

The need for higher degrees by research for complementary medicine practitioners

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Abstract

The need for research in complementary medicine (CM), which is meaningful and relevant within a real world setting, has been growing since the advent of the evidence-based practice movement. This need has not, however, been successfully addressed due to both insufficient interest amongst the research population and issues with the usefulness of much of the completed research to inform the practical needs of clinicians and policy makers. These issues may be attenuated by seeing an increased number of CM practitioners involved in future research projects. However, the absence of appropriate and focused research training for CM practitioners may hinder the number of practitioners pursuing research careers. With this in mind, there is a real need to see an increase in both the availability of higher degrees by research at both undergraduate and postgraduate level for CM practitioners as well as the institutions offering these degrees. In particular, ensuring that CM practitioners are able to receive primary supervision of a research project by researchers with a detailed understanding of CM is vital if effective and meaningful CM research, which is well-supported within higher education institutions, is to occur.

Introduction

The use of complementary medicine (CM) – a range of practices, techniques and products not traditionally associated with conventional medical education – has increased in recent years¹ and has been subject to increasing interest by researchers, despite ongoing controversy regarding its validity based on grounds of insufficient evidence of efficacy and effectiveness. As an example, a current search on the PubMed² database for articles assigned to the medical subject heading (MeSH) “complementary therapies” identifies 175,482 articles of which nearly half (n=77,045) were published in the previous ten years and a record number of papers were published in 2012 (n=9,313) (see Table 1). This trend signifies a growing interest in CM by the research community; however, a significant number of these publications do not report original research and instead reflect partisan commentary or non-systematic reviews. Support for increased research attention towards CM has also been promoted by professional bodies such as the Australian Medical Association (AMA), which recognises the increased use of CM and suggests evidence-based research is required to validate complementary medicines for efficacy, safety, quality, and cost effectiveness.³

Practitioner involvement in complementary medicine research

In addition to the relative number of original research articles published in CM, there are also questions raised as to whether the research produced is relevant and

meaningful to contemporary practice.^{4,5,6,7} It has been suggested by some that issues with transferability of CM research into a clinical setting may be due to the disconnect between researchers and practitioners.^{4,5,6,7} Increased CM practitioner involvement in research has been argued to benefit clinicians through the development of new clinical skills and knowledge with which to treat patients, as well as skills to help them individually and critically assess new developments in their fields.⁷ Benefits are also posited for CM research more generally whereby CM practitioner expertise can inform study design to ensure research questions and interventions are more robust and clinically relevant.^{4,5,6,7} Ultimately, the benefit of CM practitioners developing research skills is an increase in the number of researchers passionate and keenly interested in examining CM research questions – characteristics less likely to occur in non-CM researchers.⁷

The need for more CM practitioners to be involved in research is also supported from within CM professions themselves, with CM practitioners described as seeking more collaboration, consultation and involvement with evidence-based medicine and research.⁸ The number of CM qualified researchers in Australia is not easy to determine; however, a recent attempt to examine how effectively CM practitioner academic and research communities are interacting with health and medical research funding has been published.⁹ This work identified 134 grants awarded by the National Health and Medical Research Council (NHMRC) for projects exploring CM between 2000 and 2013, totalling A\$ 62,297,379.00. Most (59.7%) chief

investigators, or identified researchers, on these grants had been trained in a clinical discipline although more than half of these clinically trained researchers were medical doctors. Of the CM professions, only researchers with clinical backgrounds in Chinese medicine, naturopathy and chiropractic had received NHMRC grant funding with these three professions cumulatively representing about 15% of the total number of chief investigators across all grants.

Barriers to complementary medicine practitioner involvement in research

One possible reason for this under-representation of CM clinicians in research is insufficient research literacy and training amongst the profession more broadly.⁷ Education for CM practitioners such as herbalists, naturopaths, acupuncturists and homeopaths in Australia has, in the past, been characterised by a two-tiered system whereby courses from both vocational education and training (VET) and higher education (HE) have been available and recognised at the same time.¹⁰ The VET sector in particular has dominated due to lower costs and wider accessibility to training colleges and as such the CM workforce in Australia is largely represented by practitioners with certificate, diploma or advanced diploma qualifications whilst less than 15% have a bachelor degree.¹¹ Irrespective of the course pathway, the focus of these courses is on developing clinical skills with the primary intended graduate outcome as a clinician. Whilst this may be generally appropriate, this has left CM

practitioners who are interested in incorporating research into their career path to navigate a journey outside of their undergraduate training.

The standard pathway for the formal development and recognition of research skills is through completion of a postgraduate degree with a research component. This is also considered to be the pathway which best prepares individuals for careers in research.¹² Whilst a doctoral program (e.g. Doctor of Philosophy or PhD) is the most well-regarded research higher degree, acceptance into a PhD requires that applicants have skills and training in research. This is usually developed through a previous degree such as a master’s degree, with a major component of research, or an honours program. For those who complete an honours program the pathway to completion of doctoral studies can, depending upon the duration of the undergraduate course, be achieved in seven years.

As CM practitioner training for professions such as naturopathy, herbal medicine and homeopathy in Australia is dominated by private colleges,¹⁰ many of whom do not provide bachelor degree training and none of whom offer postgraduate courses, the transition from practitioner education to postgraduate enrolment of any form can be challenging and can take many different forms (see Figure 1). For those who have not completed bachelor degree training, there are a number of upgrade courses available to facilitate pathways to postgraduate study, but the journey can take a minimum of 11 years of study and may involve up to five separate courses. In comparison, health professionals who have access to

Table 2: Postgraduate courses available in the Australia within the complementary medicine field

Name of university	Name of course	Cost per unit*	Number of units	Full time duration of course (years)	Number of research methodology subjects	Capacity for independent research project
1. RMIT	Master of Applied Science (Acupuncture)	\$3960	8	1.5*	1 (core) + research project	✓
2. RMIT	Master of Applied Science (Chinese herbal medicine)	\$3960	8	1.5*	1 (core) + research project	✓
3. RMIT	Masters in Science (Complementary Medicine)	n/a (Research Training Scheme)	1-4	2	Research project (core)	✓
4. University of new England	Master of Health Science	\$2126	11	1-2 [‡]	Research project (elective)	✓
5. University of Tasmania	Graduate Certificate in Evidence-Based Complementary Medicines	\$1957	4	2	None	✗
6. University of Western Sydney	Master of Chinese Medicine	\$2215	12	1.5	Research project (elective)	✓

*only available as part time enrolment (3 years)

‡ depends on undergraduate qualification

honours programs as part of their undergraduate training may be able to complete all study in 7 years and only need to complete two courses.

In addition, the current options available for postgraduate study in CM specific topics are limited and many do not have a substantive research component which allows for the application of research skills through a research project. Instead, the majority of postgraduate CM courses continue the undergraduate CM education focus by prioritising clinical training, advancing clinical skills and theoretical knowledge with research experience being offered as an elective, if at all (Table 2). For those courses that do include a research project, the project size is often limited in time and weighting so that the work produced is restricted to a systematic literature review and as such students still lack meaningful experience in planning, undertaking, completing, and writing up a research project. The result is clinicians who have completed postgraduate course work degrees in CM would still need to complete an additional research-intensive master's program before they could be accepted into a PhD. As is evident through higher representation on NHMRC grants of professions who do include research within their postgraduate courses, poor access to research training has the potential to deter CM practitioners from undertaking doctoral studies.

For those who do complete the necessary training to be eligible for enrolment in a PhD program, it is also a common requirement that they identify an appropriate supervisor for their proposed project and receive endorsement from the faculty through which they intend to enrol before their application will be considered by the research office of the university. An appropriate supervisor for a research project can be characterised as a researcher with interest and experience in the proposed topic who is both prepared and able to support and mentor the research student throughout their project. Firstly, this means that the student must find a supervisor who is sufficiently interested in the CM project topic and considers the direction of the research to be in line with their research background. Secondly, the supervisor must allocate time and energy to provide regular support and guidance to the student throughout the duration of the project (approximately 3-5 years). Even if an academic agrees to supervise a research student, a lack of interest in the project topic may leave the student competing for the supervisor's attention as supervisors typically have several research projects running simultaneously. Finally, it is important that a supervisor has both content knowledge and methodological expertise relevant to the project topic. These important attributes present yet another barrier to CM practitioners as, beyond a few distinct exceptions found in CM research centres^{13, 14} there are few researchers in Australian universities who are both interested in CM and have a sufficient track record relevant to the field to warrant university funding

and support for the project. Even for those students able to find an academic willing to supervise their project, institutional support for the project (e.g. scholarships, internal grants and bursaries) may not be forthcoming as this is usually provided to projects which align strongly with the faculty or organisation's strategic research priorities, of which CM may not be included.

Research capacity building through complementary medicine undergraduate and postgraduate research skills training

Given the clear need to develop research skills amongst CM practitioners, and the current challenges facing those wishing to enrol in research higher degrees, changes are needed in the existing system to open new pathways to doctoral studies. Ideally, this should include honours programs being made available to undergraduate CM students. The structure of an honours program is well established and fairly universal in that it requires students to undertake a small yet substantive independent research project whilst also completing subjects which develop research skills. The honours program is usually run across 2 semesters and is most commonly offered as an additional year of study for the majority of courses. In some cases, institutions can also offer an honours program as a stand-alone course in which students who have already completed an undergraduate degree, either from the same institution or elsewhere, can choose to enrol. It is this second alternative which would be most appropriate for CM due to the vast number of practitioners who have exited with bachelor degree qualifications or who have equivalent training and experience but have not had the opportunity to extend their study to develop research skills without committing to a much longer course of study. This particular model allows for appropriate acknowledgement of the student's skills and knowledge gained through clinical experience which may not always be meaningfully extended through coursework

Table 1: Number of complementary medicine (CM) related articles published on the PubMed database, sorted by date

Dates for article publications	Any articles n	Original research n (% of total)	Randomised-clinical trials n (% of total; % of original research)
No date restrictions	175,482	35,453 (20.2)	11,704 (0.07; 33.0)
2004-2014	77,045	20,329 (26.4)	7,787 (0.10; 38.3)
2009-2014	39,536	9,986 (25.3)	4,247 (0.11; 42.5)
2013	9,313	2,284 (24.5)	998 (0.11; 43.7)

programs. The difference being that honours programs focus entirely on developing new research knowledge rather than clinical skills and theoretical knowledge.

Irrespective of whether research skills are developed through masters or honours programs, another vital component which must underpin complementary medicine research training is student access to supervisors who have specialised knowledge in both topic and methodology. The role of the supervisor in the success of a research project is pivotal. Due to the complexity of many research topics it is uncommon for the diversity of knowledge and skills required in a supervisor to occur in any one individual academic and as such research students often have at least two supervisors, each of which contribute their own expertise to the student's development. Most commonly, university-based supervisors are able to offer methodological expertise (statisticians, qualitative researchers etc.); however, in depth content knowledge relating to CM is not as universal. Whilst this may be ameliorated for CM practitioners who complete a coursework masters and in doing so develop a higher level of content knowledge, for students who would undertake an honours program the additional support offered through supervision by a CM content expert would be invaluable.

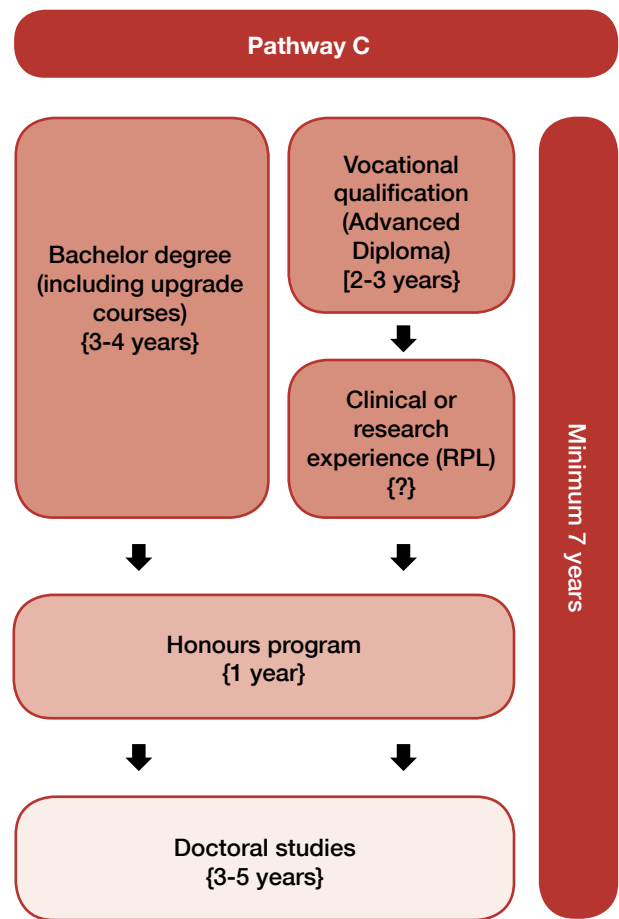
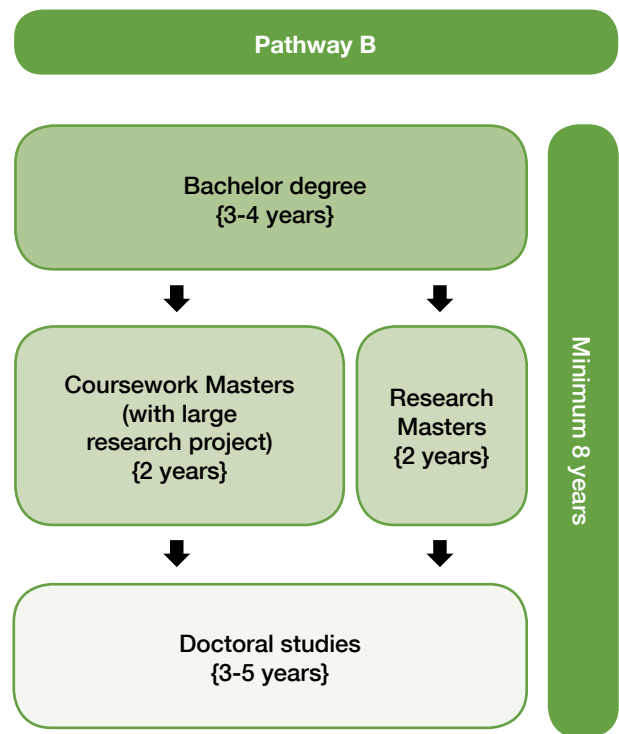
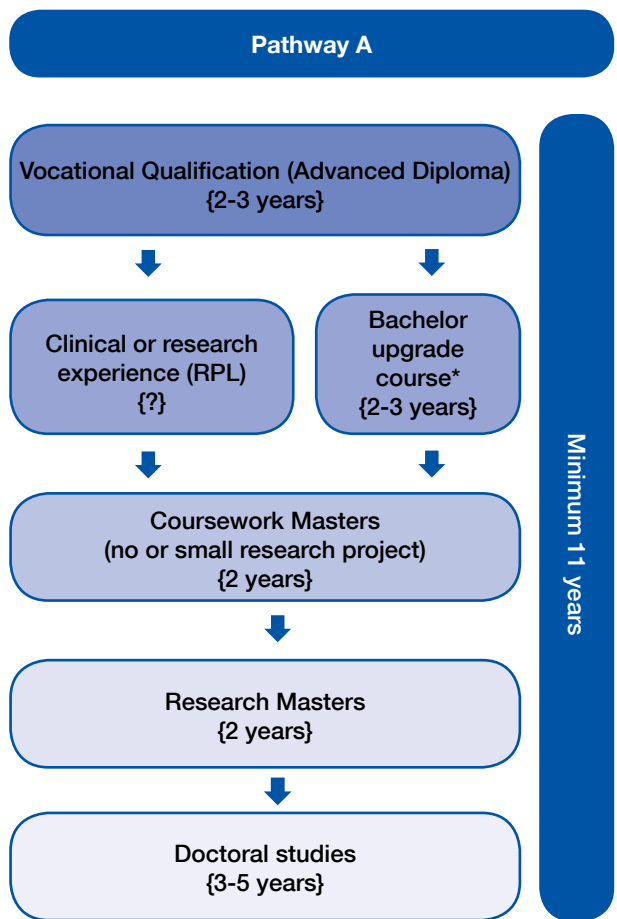


Figure 1: Research higher degree pathways for complementary medicine practitioners

The need for research higher degrees in complementary medicine institutions

In order to overcome the barriers facing CM practitioner access to research higher degrees, there is some value in seeing the development and delivery of higher degree programs at CM higher education institutions. Higher education institutions (HEIs) – organisations offering degree and postgraduate courses approved by the Tertiary Education Quality and Standards Agency (TEQSA) – will have the infrastructure to provide the higher level training required to offer research higher degree or at least the capacity to develop this infrastructure in the near future. They have also been active in recruiting and enabling practitioners with doctoral qualifications within the fields into which they teach. In addition, compared to universities they are more likely to see the need to ensure the sustainability of the professions in which their students will practice and as such will be more inclined to not only accept proposals for research students to undertake projects which focus on CM but to actively encourage them.¹⁵ The outcome being that, in comparison to other universities, CM HEIs would proactively support and facilitate CM research.

Through these institutions, students would be more likely to access supervisors with not only interest in their chosen topic but expert content knowledge and insights. Complementary medicine HEIs have, for a number of years, operated as fulcrums which have attracted CM practitioners who have undertaken research training and are keen to pass their knowledge and skills on to others. These institutions have also served to facilitate other CM practitioners to extend and develop their knowledge and skills through postgraduate study. In completing a research degree, CM practitioners will develop methodological expertise and advanced writing skills and as such will be in an ideal position to provide the necessary support and guidance to new research students. Those students requiring more specialised research methodology supervision for particular projects, beyond those available through CM faculty, would still be able to access supervision from experts outside of the CM institution as part of the supervisory team.

Conclusion

As the professions within the CM field evolve, the need for research evidence which reflects the realities of practice is paramount. However, the low level of CM practitioner involvement in existing research projects may reduce the transferability of research insights and findings to clinical settings. An increase in the number of CM practitioners with research training may help to address this gap; however, pathways into research qualifications for CM practitioners are lengthy and convoluted when compared with other professional groups. In addition, the infrastructure and support within larger universities are not optimal for CM practitioner research training. As

such, there is a need for new research programs such as honours degrees to be developed, and for these programs to be offered by complementary medicine higher education institutions.

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