers to engagement (such as lack of time, research skills, and resources) despite an interest in conducting research.⁴⁻⁷ Given evidence that the proportion of edAHP either leading or participating in research is limited, an examination of the factors influencing Allied Health research capacity and culture is critical to informing strategies to support research capacity building.^{4,8}

Research capacity building must consider changes at multiple levels within a health care system, including at the level of the individual, professional group, and organisation. There is a growing body of literature examining research capacity within specific Allied Health professional groups^{9,10} and across AHP as a group.¹¹⁻¹³ Frequently, AHP reported a greater degree of confidence associated with preliminary components of the research process (e.g. locating and reviewing relevant studies) and a lesser degree of confidence associated with later stages of the research process (e.g. applying for and securing funding to support research, preparing ethics applications, preparing manuscripts for journals).^{11,12} At a broader level, AHP have previously reported areas of service strength to be promoting evidence based-practice and supporting publication of research. Relative areas of weakness previously described in the literature relate to provision of resources (funds, equipment, administrative support) and availability of research career pathways.^{11,12} A multi-systemic evaluation of needs and capacity is, therefore, imperative if meaningful capacity building and support strategies are to be developed to encourage Allied Health research within healthcare systems.

A rigorous assessment of needs, as well as measurement of baseline research capacity and culture is integral to the development of useful strategies to support the development of Allied Health research initiatives. The aim of the present study was to measure perceived Allied Health research capacity and culture within a large metropolitan health service in Western Australia (South Metropolitan Health Service; SMHS). Through the study, we looked to examine research capacity and culture across different settings within the service (e.g. tertiary and secondary hospitals; community-based health care settings) as well as different AHP within the service. Specifically, the study aimed to describe self-reported strengths, areas for development, barriers and motivators to doing research at the level of individuals, professional groups and the organisation itself.

Methods

This was a cross-sectional survey of AHP within the SMHS. The SMHS comprises five hospitals and several community-based public health services, providing health care to approximately 25% of Western Australia's population across a catchment area of 3,300 square

kilometres. All AHP employed within the SMHS (n = 870) were invited to participate irrespective of employment status (permanent, part-time, casual) or level of seniority. Data were collected electronically via Survey Monkey for five weeks in February and March 2020. Ethical approval to conduct this study was obtained from the SMHS Human Research Ethics Committee (approval number: RGS0000003805).

Data were collected on gender, Allied Health professional group, place of employment (hospital or community setting), educational qualification, years of experience (in role and within SMHS), employment status and grade, current enrolment in higher degree studies, participation in common research-related activities, and inclusion of research in one's role description. All questions were optional and results were anonymous and confidential. Participants had the option not to disclose their gender, professional group or geographical work area.

Participants also completed the Research Capacity and Culture (RCC) tool.¹⁴ The RCC is a valid and reliable questionnaire that consists of 52 questions examining participants' self-reported success or skill in a range of areas related to research capacity or culture across three domains: (i) "individual" (15 questions); (ii) "team" (19 questions); and (iii) "organization" (18 questions). For the purposes of the study, "team" was defined as a participant's professional group. Each question uses a 10-point numeric rating scale format where 1 is the lowest possible level of skill or success and 10 is the highest possible level of skill or success. There is also an option of 'unsure'.¹⁴ Items are scored separately for each domain (i.e. individual, professional group, organisation). The RCC also includes questions regarding participant's own perceptions of factors that motivate them to conduct research, as well as barriers to undertaking research. In line with previous work,^{12,15,16} scores for items were further categorised as "low" (median <4), "moderate" (4 - 6.9) and "high" (≥ 7) success.

Analysis A complete case analysis approach was used for data analysis, with no imputation of missing data. Participants were included in the analysis if they recorded their profession, demographics, and at least one numeric response to the individual, professional or organisation level questions. Those who did not respond, or stated "Unsure" to all answers were excluded. Data collected online from the Survey Monkey platform were exported for analysis to Microsoft Excel. Descriptive statistics were used to express data for demographic variables (mean and percentage of sample). Percentages were used to express results for the categorical motivators and

Female	263	83%
Pay level:		
P1	74	23%
P2	141	44%
P3	54	17%
P4 and above	16	5%
Grade 2 (clinical psychology)	10	3%
Grade 3 and above (clinical psychology)	7	2%
Employment status		
Permanent	231	73%
Temporary or Casual	81	25%
Years of experience		
< 2	17	5%
2-5	45	14%
6-10	59	18%
11-15	78	24%
16-20	41	13%
> 20	78	24%
Years of experience at SMHS		
< 2	53	17%
2-5	107	33%
6-10	80	25%
11-15	52	16%
16-20	15	5%
>20	12	4%
Professional group		
Physiotherapy	99	31%
Occupat. Therapy	82	26%
Clin. Psych. or Clin Neuropsych.	15	5%
Social Work	52	16%
Speech Pathology	21	7%
Exercise Physiology	3	1%
Podiatry	3	1%
Audiology	1	.3%
Dietetics	14	4%
A/H Assistant	6	2%
Other*	14	4%
Not disclosed	5	1.5%
Professional qualifications		
Undergrad. Certificate or diploma	10	3%
Undergrad. Degree	165	52%
Undergrad. Honours Degree	50	16%
Postgrad. Qualification by coursework (incl. Postgrad. Dip.80)	88	28%
Postgrad. Research degree (MSc, MPhil or PhD)	44	14%
Enrolled in a higher degree or equivalent	19	5%

Table 1. Characteristics of 320 Allied Health (A/H) professional survey responders. ‘Other’ includes Welfare Officer, Allied Health Educator, Aboriginal Health Liaison Officer, Complex Needs Coordinators, Pastoral Care and others. Undergrad. = Undergraduate; Clin = Clinical; Psych. = psychiatry; incl = including.

barriers. Due to non-normal distribution, median and interquartile ranges were calculated for the items included in the individual, professional group and organisation domains of the RCC tool.

Results

A total of 331 AHP (38% of those invited) accessed the survey during the data collection period. Of these, 257 completed the entire survey (response rate 77.6% of those who examined the survey). Four did not consent to participate in the survey, seven provided consent but did not answer any of the questions, and 63 incompletely answered the questions. In total, data from 320 AHP were available for analysis (Table 1), representing 37% of the known total Allied Health workforce within the SMHS. The majority of respondents (79%) were employed in hospital settings within the service. Fourteen percent of respondents (n=44) had completed a postgraduate qualification by research (i.e. MSc, MPhil or PhD). An additional 5% of respondents (n=19) were enrolled in a higher degree by research or other professional development relating to research. Table 2 presents data relating to research engagement and support in the workplace. The majority of respondents stated that research activities either did not constitute part of their job description (42%) or were unsure (26%) as to whether it was part of their job description.

Question	Responses (N)	%
Is research part of your role description?	311 Total	100%
Yes	100	32%
No	129	42%
Unsure	82	26%
If Yes, what provisions are made available for you to do research?*	99	100%
Research supervision	18	18%
Dedicated time	12	12%
Dedicated funding	6	6%
Training	15	15%
Admin. support	8	8%
Software access (e.g. SPSS, Endnote)	18	18%
Library access	60	60%
No provisions	27	27%

Table 2. Participants’ view of the role played by research in their appointment. Admin. = Administrative

Responses in the RCC are shown according to the three domains:

RCC individual level domain: Table 3 displays responses for the RCC “individual domain”, in which respondents graded themselves against each research skill. Only the item “finding relevant literature” was rated highly (Table 3). The table also shows the number of respondents who were “unsure” of their research skills.

Item	Value [interquartile range]	Unsure (n)
Finding relevant literature	7 [5 to 8]	7
Critically reviewing the literature	6 [5 to 7]	9
Using a computer referencing system (e.g. Endnote)	5 [2 to 7]	11
Writing a research protocol	3 [2 to 5]	11
Securing research funding	2 [1 to 2]	13
Writing an ethics application	2 [1 to 5]	13
Designing questionnaires	5 [2 to 6]	10
Collecting data (e.g. surveys, interviews)	5 [3 to 7]	7
Using computer data management systems	3 [2 to 6]	13
Analysing qualitative research data	3 [2 to 5]	12
Analysing quantitative research data	3.5 [2 to 6]	11
Writing a research report	3 [2 to 6]	11
Writing for publication in peer-reviewed journals	2 [1 to 5]	13
Integrating research findings into practice	5 [3 to 7]	10
Providing advice to less experienced researchers	2 [1 to 4]	17

Table 3: Median scores for the Individual domain skills on the RCC tool (number of responders = 279). Possible response values range from 1 to 10.

RCC professional group level domain: This domain defined the extent to which a given profession is supported in the undertaking of research. Most items were rated in the range as moderate success. Six items (shaded) were rated as low success (Table 4), and none had a high success rating (7 or greater)

RCC organisation level domain: At the level of the organisation, respondents rated SMHS as highly successful only in the category “promoting clinical practice based on evidence.” All other items were rated in the range of moderate success (Table 5).

Discussion

To our knowledge, this is the first study to assess Allied Health research capacity and culture in a Western Australian sample of Allied Health professionals.

Item	Value [interquartile range]	Unsure* (n)
Has resources to support staff research training	3.5 [2 to 6]	37
Has funds, equipment or administration to support research	3 [2 to 4]	46
Does team level planning for research development	3 [2 to 5]	38
Ensures staff involvement in developing team plans	3 [2 to 5]	43
Has team leaders that support research	5 [3 to 7]	28
Provides opportunities to get involved in research	4 [2 to 6]	28
Plans according to evidence	5 [3 to 7]	40
Has consumer involvement in planning research	3 [2 to 5]	60
Has applied for external funding for research	4 [2 to 6]	67
Conducts research activities relevant to practice	5 [3 to 7]	41
Supports applications for research scholarships and degrees	5 [3 to 7]	52
Has mechanisms to monitor research quality	4 [2 to 5]	80
Has identified experts accessible for research advice	5 [3 to 7]	61
Disseminates research results at meetings	5 [3 to 7]	44
Supports a multidisciplinary approach to research	5 [4 to 7]	51
Has incentives and support for research mentoring	3 [2 to 5]	64
Has external partners (e.g. universities) engaged in research	5 [3 to 7]	55
Supports peer reviewed publication of research	5 [3 to 7]	65
Has software available to support research activities	4 [2 to 5]	93

Table 4: Median scores for the Professional group domain on the RCC tool, and the number of “unsure” responses.

Consistent with other samples in Australia,¹²⁻¹⁵ participants reported moderate to high levels of research success within the SMHS organisation, and scores relating to the success of the organisation trended higher than those relating to the professional group or the individual. For example, the median scores for the Organisation domains “Promotes clinical practice based on evidence” (7 [5 to 8]) and “Encourages research activities which are relevant to practice” (6 [4 to 8]) in the current study are rather similar to the median scores reported in studies performed in urban Victoria¹³ (8 [5 to 9] and 7 [5 to 8], respectively) and urban Queensland¹⁴ (7 [5 to 9] and 6 [4 to 8], respectively). Further, the median score for the lowest-scored Individual domain “Secures

Item	n	Median [interquartile range]	Unsure* (n)
Resources to support staff research training.	256	5 [3 to 7]	69
Has funds, equipment etc to support research.	256	5 [2 to 6]	76
Has a plan or policy for research development.	256	5 [3 to 6]	86
Executive managers support research.	256	5 [4 to 7]	82
Staff career pathways in research are available.	256	4 [2 to 5]	87
Organisational planning is guided by evidence.	256	5 [3 to 7]	75
Consumers are involved in research.	256	5 [3 to 7]	96
Accesses external funding for research.	256	5 [4 to 7]	85
Promotes clinical practice based on evidence.	256	7 [5 to 8]	54
Encourages research relevant to practice.	256	6 [4 to 8]	66
Has software for analysing data.	256	5 [3 to 6]	122
Monitors research quality.	256	5 [3 to 7]	122
Arranges experts to give research advice.	256	6 [4 to 8]	83
Multidisciplinary approaches supported.	256	6 [4 to 8]	86
Meeting to present research results supported.	256	6 [4 to 8]	70
Engages external partners in research.	256	6 [4 to 8]	82
Supports applications for research training	256	5 [3 to 8]	82
Supports peer-reviewed publication.	256	5 [4 to 8]	94

Table 5.: Median scores for the Organisation domain on the RCC tool, and number of “unsure” response.

research funding” (2 [range 1 to 2]) in our study was equivalent to the two previously mentioned studies (Victoria 2 [1 to 5]; Queensland 2 [1 to 4]).

Bearing similarity to studies conducted in Queensland, Victoria and New South Wales,¹²⁻¹⁵ participants rated their individual capacity to conduct research as being strongest in domains which relate to preliminary stages of research (i.e. finding relevant literature, critically reviewing the literature, and designing questionnaires). Barriers (e.g. lack of time for doing research; other work

roles take priority; and lack of suitable backfill for research) and motivators (e.g. to develop skills, increased job satisfaction, and career advancement) to conducting research are also comparable to those reported by participants in other Australian settings,^{9,12,13,17-19} suggesting that these findings are likely transferable across a range of healthcare organisations and may be used to inform policy more broadly. Our findings highlight the need for a multi-faceted approach to research capacity building within Allied Health, accounting for strategies at all levels of the organisation’s social-ecology. This finding aligns with previous recommendations for a whole of organisation approach which encompasses a variety of different strategies.²⁰⁻²³

There are myriad benefits to the engagement of AHP in research at the individual, professional and organisational group levels.²⁴⁻²⁶ Studies have been undertaken to develop research capacity building interventions, forwarding strategies such as protected time and funding for AHP to engage in research activities, mentoring, external partnerships (for example, with universities), tailored education and training, and the provision of Allied Health research leads or facilitators.^{4,26,27} These strategies have demonstrated success. Wenke *et al*²⁸ showed that protected clinician research time influenced clinician research skill and output (e.g. approved ethics applications, grant-funding received, peer-reviewed publications), enhanced workplace research culture, and improved the reputation and profile of Allied Health. These evidence-based recommendations would readily meet the needs of participants expressed in the present study. It is also critical to consider the diversity of interest in undertaking research within AHP. It appears evident from both this study and the broader literature that a stepped model of research engagement has utility, whereby some professionals lead and actively participate in research, other less experienced and/or interested staff assist with the research process (e.g. data collection, recruitment of patients), and all professionals become skilled in using research to guide their practice.^{26,29,30} Accordingly, research capacity building interventions should be targeted to the needs, interests and goals of specific individuals and teams, rather than a ‘one size fits all’ approach. The findings of this study will be used to inform the development of tailored interventions in collaboration with key stakeholders from each professional group within SMHS, in order to enhance existing motivators, mitigate barriers and build upon current skill levels. For example, some proposed strategies include: creating opportunities to participate in research (e.g. assisting with collecting data; pairing novice researchers with more experienced research mentors within the same and/or other teams/organisations); building and maintaining

partnerships with other health services and universities; and maintaining a register of current and future research ideas. Research registers have previously been proposed as a means of identifying research interested individuals, consolidating similar projects, facilitating linkages and measuring changes in research capacity over time (i.e. tracking numbers of projects in progress).^{31,32}

This study has strengths and limitations. Data from 320 AHP were available for analysis, representing 37% of the known total Allied Health workforce within the SMHS. This is a higher response rate than many other studies using the RCC tool.^{8,12,13,16,32,33} However, the 37% response rate refers to the 320 participants who provided at least some information. Between 256 and 320 individuals responded to individual questions/domains. Lower response rates were detected in questions located towards the end of the questionnaire, suggesting that some AHP may have dropped out before reaching the end of the online survey). This can be described as survey fatigue or burden, which has been reported previous study that used the RCC tool.¹⁷ Of note, our sample captured professionals from a broad range of settings, including acute and rehabilitation settings within a major tertiary hospital, non-tertiary hospitals, and several community settings. However, findings must be interpreted in the context of several potential limitations. Given the 37% response rate, it is possible that self-selection bias may affect the results, whereby research interested clinicians were more likely to take part in the survey. However, this bias is consistent with other studies which have used the RCC tool, therefore our findings are likely comparable to others. Further, although valid and reliable, the RCC is a self-report tool that measures attitudes, beliefs, and knowledge of health professionals. Regarding research success, data collected via the RCC tool may not correlate with objective research activity and output.³² Future efforts to elucidate research capacity should consider multi-modal data collection which includes other objective measures (including traditional output measures such as number of peer reviewed publications, conference presentations, grant funding awarded and research qualifications, as well as more sensitive process measures such as number of successful ethics applications, number of research and quality improvement projects underway).¹⁹

Conclusions

Our results highlight the need for multi-faceted Allied Health research capacity building programmes with strategies matched to individual, professional group, and organisation levels of the health care system. Given the enormous potential for good quality Allied Health research output, initiatives should capitalise upon known motivators to conducting research, and use evidence-

based practices such as protected time and allocation of resources to overcome common barriers to research engagement in Allied Health. The steps that are being introduced at SMHS to improve Allied Health research capacity and culture include, but are not limited to: (i) providing opportunities for AHPs to get involved in research projects; (ii) optimising access to information, research education and training; (iii) developing research mentoring structures and processes; and (iv) building new collaborations and strengthening existing collaborations with academics. Steps that are under discussion are: including research in role descriptions and establishing protected time for research within work hours; establishment of research career pathways; and recruitment and recognition and of staff who engage in, lead and facilitate research.

Provenance: Externally reviewed

Disclosures: None

Ethics approval: Not required

Acknowledgements: To be added if any

Corresponding author: Dr Vinicius Cavalheri, Allied Health Research Director, South Metropolitan Health Service, Locked Bag 100 PALMYRA DC, Western Australia 6961, Australia.

vinicius.cavalheri@health.wa.gov.au

References

1. Remme JH, Adam T, Becerra-Posada F, D'Arcangues C, Devlin M *et al.* Defining research to improve health systems. *PLoS Med.* 2010; 7(11): e1001000.
2. Pronovost PJ, Goeschel CA. Time to take health delivery research seriously. *JAMA* 2011; 306(3): 310-11.
3. Westfall JM, Mold J, Fagnan L. Practice-based research--"Blue Highways" on the NIH roadmap. *JAMA* 2007; 297(4): 403-406.
4. Borkowski D, McKinstry C, Cotchett M, Williams C, Haines T. Research culture in Allied Health: a systematic review. *Aust J Prim Health* 2016; 22(4): 294-303.
5. Finch E, Cornwell P, Ward EC, McPhail SM. Factors influencing research engagement: research interest, confidence and experience in an Australian speech-language pathology workforce. *BMC Health Serv Res* 2013; 13:144.
6. Harvey D, Plummer D, Nielsen I, Adams R, Pain T. Becoming a clinician researcher in Allied Health. *Austr Health Rev.* 2016; 40(5): 562-69.
7. Ried K, Farmer EA, Weston KM. Bursaries, writing grants and fellowships: a strategy to develop research capacity in primary health care. *BMC Family Practice.* 2007; 8: 19
8. Wenke RJ, Ward EC, Hickman I, Hulcombe J, Phillips R, Mickan S. Allied Health research positions: a qualitative evaluation of their impact. *Health Res Policy Syst* 2017; 15: 6.
9. Lazzarini PA, Geraghty J, Kinnear EM, Butterworth M, Ward D. Research capacity and culture in podiatry: early observations within Queensland Health. *J Foot Ankle Res* 2013; 6: 1.
10. Williams CM, Lazzarini PA. The research capacity and culture of Australian podiatrists. *J Foot Ankle Res* 2015; 8: 11
11. Lee SA, Byth K, Gifford JA, Balasubramanian M, Fozzard CA *et al.* Assessment of Health Research Capacity in Western Sydney

- Local Health District (WSLHD): A Study on Medical, Nursing and Allied Health Professionals. *J Multidisciplinary Healthcare* 2020; 13: 153-163.
12. Matus J, Wenke R, Hughes I, Mickan S. Evaluation of the research capacity and culture of Allied Health professionals in a large regional public health service. *J Multidisciplinary Healthcare* 2019; 12: 83-96
 13. Williams C, Miyazaki K, Borkowski D, McKinstry C, Cotchet M, Haines T. Research capacity and culture of the Victorian public health Allied Health workforce is influenced by key research support staff and location. *Austr Health Rev* 2015; 39(3): 303-11.
 14. Holden L, Pager S, Golenko X, Ware RS. Validation of the research capacity and culture (RCC) tool: measuring RCC at individual, team and organisation levels. *Aust J Prim Health*. 2012; 18: 62-7.
 15. Alison JA, Zafiroopoulos B, Heard R. Key factors influencing Allied Health research capacity in a large Australian metropolitan health district. *J Multidisciplinary Healthcare*. 2017; 10: 277-91.
 16. Friesen EL, Comino EJ. Research culture and capacity in community health services: results of a structured survey of staff. *Austr J Prim Health* 2017; 23(2): 123-31.
 17. Borkowski D, McKinstry C, Cotchet M. Research culture in a regional Allied Health setting. *Austr J Prim Health* 2017; 23(3): 300-06.
 18. Pager S, Holden L, Golenko X. Motivators, enablers, and barriers to building Allied Health research capacity. *J Multidisciplinary Healthcare*. 2012; 5: 53-9.
 19. Pighills AC, Plummer D, Harvey D, Pain T. Positioning occupational therapy as a discipline on the research continuum: Results of a cross-sectional survey of research experience. *Australian Occ Ther J* 2013; 60(4): 241-51.
 20. Australian Government Department of Health and Ageing. Strategic Review of Health and Medical Research Final Report. Canberra: Commonwealth of Australia; 2013. https://cheba.unsw.edu.au/sites/cheba2/files/blog/pdf/Strategic_Review_of_Health_and_Medical_Research_Feb_2013-Summary_Report.pdf. Accessed 10/10/20
 21. Cooke J. A framework to evaluate research capacity building in health care. *BMC Fam Pract*. 2005; 6(44): 1-11.
 22. Golenko X, Pager S, Holden L. A thematic analysis of the role of the organisation in building Allied Health research capacity: a senior managers' perspective. *BMC Health Serv Res*. 2012; 12: 276.
 23. Luckson M, Duncan F, Rajai A, Haigh C. Exploring the research culture of nurses and Allied Health Professionals (AHP) in a research-focused and a non-research-focused healthcare organisation in the UK. *J Clin Nursing*. 2018; 27(7-8): e1462-e1476.
 24. Bamberg J, Perlesz A, McKenzie P, Read S. Utilising implementation science in building research and evaluation capacity in community health. *Austr J Prim Health* 2010;16(4):276-283.
 25. Hulcombe J, Sturgess J, Souvlis T, Fitzgerald C. An approach to building research capacity for health practitioners in a public health environment: an organisational perspective. *Austr Health Rev* 2014; 38(3): 252-58.
 26. Matus J, Wenke R, Mickan S. A practical toolkit of strategies for building research capacity in Allied Health. *Asia Pacific J Health Management*. 2019; 14(2): 5-18.
 27. Harding KE, Stephens D, Taylor NF, Chu E, Wilby A. Development and evaluation of an Allied Health research training scheme. *J Allied Health*. 2010; 39(4): 143-48.
 28. Wenke R, Weir KA, Noble C, Mahoney J, Mickan S. Not enough time for research? Use of supported funding to promote Allied Health research activity. *J Multidisciplinary Healthcare*. 2018; 11: 269.
 29. Del Mar C, Askew D. Building family/general practice research capacity. *Annals Fam Med* 2004; 2(suppl 2): S35-S40.
 30. Farmer E, Weston K. A conceptual model for capacity building in Australian primary health care research. *Austr Fam Phys* 2002; 31(12): 1139-42.
 31. Skinner EH, Williams CM, Haines TP. Embedding research culture and productivity in hospital physiotherapy departments: challenges and opportunities. *Austr Health Review*. 2015; 39(3): 312-14.
 32. Wenke RJ, Mickan S, Bisset L. A cross sectional observational study of research activity of Allied Health teams: is there a link with self-reported success, motivators and barriers to undertaking research? *BMC Health Serv Res*. 2017; 17: 114.
 33. Howard A, Ferguson M, Wilkinson P, Campbell K. Involvement in research activities and factors influencing research capacity among dietitians. *J Human Nutrition Dietetics*. 2013; 26(s1): 180-87.