UTS:ARCCIM
CRITICAL METHODS, TRANSLATIONAL RESEARCH

THE INCLUSION OF COMPLEMENTARY MEDICINE IN AUSTRALIAN NURSING AND MIDWIFERY COURSES: A SURVEY PRE-TEST

Helene Marcella Diezel

Australian Research Centre in Complementary and Integrative Medicine

Faculty of Health, University of Technology Sydney

A thesis submitted for the degree of Masters of Health Services by Research at the University of Technology Sydney in August 2016.

CERTIFICATE OF ORIGINAL AUTHORSHIP

I certify that the work in this thesis has not previously been submitted for a degree nor has it been submitted as part of requirements for a degree except as fully acknowledged within the text.

I also certify that the thesis has been written by me. Any help that I have received in my research work and the preparation of the thesis itself has been acknowledged. In addition, I certify that all information sources and literature used are indicated in the thesis.

Signature of Student:

Helene Marcella Diezel

Date: August 1st 2016

This research is supported by an Australian government research training program scholarship.

RELEVANT PUBLISHED WORKS BY THE AUTHOR NOT FORMING PART OF THE THESIS[a]

Peer-reviewed Journal Publications

1. Steel A, Frawley J, Adams J, Diezel H (2014) *Trained or Professional Doulas in the Support and Care of Pregnant and Birthing Women: A Critical Integrative Review*. Health and Social Care in the Community 23(3).
2. Steel A, Wardle J, Diezel H, Johnstone K, Adams J (2014) *Educating for collaboration: the outcomes of an interprofessional education workshop for complementary and alternative maternity care providers*. Advances in Integrative Medicine. (In Press)
3. Steel A, Diezel H, Wardle J and Johnstone K (2013). *Patterns of inter-professional communication between complementary and conventional practitioners providing maternity care services: a preliminary examination of the perceptions of CAM practitioners*. Aust J Herbal Med. 25 (2): 57-61,73
4. Diezel H, Steel A, Wardle J and Johnstone K (2013) *Patterns and influences of interprofessional communication between midwives and CAM practitioners: a preliminary examination of the perceptions of midwives.* Aust J Herbal Med. 25(1): 4-10
5. Steel A, Diezel H, Johnstone K, Sibbritt D, Adams J and Adair R (2013) *The value of care provided by student doulas: an examination of the perceptions of women in their care*. Journal of Perinatal Education. 22(1): 39-48

Published Conference Abstracts

1. Steel A, Diezel H, Adams J, Sibbritt D (2015) *Challenges associated with developing research capacity amongst complementary medicine (CM) practitioners: a case study from a CM higher education institution.* Integrative Medicine Research 05/2015; 4(1)
2. Diezel H, Steel A (2015) *Developing clinical supervision skills in clinical complementary medicine education: a mixed methods program evaluation.* Integrative Medicine Research 05/2015; 4(1):111
3. **Diezel H, Adams J, Wardle J Steel A, (2014) Does complementary and alternative medicine exist in Australian nursing and midwifery courses? *Journal of alternative and complementary medicine* (New York, N.Y.) 05/2014; 20(5):A100**
4. Diezel H, Steel A, Johnstone K (2013) *Interprofessional communication between complementary medicine practitioners and midwives: A pilot study*. Forschende Komplementarmedizin 20(suppl 1):108
5. Steel A, Diezel H, Sibbritt D, Adams J (2012*) OA16.03. Promoting safe and integrated maternity care through interprofessional education*. BMC Complementary and Alternative Medicine 12(Suppl 1): O51.

Researcher Presentations

1. Diezel H (2015) *Clinical supervisor intervention fosters excellence in clinical herbal medicine education.* 9th International Conference on Herbal Medicine
2. Diezel H, Steel A, Johnstone K, Sibbritt D, Adams J (2015) *Perceptions and practice behaviours of midwives and naturopaths after inter-professional education intervention.* 9th International Conference on Herbal Medicine

a The student has contributed to publishing 5 journal articles, 5conference abstracts and presented 2 times at international conferences over the course of her candidature. One of which was directly drawn from the work of this thesis.

ACKNOWLEDGMENTS

I would like to thank and acknowledge those who have helped and supported me in completing this thesis. Firstly, I would like to recognise my supervisors. Professor Jon Adams, Dr. Jon Wardle and Dr. Amie Steel have consistently assisted and worked with me through many challenges throughout my candidature. I am beyond grateful for all your understanding and support. I'd also like to thank my family including my husband Jackson, father Michael and my brothers, sister-cousins, friends and colleagues for seeing me and this thesis through a surprise twin pregnancy, high-risk gestation, strenuous fourth trimester and many, many 7-day work weeks over the last 3 years. It's been an unexpected journey, but one that has been so worthwhile and one that would have been completely impossible without all your help and love. To my sons, I thank you for the grit and determination you have inspired in me and I hope this contribution is worthy of you; making a better health care system you will have the privilege, but hopefully never the need, to enjoy.

ABSTRACT

Background and Aim: Complementary medicine (CM) is a health service that is highly accessed by the public and evidence of the prevalence of CM use has grown over the last two decades. CM use by the choice of individuals under the care of conventional healthcare professionals, such as midwives and nurses, is increasing due to the general acceptance of CM use. Existing competency standards underpin the accreditation process for nurses and midwives and ensure these practicing professionals can better navigate patient choices and understand the implications of their patients accessing a variety of health services. These standards allude to the need for nurses and midwives to be familiar with and able to competently practice in a healthcare landscape that is characterised by high CM use. Despite this, there has been insufficient study of conventional healthcare courses (CHC) in nursing and midwifery or of key decision-makers in nursing and midwifery teaching programs to explore the current inclusion of CM in course offerings. This study aimed to develop a quantitative tool to investigate CM content inclusion in Australian nursing and midwifery courses, to be mapped

Methods: A questionnaire was developed to investigate the level of inclusion in CM content in CHC and the attitudes and beliefs of the faculty responsible for determining curriculum CM content in the form of the Curriculum in Integrative Medicine Questionnaire (CIMQ).

Construction of the questionnaire included consideration of cognitive and communicative processing and was then pre-tested through cognitive and linguistic interviewing with a purposive sample of nurse and midwifery course content decision makers (n=5). The pre-validated tools 'CAM Health Belief Questionnaire' (CHBQ) and 'Integrative Medicine Attitude Questionnaire' (IMAQ) were included in the attitudes and perceptions construct of the CIMQ.

Results: The definitions and instructions of the CIMQ were best understood when aligned with nationally accreditation bodies' language and terms. Non-standardised incorporation of CM inclusion in nursing and midwifery courses meant the 'general course characteristics' construct required significant refinement to allow for variability in CM inclusion. Similarly, 'CM content delivery in courses' was another CIMQ construct that had to reflect this flexibility in CM presence within nurse and midwifery higher education. Respondents suggested incentivising their practically based colleagues to assist recruitment and sampling of nurse and midwifery course content decision makers via explanation of the CIMQ's significance in relation to national competency standards.

Implications: Variability of CM inclusion means measuring CM presence in discrete health professional's education courses is difficult. Use of pre-validated measures within the CIMQ appear to be appropriate in measuring CM presence in an Australian setting, however differences exist in responses to pre-validated tools' statements elicited from nurses and midwives due to divergent perspectives in health care practice.

Conclusion: A consistent approach to measuring CM inclusion in nursing and midwifery courses as well as other professional groups' CHC is needed to better understand how well equipped CHC professionals can contribute to midwifery care. The CIMQ provides an appropriate tool and basis to ground this exploration in an Australian setting.

Table of Contents

GLOSSARY of ABBREVIATIONS

AHPRA: Australian Health Practitioners Regulation Agency

AHRQ: Agency for Healthcare Research and Quality

CAM: Complementary Alternative Medicine

CHBQ: CAM Health Belief Questionnaire

CHC: Conventional Healthcare Courses

CIMQ: Curriculum in Integrative Medicine Questionnaire

CM: Complementary Medicine

HREC: Human Research Ethics Committee

HSR: Health Services Research

IM: Integrative Medicine

IMAQ: Integrative Medicine Attitude Questionnaire

MeSH: Medical Subject Heading

NEAF: National Ethics Application Form

RCT: Randomised Control Trial

TCM: Traditional Chinese Medicine

TGA: Therapeutic Goods Administration

US: United States

UK: United Kingdom

TABLES and FIGURES

1.0 INTRODUCTION CHAPTER

1.1 Importance of education research to health services

The ability of the health professionals within a healthcare system to provide appropriate and effective health care to the community, impacts the education of the health professionals providing care. Investigating the education of health professionals is, therefore, one crucial feature to helping ensure optimal health service delivery. The Agency for Healthcare Research and Quality (AHRQ) defines Health services research as:

> *"…a "multidisciplinary field of scientific investigation that studies how social factors, financing systems, organizational structures and processes, health technologies, and personal behaviours affect access to health care, the quality and cost of health care, and ultimately, our health and well-being. Applied health services research provides data, evidence, and tools to make health care affordable, safe, effective, equitable, accessible, and patient-centred."*
>
> (Agency for Healthcare Research and Quality, 2014)

As this definition indicates, health services research is in an optimal position to study and communicate health education phenomenon in a cross-disciplinary manner, making the broadest possible translational impact (Adams, 2007a, Antonovsky, 1996). In this way, education research is critical to the field of health services research (Minichiello et al., 2004).

1.1.1 Overview of the study

The purpose of this study was to develop and pre-test a questionnaire designed to measure complementary medicine (CM) content in Australian nursing and midwifery higher education and the attitudes and perceptions of curriculum content decision-makers regarding CM education for nurses and midwives.

The focus of the study was to pre-test this developed tool (questionnaire) and refine the questionnaire's constructs, content and criterion in order to produce a reliable tool for measuring the current level of CM inclusion and that attitudes and perceptions regarding the presence of CM content in nursing and midwifery higher education in Australia. With

this careful focus, data can be collected in a systematic way regarding this important topic in the future. Robust data collection will allow for reliable findings will be available to inform steps forward for health education and health services. This focus distilled into the following research questions:

Research question	Is the developed questionnaire reliable for measuring the inclusion of complementary medicine (CM) content in Australian nursing and midwifery courses?
Sub-questions	Is the wording, order, items and meanings referred to in the questionnaire clear to the intended sample group(s)?
	What is the most effective approach to engaging and recruiting the intended sample group(s) in the completion of the questionnaire?

Figure 1.1.1 Research question of the study

1.1.2 Significance

Nurses and midwives must be able to provide safe and effective health services to patient groups and women who are concurrently using CM because CM is pharmacologically significant and may be contra-indicated to conventional care provided. There is currently no data on how prepared nurses and midwives are, upon receiving undergraduate awards, to provide care to patients using CM. Moreover, there is no measure available to gather data on the inclusion of CM in nursing and midwifery higher education in an Australian context at all. There is a need to pre-test a tool to measure any phenomenon before systematically approaching quantitative data collection. Widespread use of any survey tool benefits from pre-testing as it affords the user of the survey a greater degree of confidence in the reliability of the tool and increases the accuracy of the data.

Even if such a measuring tool were tested and found to have the consistency or repeatability of the measure needed for reliability evidence suggests it is difficult to engage practice-based professions such as nurses and midwives, in research.. When designing a research project that seeks to gather data from health professionals with a survey questionnaire, it is essential to consider the element of engagement with the research and achieving an adequate response rate. Difficulty engaging practice-based professions could negatively

affect the success of a pre-tested tool to gather data on CM inclusion in nursing and midwifery courses. It is crucial for research to translate into practice and in the case of survey design for health professionals and educators, this means gathering data on how to implement recruitment strategies to increase the response rate of these practice-based professions. The pragmatic elements of recruitment and engagement need consideration during pre-testing to increase the reliability of a measure for gathering data from practice-based professions. Including this pragmatic element to pre-testing can increase the likelihood of the surveys utility to health professions, patients, and quality health services.

1.1.3 Defining CM, concepts and professionals pertinent to this study

1.1.3.1 What is Complementary Medicine

Defining CM is critical to understanding the subject throughout this study. 'CM' is used in this study to reflect the term 'complementary medicine' which does not include the term 'alternative' This is a deliberate omission from the peak medical research body in Australia, who's definition of CM is used in this study. It denotes that conventional medicine is the primary care offered in Australia and that any complementary medicine, practices or therapies are not an alternative to conventional healthcare but rather complement mainstream conventional care.

As CM constitutes a conglomerate of numerous professions, disciplines, treatments and therapies defined by differing philosophies or practice approaches, the label of CM often refers to any healthcare service that is not legislatively or traditionally associated with the conventional scope of practice (Bell et al., 2002, Adams et al., 2012). An early definition by O'Connor et. al. described CM as:

> *"Complementary and alternative medicine (CAM) is a broad domain of healing resources that encompasses all health systems, modalities, and practices and their accompanying theories and beliefs, other than those intrinsic to the politically dominant health system of a particular society or culture in a given historical period. CAM includes all such practices and ideas self-defined by their users as preventing or treating illness or promoting health and well-being."*
>
> (O'Connor et al., 1997)

More recently, the Australian Medical Association defined CM as:

> *"Include(ing) a wide range of products and treatments with therapeutic claims that are not presently considered to be part of conventional medicine. Complementary medicines include herbal medicines, some vitamin and mineral supplements, other nutritional supplements, homeopathic formulations, and traditional medicines such as Ayurvedic medicines and traditional Chinese medicines. Complementary therapies include acupuncture, chiropractic, osteopathy, naturopathy and meditation."*
>
> (Australian Medical Association, 2012)

Whereas the Therapeutic Goods Agency took a more specific view, defining CM as:

> *"Complementary medicines (also known as 'traditional' or 'alternative' medicines) include vitamin, mineral, herbal, aromatherapy and homoeopathic products. Complementary medicines may be either listed or registered, depending on their ingredients and the claims made."*
>
> (Therapeutic Goods Administration, 2013)

Most recently, the National Health and Medical Research Council defined CM as the following:

> *"Complementary Medicine (CM) is a broad term used to describe a wide range of health care medicines, therapies (forms of treatment that do not involve medicines) and other products that are not generally considered within the domain of conventional medicine. It includes practices such as naturopathy and homeopathy, as well as general lifestyle-based disciplines such as yoga and Pilates".*
>
> (National Health & Medical Research Council, 2014)

Clearly, the definition of CM is not set or fixed, as various associations and government bodies seem to define CM in different ways. Terms used to refer to CM have since evolved to include 'Integrative', 'complementary therapies' and 'holistic health', all of which have different connotations and meanings in different health systems (Bell et al., 2002). Variability in the definition of CM means defining the boundary around the concept can be challenging (O'Connor et al., 1997). To allow for shifts in the CM conversation during the course of this study, the most recent definition provided by the National Health and Medical Research Council (NHMRC) from Australia, was adopted. There is little known about the

breadth and prevalence of CM professions active in Australia; however, other studies have found numerous groups within the Australian public are accessing an array of CM treatments and therapies (Adams, 2011, Steel et al., 2012, Singer and Adams, 2012). For the purpose of this study, how to best measure the knowledge conventional healthcare practitioner students (specifically nurses and midwives) was explored in regards to the following CM professions, treatments and/or therapies: Acupressure, Acupuncture, Ayurveda, Aromatherapy, Chiropractic, Deep breathing exercises, Diet therapy, Faith healing/prayer, Homeopathy, Hypnotherapy, Iridology, Massage therapy, Meditation, Naturopathy, Nutritional therapy medicine, Osteopathy, Reflexology, Therapeutic touch/Reiki, Western herbal medicine, Traditional Chinese Medicine, Tai chi/chi gong and Yoga. These are the most common across all definitions of CM internationally, as far as can be ascertained(World Health Organization, 2013).

1.1.3.2 The professional identity and role of nurses and midwives

Nurses and midwives have professional identities distinct not only from each other but also from the broader conventional medical community. Understanding how nurses and midwives see themselves situated in the healthcare system and their sense of professional identity can help elucidate their practices. The identity of nurses as carers and of midwives as supporters of women's choice has been focussed on and clarified over recent years, in response to mounting pressures regarding factors such as cost-effectiveness and a shifting evidence base (Benoit et al., 2010, Brykczynski, 2012). Flowing on from this distinction between the two professions, aspects of professional boundaries and education are increasingly important to note in the context of this study. Firstly, it is important to consider the professional distinctions and boundaries between nurses, midwives, and the broader conventional healthcare community, as this can influence how these professions operate in their practice (Reiger and Lane, 2013, Adams and Tovey, 2008, Hughes, 2008). Secondly, literature is expanding on evidence that suggests the role of professional identity of nurses and midwives in clinical settings is pivotal to the perception and use of CM, by nurses and midwives (Lane, 2002, Adams and Tovey, 2008, Denner, 2007).

1.2 BACKGROUND AND CONTEXT OF THE STUDY

1.2.2 Complementary medicine use

1.2.2.1 Complementary medicine use amongst the general population

Recent research shows CM is highly accessed by the public and the evidence of the prevalence and nature of CM use is growing (Adams et al., 2011c, Steel et al., 2012, Reid et al., 2016). Public trust in CM has been found to be high but affected by negative media coverage (van der Schee and Groenewegen, 2010a). Still, the consumption of CM in many areas has been rising within the general public for numerous health complaints (Wardle et al., 2012).

1.2.2.2 Complementary medicine use in patients commonly cared for by nurses and midwives

The patient groups who are often treated by midwives and nurses are also commonly using CM. Patients have been found to use CM for complaints related to cancer treatment (Girgis et al., 2005, Quimby, 2007a, Broom et al., 2010, He et al., 2010) as well as for stroke rehabilitation (Sibbritt et al., 2012), in aged care, and for wellbeing (Adams et al., 2009b, Adams et al., 2009a, Parvathy et al., 2004). It is possible for nurses to come into contact with these areas of care during their practice (Quimby, 2007b, Hughes, 2008). Pregnant and birthing women, the primary patient base for midwives (Nursing and Midwifery Board of Australia, 2006), are also accessing CM at growing rates for pain management and other pregnancy and birth related health issues (Adams, 2011, Adams et al., 2011c). The holistic foundations of CM have been found to enable midwives in particular to confirm the boundary between themselves and other maternity care providers (Hughes, 2008). This highlights the complex interplay associated with CM use in relation to conventional healthcare areas such as nursing and midwifery (Hall et al., 2012, Johnson et al., 2012).

1.2.2.3 The use of complementary medicine by nurses and midwives

Nurses and midwives may be using CM with individuals in their care. One hypothesis suggests that this CM use is a response to growing public preference, but there may also be a more personal element present in their use of CM(Adams, 2006, Adams et al., 2011a). It has been suggested that nurse and midwife use of CM can increase job satisfaction as CM can be viewed as more in line with the traditional role of their respective professions

(Burman, 2003, Lloyd et al., 2007). The personal element of CM use may have a link with nurses and midwives' personal philosophical views towards health and their role in the healing process (Boon et al., 2004). CM use by nurses and midwives has also been found to be associated with interprofessional collaboration including referral to CM practitioners, which is more prominent when either personal or professional networks exist but is still low overall (Coulter et al., 2005). Other factors that impact on use of CM by midwives, besides training deficits, appears to include uncertainty around workplace policies related to CM use; the legal implication of providing CM advice or collaborating with CM practitioners; collegial attitudes to CM; and lack of knowledge in CM (McFarlin et al., 1999, Diezel et al., 2013).

1.2.3 Complementary medicine education for conventional healthcare courses

1.2.3.1 Conventional healthcare professional attitudes to CM education

In order to competently and safely advise patients about CM, early familiarisation with CM can engender attitudes in students of conventional health professions which are helpful in the promotion of safe and competent CM counsel (Torbeck et al., 2004). Many conventional healthcare professionals have expressed an openness to learning more about CM (Gaffney and Smith, 2004), however this openness is even more prominent in nursing students and a range of other health professionals who have been found to have a positive attitude toward CM (Fewell and Mackrodt, 2005, Dayhew et al., 2009). Despite this openness, there is little or no research examining the attitudes of Australian nursing or midwifery educators towards CM or CM inclusion in nursing and midwifery curriculum (Bourgeault and Hirschkorn, 2008). Attitudes to CM could possibly determine the presence of CM in nursing and midwifery education and the focus of professional development of academic faculty in this topic area (Perrin, 2008). Of all the biomedical domains, nursing and midwifery have been shown to be the most positive to CM generally (Adams and Tovey, 2008) however, nurses do not share as strong an affinity with CM as midwives (Adams et al., 2011b). Overall, all conventional healthcare practitioners want more information on CM (Sewitch et al., 2008, Houghton and Barnes, 2004, Fewell and Mackrodt, 2005, Kreitzer and Sierpina, 2006, Dayhew et al., 2009, Lee et al., 2012). The inconsistent methodological quality and approach in the research that has cited health professionals desire for CM education, makes it difficult

to determine conventional health professional attitudes towards CM with confidence (see literature review chapter).

1.2.3.2 Approaches to complementary medicine inclusion in conventional healthcare courses

Not enough is known about conventional healthcare professional education in CM. Demands on conventional healthcare professionals, such as nurses and midwives, to meet the strengthening trends in concurrent use of CM within the community, has highlighted institutional issues like lack of faculty expertise in CM, space/time in degree or priority of the education institution. Still, systematic educational change has been slow to meet the demands this trend places on conventional healthcare professionals, such as nurses and midwives (Adams, 2006, Downey, 2007, Hughes, 2008, Turner, 2008). Changing trends in the public accessing conventional and complementary health services means there is a need to educate all healthcare providers for contemporary patient-centred healthcare. Many countries have observed a push towards safe and competent practice in light of widespread community concurrent use of CM across conventional healthcare areas (Fewell and Mackrodt, 2005, Moore, 2010, Smith, 2009, Houghton and Barnes, 2004, Dayhew et al., 2009, Zanini et al., 2008). The evaluation of educational interventions has often resulted in internal reports for a faculty or organisation rather than external reviews and as such continues to be unsystematic (Morgan et al., 1998, Barberis et al., 2001). There is a need to respond to trends in CM use effectively and safely, due to CM's pharmacological significance and potential contra-indication to conventional care being provided. This is the reason CM education is needed for conventional healthcare professionals. Nurses and midwives, as well as other conventional healthcare professionals more broadly, need to be able to meet the needs of the community in order to stay relevant and within regulatory guidelines. As such, there has been a call for education programs for health professionals to ensure the inclusion of appropriate and quality CM training (Smith, 2009, Dayhew et al., 2009, Groft and Kalischuk, 2005, Helms, 2006, Moore, 2010, Sok et al., 2004, Buckel, 2007).

Incorporating CM education into conventional healthcare degrees is highly variable. In general, students attending these courses benefit from the gain in knowledge and/or understanding of CM (Ben-Arye et al., 2008, Nicolao et al., 2010). Despite this, there has been no development of Australian education standards pertaining to the inclusion of CM in nursing and midwifery course content. The circumstances of institutions and their educators

seem to shape the approach and delivery of CM education (Steel and Adams, 2012). CM content inclusion that covers interviewing, critical thinking, evidence-based medicine, knowledge of laws, ethics, and spiritual and cultural beliefs (Burman, 2003) in the form of experiential learning (Torbeck et al., 2004) has been found to be an advantageous approach for maximum learning outcomes in CHC students. It has also been recommended that CM learning for conventional health professionals is not offered as an elective subject, that conventional healthcare students are exposed to evidence-based CM research and that CM course content is available to be studied at all university levels of study (Helms, 2006). Standardization of CM integration into conventional healthcare courses has been suggested as a way to manage the diversity of approaches to CM content inclusion (Morgan et al., 1998, Nicolao et al., 2010). Further information about current approaches to delivery and course characteristics are central to the question of CM inclusion in Australian nursing and midwifery courses, providing vital information on the presence and quality of courses that are preparing contemporary healthcare professionals for practice.

1.2.3.3 History of complementary medicine inclusion in conventional healthcare courses

CM has had a slow introduction to conventional healthcare, however many recognise the need for professionals to have knowledge of and familiarity with CM for safety reasons (Buckel, 2007, Dayhew et al., 2009, Gaboury et al., 2011, Groft and Kalischuk, 2005, Helms, 2006, Kreitzer and Sierpina, 2006, Moore, 2010, Nissen and Manderson, 2013, Ruffin, 2011b, Smith, 2009, Sok et al., 2004, Zanini et al., 2008). From the mid-1990's, changes began occurring in medical curricula to ensure exploration of CM was possible throughout course content, but these changes were soon followed by anti-CM sentiments amongst the biomedical community ranging from reservations to scepticism (Harris, 1995, Olsen, 1999). CM use by patients and women did not abate however, forcing conventional healthcare professionals to engage with CM with western and eastern paradigms of treatment overlapping in patient care. This often left conventional healthcare professionals education to meet the demands of user trends, without any one way for institutions to go about including CM (Gaydos, 2001, Mitchell and Doyle, 2002).

Further fractious healthcare system aspects stemming from the divergent evolution of conventional and complementary medicine presence in western countries continued to raise ethical and quality concerns amongst the predominant biomedical community with

regards to the inclusion of CM content in conventional healthcare practitioner education (Wetzel et al., 2003). Market demand for CM did not equate to clear guidelines on how conventional healthcare practitioners could safely engage or appropriately familiarise with CM and CM practitioners (Rankin-Box, 2002). The culture of patient-centred care increasingly drove CM to be included in conventional healthcare education, but reservations in acknowledging the traditional evidence for CM within the dominant evidenced-based medicine (EBM) paradigm have created a duality whereby the pressure to include CM is conditional on EBM principles (Forjuoh et al., 2003). Claims of pseudoscientific CM content in conventional medical courses continue despite the widespread use and, arguably, the benefit of CM treatments and therapies (Weeks, 2015, van der Schee and Groenewegen, 2010a, Caspi, 2015, Falkenberg, 2010).

1.2.3.4 The characteristics of nursing and midwifery as regulated professions

Nursing and midwifery are registered professions that require a discrete qualification in the relevant profession i.e. nurses must have a nursing qualification and midwives must have a midwifery qualification. Recognised qualifications for general registration as a nurse are available as a direct-entry bachelor degree. Additional post-graduate study is also available to nurses but only for those who have completed a Bachelor of Nursing or equivalent. Registration as a midwife requires completion of either a direct-entry bachelor's degree in midwifery. Opportunities are also available for individuals with a bachelor of nursing or equivalent to complete postgraduate studies in midwifery to register as a midwife (Nursing & Midwifery Board of Australia, 2014b, Nursing and Midwifery Board of Australia, 2014). As a separate pathway, individuals may also complete a double undergraduate degree in both midwifery and nursing.

1.3.3.4.1 Dual qualifications and professional identity

As a result of dual qualification pathways, there are health professionals who have qualifications in both nursing and midwifery. Although only 8.3% of registered nurses and midwives in Australia are registered in both professions, the majority of those dually qualified (99%) are nursing registrations with only 9.4% being midwife registrations (AIHW 2014). This demonstrates the prevalence of nurse qualifications amongst registered

midwives, which may impact the reporting of attitudes amongst midwifery sample groups. The composition of nursing and midwifery sample groups must be accounted for as a reality when quantitatively exploring these discrete health professionals' attitudes in Australia. The Australian Institute of Health and Welfare explains that the sharp drop in midwifery registrations between 2011 and 2014 can be attributed to the 'recency of practice' standards that effectively de-registered many nurses with previous midwifery qualifications who had not maintained their midwifery skills (AIHW, 2014). The greater number of registered nurses compared to midwives might indicate that the majority of dual-registration nurse-midwives are nurses who later qualify in midwifery rather than midwives later qualifying in nursing. Regardless of the chronological attainments of secondary higher education award by dually qualified nurses and midwives, this is an interesting aspect of these professions that must inform research into these professions. The composition of the nursing and midwifery workforce has consequences for the characteristics and overall trends in attitudes of those surveyed in those roles regarding CM, however it is not yet clear what those consequences might be (Leap, 1999).

Unique to Australia is the historical development of nursing and then midwifery higher education wards. Midwifery used to be a secondary qualification that could be attained after or alongside a nursing qualification. Later, midwifery was offered as a direct entry degree that could be undertaken and obtained separately from a nursing qualification (McKenna and Rolls, 2007, Leap, 1999). Direct entry midwifery graduates in Victoria initially could not maintain the expected number of clinical practice hours and had issue with regulatory appropriateness. Graduates were required to complete almost double the number of clinic practice hours, then registered as a division of nursing due to a lack of midwifery registration body at the time. It was reported that this produced friction, as the direct entry midwifery graduates did not view themselves as nurses. Even direct entry midwives complete basic nursing units due to viability and financial constraints meaning that at the course of midwifery education is still rooted in nursing-based education (McKenna and Rolls, 2007). Although viability and financial issues were reported in Victoria only after the first 5 years of direct-entry midwifery bachelor and have likely changed since then, it demonstrates the enmeshment of nursing and midwifery education and how this can impact practice, registration and the expression of professional identities (Fenwick et al., 2012). In light of the history of nursing and midwifery higher education awards and

registration illustrates that surveying nurses and midwives as discrete professions could become challenging.

1.3.3.4.2 The link between competency standards and the need for CM education

The practice skills and scope required of nurses and midwives in Australia to be registered for practice includes completion of accredited higher education degrees (Nursing & Midwifery Board of Australia, 2014b). Nurses have access to approximately 93 general registration courses and 68 enrolled nurse courses through the Australian Health Professional Registration Agency (AHPRA); each registration type with varying degrees of skill and scope. Midwives have access to approximately 39 approved programs of study Australia wide. Once registered, nurses and midwives can be endorsed by the government through AHPRA to allow them to schedule medicines, which includes supply of scheduled medicines (rural and isolated practice) and scheduled medicines for eligible midwives, nurse practitioners, and eligible midwives (Nursing & Midwifery Board of Australia, 2014b, Nursing and Midwifery Board of Australia, 2014, Nursing & Midwifery Board of Australia, 2014a). Despite having a shared registration board, nurses and midwives must comply with the training and registration requirements of their specific profession and can only use the title of the profession in which they are registered. Whilst postgraduate and dual degree courses are available which allow graduates to meet both nursing and midwifery registration requirements, both professions also have discrete direct entry degrees that enable registration in one profession only in Australia. It is expected qualified nurses and midwives are competent based on a set of defined standards (see table 1.3.3.4.2).

National competency standards eluding to CM familiarity		
Domains and domain details	***Nurses***	***Midwife***
	Professional practice – this relates to the professional, legal and ethical responsibilities which require demonstration of a satisfactory knowledge base, accountability for practice, functioning in accordance with legislation affecting nursing and health care and the protection of individual and group rights.	Legal and professional practice – This domain contains the competencies that relate to legal and professional responsibilities including accountability, functioning in accordance with legislation affecting midwifery and demonstration of leadership.

	Critical thinking and analysis – this relates to self-appraisal, professional development and the value of evidence and research for practice	Reflective and ethical practice – This final domain contains the competencies relating to self-appraisal, professional developments and the value of research.
	Provision and coordination of care – this domain relates to the coordination, organisation and provision of nursing care that includes the assessment of individuals/groups, planning, implementation and evaluation of care.	Midwifery knowledge and practice – This domain contains the competencies that relate to the performance of midwifery practice including assessment, planning, implementation and evaluation. Partnership with women is included in this domain.
	Collaborative and therapeutic practice – This relates to establishing, sustaining and concluding professional relationships with individuals/groups This also contains those competencies that relate to nurses understanding their contribution to the interdisciplinary health care team.	

Table 1.3.3.4.2 Expected competencies for Australian nurses and midwives (Nursing & Midwifery Board of Australia, 2006)

The competency standards outlined in table above broadly indicate that nurses and midwives are required to be familiar with and to fully engage with CM use and CM professionals during provision of their patients' basic care. Although the standards generally refer to a need for patient-centred and holistic care, there are no other competencies which requirements that explicitly demand knowledge or familiarity with CM. The need for CM familiarity can be addressed through education and the standards might benefit from explicit competencies in CM to be incorporated. Making CM familiarity more explicit in the standards could better guide CM inclusion and its intended outcomes for students and future nursing and midwifery professionals. Australia's leading health research body; the National Health and Medical Research Council, has released a resource to guide conventional healthcare professionals communication with patients and clients due to their

legislated requirement to “inquire into and advise the community on matters relating to the improvement of health and the prevention, diagnosis and treatment of disease” (National Health and Medical Research Council, 2014). Despite the requirements of contemporary practice standards and the overarching research body of Australia, there is limited evidence outlining CM content inclusion into Australian nursing and midwifery courses. CM integration into nursing education is based on the supposition that safety and efficacy would be strengthened by CM education content being included (Moore, 2010, Fewell and Mackrodt, 2005, Kenyon, 2009). Educational interventions have been demonstrated to be effective in international studies that are cross sectional in nature (Avino, 2008, Booth-La et al., 2010) and taking a snapshot of their targeted populations using both quantitative (Hessig et al., 2004) and qualitative (Rawlings and Meerabeau, 2003) methodologies. These intervention-type studies often provided insight into the attitudes and perceptions of nursing and midwifery faculty, students and professionals. Despite the research evidence available, little has been done to systematically measure or implement CM content in Australian nursing and midwifery courses.

1.3 Chapter Summary

The background and context described in this chapter have introduced the salient factors surrounding the topic of CM inclusion in Australian nursing and midwifery courses. The need to conduct this research in the health services field has been justified and a set of research aims and questions have been delineated to explore this topic. Chapter 1 hypothesised how to best measure the knowledge conventional healthcare practitioner students (specifically nurses and midwives) which will be extended in chapter 2 and built upon in chapter 3. The current background and context of complementary medicine education in nursing and midwifery courses has not been adequately investigated and little has been done to systematically measure or implement CM content in Australian nursing and midwifery courses. A better understanding of nursing and midwifery attitudes to CM more generally could benefit the approach of measuring this phenomenon and help illuminate current gaps in the literature for this field of study.

2.0 LITERATURE REVIEW CHAPTER

2.1 Introduction

Understanding CM nursing and midwifery attitudes requires quality data collection, such as through appropriate use of validated surveys. A systematic literature review may be beneficial before survey development, to consider all known and relevant concepts during survey development. In this study, a systematic literature review informed underpinning concepts of a survey questionnaire (Bowling, 2005, Walter, 2006). For this particular survey questionnaire, a review of original research examining the attitudes of nursing and midwifery faculty, students and practitioners was conducted. Research that examined nursing and midwifery attitudes towards CM and CM education was reviewed, with a focus on attitudes of nurses and midwives towards CM and CM education, to capture a board range of international research. Several themes regarding the research questions emerged and was crucial to questionnaire design. This chapter presents a systematic review of international empirical literature of the attitudes towards CM of professionals, faculty and students within nursing and midwifery as discrete professions.

A search of the existing literature identified published and available validated tools that measure attitudes to CM amongst health professionals. Two (2) measures were found; The CAM Health Belief Questionnaire (CHBQ) and Integrated Medicine Attitude Questionnaire (IMAQ) which target medical doctor students. The main constructs covered by the 10-item CHBQ are students' use of CM treatments and students' awareness and use of primary CM information resources. The CHBQ was first validated to measure CAM Health Beliefs of a variety of health learner types (Lie and Boker, 2004). The IMAQ is a 29-item measure that covers the constructs of 1) attitudes toward holism, 2) attitudes toward the effectiveness of CM, and 3) attitudes toward introspection and the doctor–patient relationship and was first validated for measuring these three (3) constructs with international samples of medical students (Schmidt et al., 2005, Schmidt et al., 2006). None of these surveys has adequately achieved understanding of CM nursing and midwifery attitudes. As such, a survey needs to be developed that will address this important gap in knowledge. This literature review identified what constructs need to be included in a survey questionnaire for this purpose.

2.2 Methods

The databases accessed for this review were PubMed, PsychINFO, CINAHL, EMBASE, AMED and HealthSource. Key terms used in the first of a three-step search were 'complementary medicine' or 'alternative medicine' or 'aromatherapy' or 'naturopathy' or 'acupuncture' or 'massage' or 'herbal'. These terms were used, as they reflect complementary medicine professions that are in extensive demand and use worldwide and were linked to CM known to be used and/or recommended by nurse and midwives (Adams et. al., 2011a, World Health Organization, 2013). This was then combined with a second search using 'AND' with the terms 'curriculum' or 'syllabus' or 'graduate' or 'training' or 'student' or 'faculty'. Finally, a third search was conducted using the terms 'nurse' or 'nurses' or 'nursing' OR 'midwife' or 'midwives' or 'midwifery' then combined with the previous two using 'AND'. The inclusion criteria required that studies be in the English language reporting new empirical research data. This inclusion criteria contained papers from all original study design types (e.g. quantitative, qualitative and mixed methods) that produced original data pertaining to or midwives attitudes to CM. However, other literature reviews were excluded from the review. The date range of 2004 to 2014 was selected at the time as it included the most recent studies when developing the tool for pre-testing. Studies from the last decade were included and duplicates were discarded as were studies identified as outside the inclusion criteria. The elimination process was undertaken systematically based initially on the title, then abstract of each reference. Full-text articles were assessed with the aid of an extraction table whereby study characteristics and collated findings were ordered to critically appraise their relevance and quality (see figure 2.2). All identified papers were studied and synthesised for their key findings. Findings that were similar across papers were grouped heuristically into overarching themes and sub-themes.

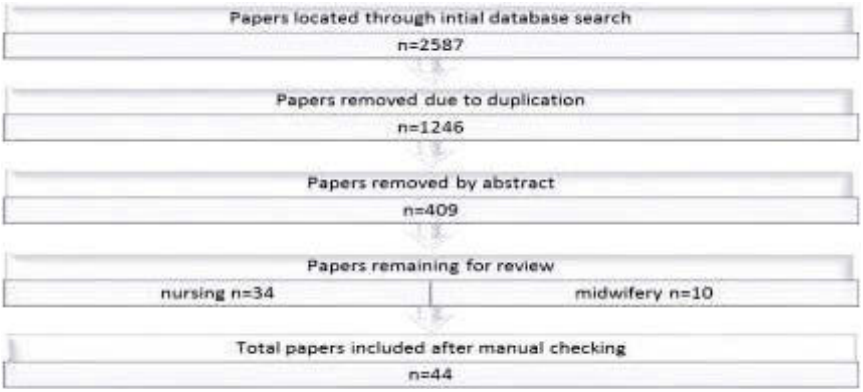

Figure 2.2 Critical literature review process

2.3 Results

The literature included in this review totalled 44 peer-reviewed publications from both nursing (n=34) and midwifery (n=10) professions. Both qualitative (n=8), quantitative (n=35) and mixed methods (n=1) studies of nursing and midwifery students, faculty and practicing professionals were identified. The sample sizes reported in the literature reviewed varied from 16 participants (Laws et al., 2009) to 726 (Oztekin et al., 2007, Laws et al., 2009). Studies of the nursing profession originated from United States (Keimig and Braun, 2004, McDowell and Burman, 2004, Temple et al., 2005, Tracy et al., 2005, Rojas-Cooley and Grant, 2009, Cutshall et al., 2010, Avino, 2011, Trail-Mahan et al., 2013), Taiwan (Smith and Wu, 2012, Mei-Ying et al., 2004, Chang et al., 2004), Turkey (Oztekin et al., 2007, Uzun and Tan, 2004, Turker et al., 2011), Australia (Cooke et al., 2012, Shorofi and Arbon, 2010, Broom and Adams, 2009, Wang and Yates, 2006), Norway (Pettersen and Olsen, 2007, Johannessen, 2011), United Kingdom (Laurenson et al., 2006, Osborn et al., 2004), Brazil (Barros and Tovey, 2007), Canada (Joudrey et al., 2004), Cyprus (Zoe et al., 2014), Hong Kong (Holroyd et al., 2008) Korea (Yom and Lee, 2008), Saudi Arabia (Al-Rukban et al., 2012), Sweden (Bjersa et al., 2011), Switzerland (Siegenthaler and Adler, 2006) and Pakistan (Somani et al., 2014).

Midwifery studies identified for inclusion reported findings from Australia (Mollart, 2004, Laws et al., 2009, Adams, 2006), the United Kingdom (Williams and Mitchell, 2007), Scotland (Stewart et al., 2014), Spain (Munoz-Selles et al., 2013), Sweden (Martensson et al., 2011), Germany (Wiebelitz et al., 2009) and Iran (Adib-Hajbaghery and Hoseinian, 2014). There has recently been an increase in focus on CM content CHC courses noted studies, with half the nursing papers (n=18) and over half of the midwifery papers (n=6) published in the last 5 years (see figure 2.3).

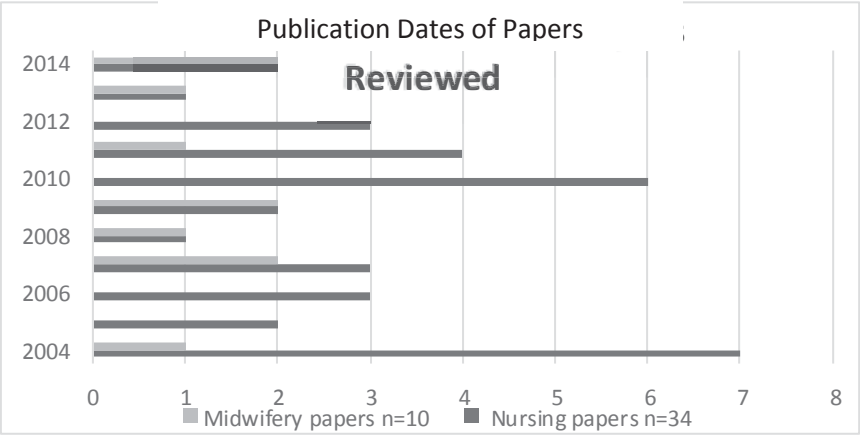

Figure 2.3 Dates of publications for papers included in review

2.3.1 Attitudes towards complementary medicine

The papers included in this review covered mainly quantitative research (see figure 2.3.1a) which gathered data from mostly university practice settings in nursing and equally from birth centre, university and hospital practice settings for midwifery (2.3.1b) and both the majority of nursing and midwifery papers included data from professional sample groups (2.3.1c). The review articles reported nurses held positive attitudes about CM, often due the holistic approach of CM. It was also reported midwives were positive about CM, as CM was described as increasing job satisfaction. However, midwives reported that a perceived lack of evidence was a notable caveat to their positive attitudes towards CM.

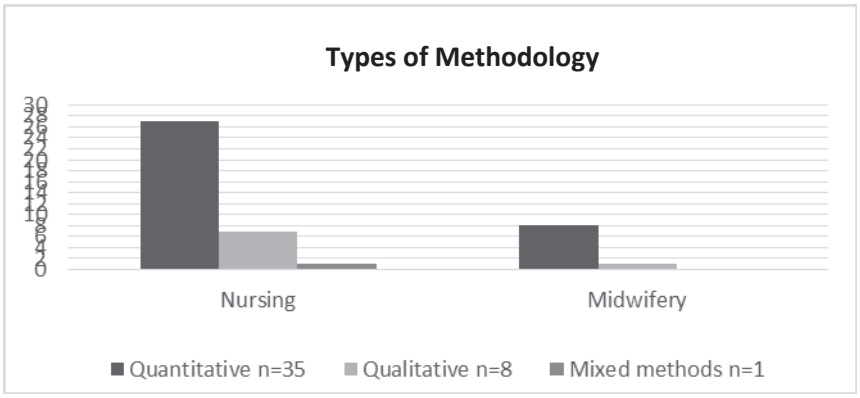

Figure 2.3.1a Types of Methodology in papers reviewed

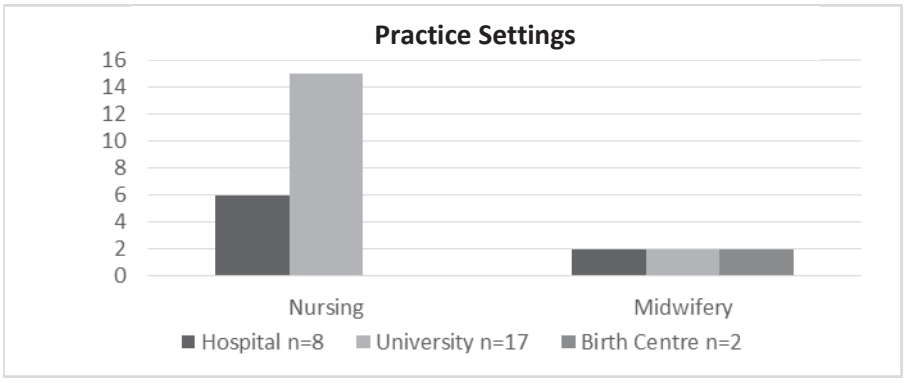

Figure 2.3.1b Practice settings in papers reviewed

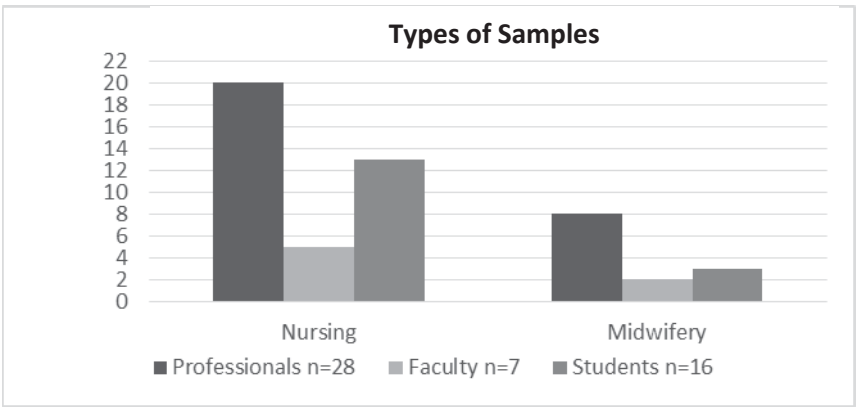

Figure 2.3.1c Types of Samples in papers reviewed

2.3.2 Factors affecting nurse support for complementary medicine

The majority of identified papers related to nursing focused upon the attitudes to CM of nursing practitioners (n=19) from varying practice settings, or nursing students (n=14) with the least studied sample being nursing faculty (n=4). Nurses' professional identities and practices were reported to be influenced by the desire to specialise in alternative therapies and share anecdotal experiences of CM; furthering CM presence in nursing (Bertrand, 2010, Hessig et al., 2004). The expression of nurses positive attitudes were conveyed by participants as being limited by budgetary and regulatory factors (Osborn et al., 2004). One study reported increasing student knowledge and interest in CM in the United States (Booth-LaForce et al., 2010). Moreover, a qualitative study found nurses that worked with CM to engage with holistic nursing were better able to address personal struggles and develop their spirituality (Johannessen, 2011). Support for CM amongst nurses was also linked to personal experience, with nurses' exposure to and use of CM in their personal lives reported to influence the nurses perceptions of CM. One study found that nurses' personal experiences of homeopathy were associated with their perception of complementary therapy as a good complement to holistic nursing practice (Siegenthaler and Adler, 2006). Another more recent study found that nurses private use of complementary therapies, in general, increased their use of CM in clinical practice (Zoe et al., 2014).

2.3.3 Midwives balancing job satisfaction and a need for evidence

Within the limited identified literature examining midwifery and CM, midwives were generally found to be positive towards CM. Midwifery literature was limited but studies included in this review more commonly examined the attitudes of professionals from varying practice settings (n=6) rather than students (n=3) or faculty (n=2). Practicing professional midwives were reported to recommend CM (Stewart et al., 2014) and not only find it useful in practice (Munoz-Selles et al., 2013, Martensson et al., 2011, Mollart, 2004) but also that it increased midwives' job satisfaction and patient satisfaction with maternity health services respectively (Williams and Mitchell, 2007, Adams, 2006). One study reported that midwives felt CM already sits alongside the philosophical foundations of their practice and as such, it enhances their practice experience (Adams, 2006). Another study found that medical staff, including midwives, were interested in learning about CM (Adib-Hajbaghery

and Hoseinian, 2014) with other studies reporting nurses specifically being sceptical of CM in some cases due to factors like lack of research or evidence for CM (Williams and Mitchell, 2007) whilst midwives reported barriers to using CM professionally (Mollart, 2004). For example, a small Australian study (n=63) of midwives who had completed a reflexology course found only a fifth of respondents were aware of a policy in their workplace regarding the use of CM for them in their practice (Mollart, 2004).

2.3.4 Nurses and midwives' attitudes to CM education

Nursing faculty and students reported having a positive attitude to the inclusion of CM in nursing courses in the majority of studies (n=7), however, some studies did not find positive attitudes were reported by participants (n=2). Most positive attitudes in nursing faculty and students centred on a desire for more CM education. A quantitative study of nursing students in the United States found most thought CM was important for future nurses (80%) but almost half (42%) expected to not receive adequate CM learning during their nursing education (Keimig and Braun, 2004). A more recent US study of university nursing faculty (n=117) and students (n=578) in the US mid-Atlantic region found students (81%) and faculty (62%) desired further CM education in order to be sufficient in advising patients about CM use, especially with regards to nutritional supplements (faculty 82% vs students 92%). The majority of nursing students also desired further CM education to ensure these professionals were able to advise patients about CM use competently (81%). Nursing faculty also iterated the need for more CM education to assist nurses in advising their patients about CM (62%) but were specifically interested in more information about herbal medicine (75%) and massage (72%). This may have been because faculty also reported the current content only covered health worldviews and perspective (75%) and holism in illness and health (71%) (Avino, 2011). In Taiwan, a quantitative study of nursing students at one university (n=496) measured their attitudes towards Traditional Chinese Medicine (TCM) and found slightly positive attitudes towards CM education with the second highest mean attitudinal score being 3.89 for wanting more TCM knowledge (Mei-Ying et al., 2004). An array of research involving student nurses in Turkey has found positive attitudes to CM education (Uzun and Tan, 2004, Oztekin et al., 2007, Topuz et al., 2010, Turker et al., 2011). The majority of student respondents (64%) expressed a need for greater inclusion of CM in

nursing curriculum (Uzun and Tan, 2004) particularly within their undergraduate education (Oztekin et al., 2007). Of the substantive nursing students who identified as receiving information (media 67%, internet 61%) about CM, 58% of these students viewed the information as insufficient to their needs (Topuz et al., 2010). Only one included study referred to midwives and CM education, however, it also contained data on nursing students (Adib-Hajbaghery and Hoseinian, 2014). This quantitative study of nurses, doctors, students of medicine, nursing and midwifery and faculty of a Medical Sciences university in Iran reported the majority of midwifery students (n=38; 88%) were interested to learn traditional and complementary medicine and were more likely to be interested in CM education than nursing (n=60) students (78%) (Adib-Hajbaghery and Hoseinian, 2014).

Some nursing faculty attitudes to CM education were not consistently positive. A cross-sectional descriptive study of conventional medicine and nursing colleges in Saudi Arabia found there was little interest in CM education amongst staff members (n=90) with only 84 interested across 20 colleges and with 42% of nursing courses having no CM content in them (Al-Rukban et al., 2012). A qualitative study interviewing post graduate nurses (n=6) in Australia also did not find overly positive attitudes to CM education with only one respondent referring to furthering their CM knowledge outside of their degree (Wang and Yates, 2006). The perceived necessity for the inclusion of CM within nursing education may also differ between levels of studies whereby third and fourth year nursing students are less likely to be supportive of the inclusion of CM education than first and second year students (Turker et al., 2011).

2.3.5 Factors limiting positive attitudes towards complementary medicine amongst nurses and midwives

Positive attitudes towards CM were not universal across the reported studies with less positive views described in a number of studies (n=12) involving either professional nurses or midwifery faculty. The only explicit description of a negative view towards CM was in an Australian study where the majority of professional nurses identified both neutral and *negative* attitudes towards CM (Shorofi and Arbon, 2010). One reason for these less positive attitudes towards CM was less interest in learning more about CM (Adib-Hajbaghery and Hoseinian, 2014).

2.3.5.1 Confidence

The confidence of nurses and midwives regarding CM also appeared to temper positive attitudes towards CM. For example, a study in the United States of professional anaesthetist nurses reported low confidence (17%) in their knowledge of herbal supplements and anaesthetic interactions (Temple et al., 2005). Another study of professional nurses reported lack of confidence affecting attitude to CM with nurses in Sweden not feeling confident in CM knowledge and hesitant to incorporate CM into their practice (Bjersa et al., 2012). A qualitative study of professional nurses (n=34) at one professional organization in the United States reported respondents having reservations regarding CM due to low confidence, and indicated that these reservations impacted their ability to incorporate CM into their role (Trail-Mahan et al., 2013).

2.3.5.2 Safety and evidence

Explicit exceptions to positive attitudes to CM are based on safety and evidence concerns of nurses and midwives. One German study (n=309) reported a small number of relatively inexperienced faculty (5-9 years teaching) viewed CM as risky in terms of side effects (14%), even though student midwives perceived CM as safe - a perception that increased as the students progressed through their degree program by up to 75% by 3rd year (Wiebelitz et al., 2009). In the United Kingdom, nurses positive attitudes to CM were affected by a reported lack of a regulatory framework for CM practice and limited availability of published CM evidence (Osborn et al., 2004). Swedish professional nurses also reported a lack of evidence on effective treatment in complementary therapies as contributing to their resistance to CM (Bjersa et al., 2011). Numerous studies from the United States pointed to professional nurses wanting more CM evidence before recommending CM to patients (Cutshall et al., 2010, Tracy et al., 2005), with student (82%) and faculty (96%) nurses perceiving CM as having a substantial lack of evidence (Avino, 2011).

2.4 Discussion

The growth in CM use has seen the development of policies and position statements in Australia describing the need for collaborative and patient-centred care (Australian Health Ministers' Advisory Council, 2008). This review highlights a growing interest in research

examining nurses and midwives' attitudes towards CM for various settings and purposes, with 24 of the 44 papers included in this review were published in the previous 5 years. Despite this, the work conducted regarding the question of nurses and midwives' attitudes to CM has adopted inconsistent measures, making it difficult to understand the CM education these CHC professionals are given in Australia. On top of this, conflated data and general lack of quality in reporting of discrete results for different conventional healthcare professionals, such as nurses and midwives as separate distinct groups, is a major issue in the literature to date. This critical review has identified a number of important research gaps in the investigation of nurses and midwives' attitudes to CM.

2.4.1 Practice setting

Nursing and midwifery CHC professional groups have a positive attitude regarding CM and CM education; however, the degree to which this positive attitude prevails varies depending on other factors. Nursing or midwifery professionals in the hospital practice setting (Zoe et al., 2014, Shorofi and Arbon, 2010) were more likely to be less positive regarding CM than those in practice settings such as birth centres, which were more positive to alternative health care approaches such as CM (Laws et al., 2009, Munoz-Selles et al., 2013). This could be due to the alignment of CM with the overarching philosophy or approach to the care provided within each practice setting, with birth centre data outlining a 'commitment to the normality of birth' and 'minimal obstetric intervention', as suggested by a midwifery birthing centre study identified in this review(Laws et al., 2009). The finding that hospital nurses and midwives were the ones to report negative attitudes to CM may be due to institutional policies informing negative perceptions of CM (Shorofi and Arbon, 2010, Mollart, 2004).

Perhaps CM education interventions, such as more holistic nurse education, could have a moderating effect on attitudes of hospital-based nurses and midwives towards CM and (Halcon et al., 2001). Pilot research has found that CM use in nursing and midwifery settings can be restricted by the institutional policies and procedures, and midwives' fear of litigation should these be breached, possibly contributing to the positive CM attitudes amongst the reviewed literature (Diezel et al., 2013). Overarching support for holism and patient-centred care (Zoe et al., 2014, Shorofi and Arbon, 2010) does not seem to equate to knowledge regarding the difference in settings and any potential effect this has on nurse

attitudes to care (Adams, 2011, Cohen-Mansfield and Jensen, 2008). Professional midwives from birth centres respect for holism and birth as a natural process (Laws et al., 2009, Steel et al., 2012), may be a counteracting force to the prevailing culture of risk impacting pregnancy and birth (Mitchell, 2010). So although practice setting could be a factor in attitudes of nurses and midwives to CM, CM education may also influence these conventional healthcare groups.

2.4.2 Exposure to complementary alternative medicine impacts on attitudes

Exposure to CM from personal use, or training in CM affected positive attitudes to CM in some of the reviewed literature. Other literature supports the findings drawn from the papers included in this review, as it has been reported there is some informal awareness of CM amongst professional nurses in hospital settings (Fewell and Mackrodt, 2005) but systematic education in and exposure to formal CM knowledge is not evident in the contemporary empirical literature reviewed. As one study included in the review reported; the similarity between nursing' and midwifery's respective underlying philosophies and the holism of CM could be a factor in practitioners' openness to CM use (Adams, 2006). Additional literature suggests that further to philosophical similarity, CM education interventions can impact nurses' attitude, particularly confidence regarding CM (Chlan et al., 2005). Educational exposure may influence nurses' and midwives' perceptions of CM whether their initial contact with CM is personal or professional, however, further investigation is needed to clarify sources of exposure and resulting attitudes. Alarmingly, exposure to CM from various areas of nurses and midwives lives and careers may not necessarily include evidence-based information (Cant et al., 2011, De Miguel Martin et al., 2012, Kruske and Grant, 2012, Steel and Adams, 2012). As such, nurses' and midwives' perceptions of this evidence could also influence their attitude towards CM however further research is needed to explore this.

2.4.3 Nurses and midwives' perception of CM evidence

Use of CM in nursing and midwifery appears, based upon the reviewed literature, to be associated with the professional's philosophies of holism colouring perceptions of CM evidence (Johannessen, 2011, Joudrey et al., 2004). Other literature supports this finding

drawn from across the papers included in this review, as it has been reported elsewhere that focussing on CM awareness and knowledge improves nursing and midwifery practice (Ruffin, 2011a, Singer and Adams, 2012). Additional research suggests the perceived quality of CM evidence, in the context of the dominant medical hierarchy of evidence, could be impacting upon nurses and midwives' perceptions of CM use and effectiveness (Dayhew et al., 2009, Wandersman, 2003, Brykczynski, 2012). The underlying holistic philosophies of nurses and midwives may be a moderating factor in terms of their attitudes to CM and holistic practice (Dayhew et al., 2009) but this has not translated into systematic inclusion of CM content in their education. However, it could be that the prioritisation of reductionist scientific research over holistic traditional evidence is thwarting systematic CM education for nurses and midwives and influencing negative attitudes to CM (Walter, 2006, Nissen and Manderson, 2013). An evidence-based approach is always purported in the conventional medicine field, but the form that evidence takes and the scope of what is considered legitimate evidence has consequences for health practitioners who have to navigate health information and contemporary developments in health use in the community to provide safe and efficacious health services (Kelly et al., 2010, Benoit et al., 2010).

2.4.4 Conflated data and weak methodology

A critical drawback in the literature was a lack of distinction between responses from each discrete profession in the data collection and/or presentation of results in many of the identified studies. This was the case of many studies in both nursing and perhaps more crucially, midwifery given the low number of original studies identified (van Haselen et al., 2004, Swanson et al., 2012, Geller et al., 2005, Sena et al., 2006, Brown et al., 2007, Bruguier, 2008, Adibe, 2010, Cant et al., 2011). The conflation of data from discrete professions as homogenous groups does not allow for a rich understanding of nursing and midwifery students, faculty and practitioners attitudes towards CM as members of aligned but independent professions.

The use of nonvalidated measures and small sample sizes were also common in the reviewed literature and further limited the value of the available data. There is an opportunity to further nursing and midwifery research by investigating the use of the one validated tool present in the reviewed literature, which was for measuring medical students' attitudes towards CM (Lie and Boker, 2004). This indicates the need for not only a more

consistent approach to researching attitudes of student, faculty and professional nurses and midwives to CM, but also the need for a validated tool to measure all three of these group's attitudes' towards CM inclusion in conventional healthcare courses. The research examining attitudes towards CM within midwifery was limited due primarily to the small number of studies undertaken involving this group on the topic.

A major gap in the findings regarding attitudes to CM education seems to include midwives' attitudes to CM education. In addition, there is scant data on the feelings of nursing (or midwifery) students or faculty, towards CM education inclusion and various ways CM can be included in CHC education. The overwhelming thrust of the ltierature is that nurses, and to a less extent midwives, would like a better understanding of, and to be properly informed regarding, CM.

2.5 Limitations of this review

A limitation of this literature review is the low number of papers identified which examined each professional group separately. In particular, the low number of original research papers focusing on midwifery. Although also a finding reported earlier, this was also a notable limitation to the review, as conclusions drawn are not as reliable based on a small number of papers (n=10). As such, reported findings regarding midwifery should be interpreted with this limitation in mind. Both quantitative and qualitative papers of midwifery-focused research identified in this review varied in quality.

The conflation of data from more than one professional group where a study focused on several conventional healthcare professions alongside either nursing or midwifery also presents a limitation to this review. The absence of discrete professional categories in these studies limited the insights into the specific attitudes of nurses or midwives and resulted in the exclusion of a number of papers. The quality of the reviewed literature varied and results from this review should be viewed with caution, given inconsistency across the survey tools used made any comparative analysis of findings difficult. Also, the prominence of simplistic descriptive analysis (e.g. frequencies and binary statistical analysis) and small sample sizes within the included papers affected the strength of the literature review overall. Many of the reviewed studies also focussed on a single institution and as such, few were representative of the broader population. Nevertheless, this critical review provides an important foundation for understanding the attitudes of nurses and midwives, as discrete professions, towards CM. This literature review has identified the overwhelming theme that nurses and to some limited extent midwives, are positive towards CM education and report an interest,

utility and need for them to be properly informed about CM. The use of a single validated tool, or a reliable tool at a minimum, would allow for comparisons between, professions, groups, institutions and countries to better equip quality health services.

2.6 Future Directions

Future research on CHC professionals' attitudes to CM to help CHC students better understand and be properly informed through education, must be conducted on discrete professions to enable clearer and more useful analysis of data. Further exploration is needed to know more about what attitudes to CM are present and what CM education is delivered in nursing and midwifery. More longitudinal and large-scale studies are required for nursing and midwifery in Australia but also internationally, as demonstrated by the minimal body of evidence in the area identified for review. However, all conventional healthcare courses internationally would benefit from a coherent and organised investigation of their attitudes to CM and current CM education. This would better illuminate the current state of play regarding attitudes to CM and CM education in the future. This may help discover the impacts CM attitudes have on health practice and service delivery, especially in light of the high prevalence of CM service utilisation. A systematic examination of studies looking at CM education in nursing and midwifery is a first step to addressing the void in the literature regarding this emerging topic. Ultimately, future work needs to look at CM content within nursing and midwifery curriculum to start at the beginning of CM attitude formation and the first opportunity ensure better understanding and proper information is provided. Deeper exploration of the factors affecting the inclusion and delivery CM education would contribute to informing curriculum design in the future as appropriate. It would also allow for a coordinated education approach of quality CM inclusion in nursing and midwifery curriculum. The number and quality of papers identified in this review indicate that although positive attitudes towards CM exist in nursing and midwifery, there are complex factors influencing health services. These factors require a nuanced approach in future research to move our understanding past basic description of presence to deep understanding and quality health education and policy design.

2.7 Chapter summary

This review identified a number of important research gaps in the investigation of nurse and midwife attitudes to CM and CM education. The previous chapter introduced the study and the need for an investigation into CM inclusion in nursing and midwifery courses. This chapter builds on that explanation and the next chapter extends the findings of this review chapter to outline the process followed in this study. Current validated tools that measure CHC CM attitudes may be helpful in a survey questionnaire tool in order to begin addressing these gaps. Further research into this area would help clarify the evidence, effectiveness and concurrent use of CM whilst in conventional care, to equip nurses and midwives to engage with public CM use. Policy makers, health care managers, nursing and midwifery curriculum writers, educators and students as well as future professionals and patients can benefit from the findings of this review. This reviews findings synthesise an array of evidence that shows there is opportunity to enhance knowledge and influence attitudes to CM through curriculum design and later education to begin addressing this growing CM health area. This review points to some important areas that require consideration in building a measure to explore CM content inclusion in nursing and midwifery education.

3.0 METHODOLOGY CHAPTER

3.1 Background considerations in methodological design

3.1.1 Challenges of studying practice-based professions

Research investigating nurses and midwives can be difficult given the hands-on and often time poor nature of these professions (Adams and Wardle, 2009). It has also been noted those working in nursing and other practice-based professions in health, can be task-orientated and may need deliberate redirection in order to engage with research (Balakas et al., 2013). Encouraging practitioners to engage with research requires that the challenges associated with their occupational characteristics be mitigated in order to reduce their impact and ensure robust research is conducted (Wyatt and Post-White, 2005, Wardle and Seely, 2007). Gathering valuable data from nurses and midwives regarding CM education needs to be undertaken in the first instance, particularly given the difficulties of gathering data from practically-based professions overall. Moreover, research involving nurses and midwives is essential despite or perhaps due to their practical nature and to inform relevant policy and practice (Adams, 2007b). In light of these challenges, a strong feasibility focus in research of conventional healthcare professions, such as nursing and midwifery, is clearly vital and a part of the methodology for this study. It is essential that those in practice inform the research and evidence development relating to the services in their field.

3.1.2 Current standardised instruments for examining complementary medicine education and attitudes to complementary medicine

Previous attempts to examine attitudes related to CM has resulted in the development of a validated survey tool, called the CM Health Belief Questionnaire (CHBQ) (Lie and Boker, 2004). This questionnaire was developed and validated for the purpose of measuring attitudes and perceptions (beliefs) towards CM and has been established for use on conventional healthcare students in the US (Lie and Boker, 2004), Czech Republic (Pokladnikova and Lie, 2008). It has since been used on other conventional education groups such as medical, pharmacy and dentistry students, faculty and professionals in Czech republic Serbia (Jakovljevic et al., 2013). The CHBQ asks questions around the themes regarding attitudes or beliefs of medical students towards CM and the factors that may have formed them. The CHBQ was initially administered in tandem with a previously established validated tool; Integrative Medicine Attitude Questionnaire (IMAQ). This survey

questionnaire asks questions regarding the themes of attitudes toward CM, specifically openness to new ideas and paradigms, and the value of relationship to self and patient. The IMAQ is a general CM attitudes and openness questionnaire tool whereas the CHBQ is nested within it to specifically gather data on attitudes and beliefs of medical students (Schneider et al., 2003, Lie and Boker, 2004). With the development and validation process, the initial use of the CHBQ, in conjunction with a pre-validated questionnaire and statistical rigour of tests applied to both questionnaire tools, adds weight to the findings (Groves et al., 2009). However, the IMAQ was validated to measure attitudes of physicians (professional), whilst the CHBQ for attitudes of student and also impacts of CM education according to the survey's developers (Lie and Boker, 2004). As such, it appears the initial validation of the IMAQ found the measure to be useful in quasi-experimental studies where CM education intervention takes place and an outcome is measured. There is no validated questionnaire for use with faculty, which examines the inclusion of CM in curriculum and attitudes towards CM. In direct response to these gaps, the study presented here aims to develop a questionnaire that measures CM inclusion and that attitudes of those with influence on nursing and midwifery course content; faculty, towards CM.

3.2 Questionnaire design

Validated tools are needed in the relatively new research area of CM education in nursing and midwifery courses if we are to advance empirical enquiry in this area in a sophisticated and meaningful manner (Broom and Adams, 2007). The formulation of a quality measurement tool requires careful and deliberate effort in line with the established and proven norms of questionnaire design (Fowler, 2014, Willis, 2002). Many disciplines have contributed valuable information to the body of knowledge now drawn upon to construct useful quantitative measures and then test their reliability. Psychology, philosophy, and mathematics have all contributed to the underpinning concepts which shape the quantitative approaches to measuring phenomenon through surveys (Schwarz, 2007, Tavakol and Dennick, 2011). Development of questionnaires to gather data in line with stated aim above requires such a cross disciplinary approach (De Vaus, 2002, Fowler, 1991).

3.2.1 Constructing a questionnaire

The construction of any survey, which includes effective questions, requires consideration of the various advantages and disadvantages of potential question formats. The concepts of reliability (the consistency or repeatability of the measure) and validity (whether the tool is measuring what it aims to measure) need to be careful consideration in relation to the relevance of questionnaire design (Groves et al., 2009). Validity is not within the scope of this study, however consideration of the questionnaire's reliability is an aspect that can be explored. One way to consider the reliability of the proposed questionnaire (CIMQ) is to explore the assimilation and contrast effects occurring during CIMQ completion. The inclusion/exclusion model investigates the assimilation and contrast effects occurring in a designed questionnaire tool. Specifically, the inclusion/exclusion model outlines how information is drawn on (assimilated) by respondents when forming a response to a question or what information is excluded (contrasted) by respondents based on their world view (Schwarz et al., 1990). CHBQ is the tool which explores concepts closest to the research aim(s) of this study, as it measures the attitudes and beliefs of students in relation to CM (Lie and Boker, 2004).

To date, there is no validated or even reliable survey tool to measure the attitudes and beliefs of course content decision makers or faculty of educational institutions towards CM. In response, a tool; Curriculum in Integrative Medicine Questionnaire (CIMQ), was developed which enables the investigation of the level of CM content inclusion in CM courses. It is also incorporates previously validated scales to measure the attitudes and beliefs of the faculty responsible for determining CM curriculum content. A tool to measure CM inclusion and attitudes developed by undertaking a number of procedures: detailed questionnaire construction; pretesting construction to observe cognitive and communicative processing such as assimilation and contrast effects of the inclusion/exclusion model; review of behaviours exhibited during questionnaire completion then analysis and refinement of questionnaire construction.

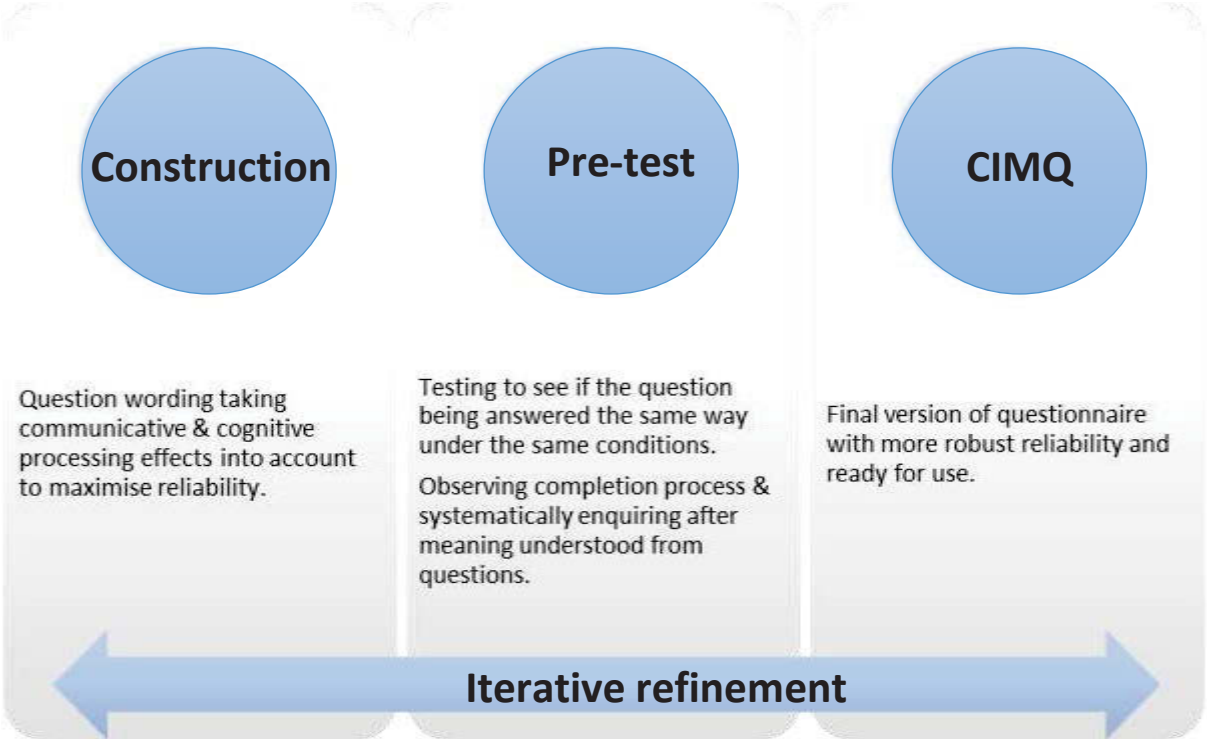

Figure 3.2.1 Methodological process followed (De Vaus, 2002, Schwarz, 2007, Groves et al., 2009)

3.2.1.1 Communicative and cognitive considerations of Curriculum in Integrative Medicine Questionnaire construction

The selection of item formats providing best opportunity to construct a reliable questionnaire for the current study. Selecting item formats drew on the key elements of cognitive and communicative processing and included previously validated scales related to the area of the CIMQ, that is; attitudes and perceptions construct (Schwarz and Sudman, 1996). Specifically, certain assimilation and contrast effects accounted for. These effects included those that result from judgement processes and were considered during the construction of the questionnaire. Assimilation and contrast effect refers to the information that is cognitively included or excluded by the respondent when considering a question depends on the context stimulus provided, such as a preamble, instruction or example, and whether it elicits an assimilation or contrast effect. The cognitive inclusion and exclusion process is dependent on how participants categorize information based on their own world views (Schwarz et al., 1990) and although it is unlikely that the influence of these world views can be fully accounted for, it is important to acknowledge the limitations involved in this element of questionnaire construction (Schwarz and Strack, 1991).

Through the process of constructing the CIMQ, general questions relating to course characteristics like higher education level of course involved in, for example, were asked before specific questions, such as percentage of hours spent on CM learning, to reduce the likelihood that responses were biased from incoherent questionnaire design. To ensure that the information, the respondents drew on is the same intended to be elicited by the question (the target stimulus), overly moderate or extreme context stimulus in preambles, instructions or examples were avoided. In this way, the inclusion/exclusion model of social cognition in questionnaire completion was taken into account (Bless and Schwarz, 2010). The effects of the inclusion/exclusion model were accounted for to increase the reliability of the CIMQ's attitude measurement items (Presser et al., 2004). Cognitive interviews including paraphrasing tasks and retrospective 'think-aloud' procedures were employed to ensure respondents' cognitive processing whilst undertaking the questionnaire is aligned with the desired objectives (Schwarz, 2007).

3.2.2 Testing of the CIMQ

Numerous methodological challenges were considered in the design, testing and analysis of the CIMQ to produce a quality questionnaire suited to the purpose of measuring CM content in Australian nursing and midwifery courses. These methodological challenges were assessed for ethical risk by the human research ethics committee (HREC) at university of technology Sydney by way of a national ethical application form (NEAF) with all materials for testing the CIMQ attached. The committee approved the study (approval number 2013000103). An amended version of the survey was submitted to the same HREC for approval after following the methodological process, which was also approved for use.

3.2.2.1 Validity of the questionnaire

The concept measured through the CMIQ is inclusion of CM content in nursing and midwifery courses in Australia as a phenomenon occurring in relation to course content decision makers (Groves et al., 2009, Walter, 2006). The scope of this study did not allow for full testing of the CIMQs validity (De Vaus, 2002). Reliability must be determined before investigating whether the questionnaire consistently measures what it is intended to measure (Tavakol and Dennick, 2011).

3.2.2.1 Reliability of the questionnaire

Items to consider for the questionnaire development in this study were included in light of already tested question format from established questionnaires, with items transferred from the CHBQ and IMAQ to reinforce the reliability of the data generated (De Vaus, 2002). By doing this, it increases the likelihood that the questions receive the same answer every time under similar conditions when issued to a respondent. In other words, the designed questionnaire has the best chance of consistently and repeatedly measuring what it was intended to measure by using pre-validated items (Tavakol and Dennick, 2011).

3.2.2.2 Questionnaire constructs

The constructs or concepts investigated in this study through a questionnaire tool are:

1 CHC Degree Characteristics

2 CM content inclusion in degree

3 CM course content delivery

4 Attitudes and Perceptions towards CM inclusion

Construct reliability requires a construct refer to an element of information which was carefully addressed during the development of the CIMQ. Keeping this consideration in mind supported construct theory the construct relates to the decisions of course content coordinators. Initial pre-testing should reveal whether the theory is supported by the tool (De Vaus, 2002). If the proposed theory is unsupported, it raises the questions of whether a) the theory was wrong or b) was the measure of the other concept involved, in this instance the course content decision makers, unreliable. Even if a tool is well designed, the target population can lead to erroneous data be gathered if some sampled respondents are not the appropriate respondents to gather data from on the given theory or phenomenon. If pre-testing indicated that the theory supported the measure of CM inclusion, questions would be raised regarding the construct reliability of the questionnaire. Consideration of a) it was in fact designed to support the theory, or if b) the theory was used to see if the questionnaire is reliable in the first instance, leading to the questionnaire then in turn supporting the theory. Assessment of the internal structure of the questionnaire's components, such as CM course content delivery, and the theoretical relationship of this construct's items. The intention of assessing this was to help maintain reliability within the designed questionnaire (Pirkis et al., 2005). Hypothetically, construct reliability was

enhanced during development questionnaire was enhanced by considering these aspects of the designed product both before and after pre-testing.

3.2.2.3 Questionnaire content

Content reliability was tested by ensuring that the developed questionnaire had the ability to gather data on various aspects of CM inclusion in nursing and midwifery courses (De Vaus, 2002, Foddy, 1996). Reducing the inability of closed question options to offer and gather data true to phenomenon was a priority in design. This further verified the content reliability of the questionnaire (Pirkis et al., 2005). A critical review of the literature as outlined in the previous chapter suggests numerous aspects require consideration in relation to this study's research questions, the results of which have informed the following list that was used for testing content reliability in measuring 1) the nature of CM inclusion in nursing or midwifery education and 2) attitudes, perceptions and beliefs towards CM inclusion in nursing or midwifery education.

The content selected above was informed by a critical literature review in the topic area (see literature review chapter). Forming the content of the questionnaire in line with the underlying concept to the questionnaires purpose, helped increase the likelihood the questionnaire is used correctly and that the items reflected the content aspects selected (De Vaus, 2002, Groves et al., 2009, Pirkis et al., 2005).

3.2.1.5 Questionnaire criterion

Criterion reliability of the questionnaire was examined at the pre-test stage by comparing the answers of respondents to identify a spread of perceptions and appropriateness in the criterion (Groves et al., 2009). However, differing underlying theory (nature of inclusion and attitudes) and sample (nurses and midwives) can compromise criterion reliability. The criterion refers to the possible answers available to participants throughout the questionnaire. The criterion was formed with previous validated questionnaires and cognitive communicative processes involved in self-reporting, in mind. This was done to show any potential association(s) between the answers to questions drafted with that of existing and well accepted CHBQ and IMAQ questionnaires (De Vaus, 2002, Lie and Boker, 2004).

3.2.3 Pre-testing the Curriculum in Integrative Medicine Questionnaire

3.2.3.1 Pre-testing process for the self-administered Curriculum in Integrative Medicine Questionnaire

Pre-testing of the Curriculum in Integrative Medicine Questionnaire (CIMQ) involved combined observations and linguistic surveying of the sample group aids during questionnaire construction. Specifically, one-on-one face-to-face interviews were conducted where the interviewer clarified the respondent's understanding of what the questionnaire is asking to unravel social cognition processes that can affect validity and reliability, such as information inclusion and exclusion based on stimulus present in the CIMQ. The pre-testing process also sought to address the second sub question of this thesis, which was regarding the most advantageous approach to engaging and recruiting the intended target sample in completing the CIMQ. The questionnaire administration method adopted for this study is 'self-administered', meaning respondents completed the CIMQ independently, which aligns with the methodology and feasibility of the research project.

3.2.3.2 Cognitive interviewing

Cognitive Interviewing was conducted with purposively sampled nursing and midwifery informants in order to pre-test the CIMQ. Cognitive interviewing is a technique used when pre-testing survey questionnaires, however other techniques are also used such as eye tracking. Taking a record of participants' eye movements as they interact with a study object, such as a survey, is relatively new method employed during cognitive interviews to help elucidate participants information processing during questionnaire completion (Neuert and Lenzner, 2005). The scope of this project did not include eye tracking as a data collection method employed during cognitive interviewing. The protocol for the cognitive interviews included asking participants to complete the CIMQ alone and uninterrupted first, then convening afterwards to review the items using generic probes and scripted question specific probes. This was done in an attempt to control conditions to produce an environment similar to that that will most likely exist when future respondents complete the CIMQ. Control over environmental uniformness was limited however, due to the practical constraints of the study whereby the interviews were conducted in whatever room was available at interviewee's location. As such, the cognitive interviewing technique of Eye Tracking was excluded from this study's interview protocol. This was mainly due to as

environmental homogeneity could not be fully achieved rendering this behaviour pre-testing technique inappropriate for observation in this study (Neuerta and Lenznera, 2015).

Post-interview reflexivity highlighted problems in the questionnaire and recommendations for future versions. Each version was saved, changes noted and justifications triangulated with the supervisory team and pertinent literature (Presser et al., 2004). Where appropriate to the CIMQ's purpose, changes were implemented into the questionnaire, then re-tested with the next key informant during their cognitive interview that followed the same protocol as previous interview(s) (see figure 3.2.3.2).

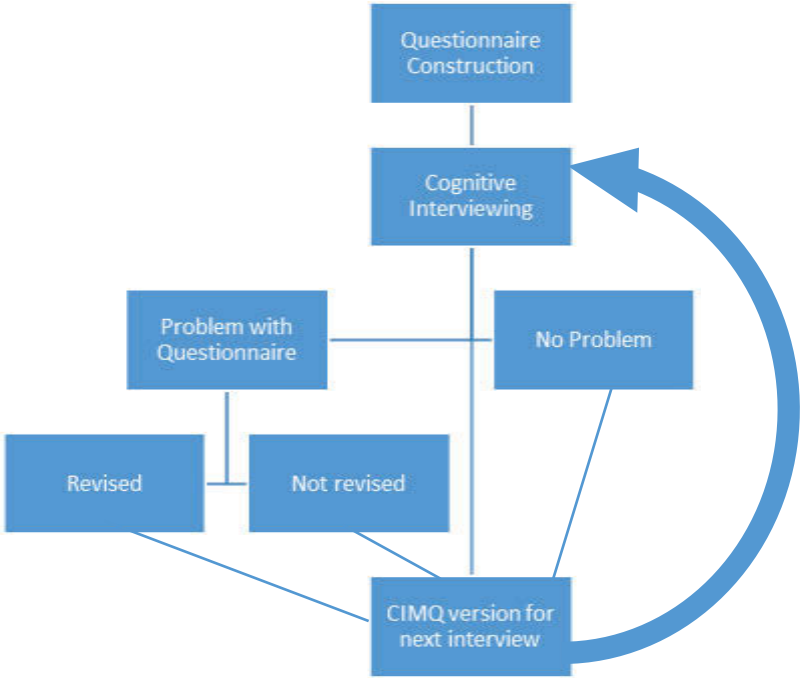

Figure 3.2.3.2 Cognitive interviewing input into CIMQ (Blair et al., 2007 with modification)

Some problematic elements of items that came to light during the cognitive interviewing could not be addressed or altered due to the underpinning constructs informing the questionnaire that dictated certain immutable criterion and content (Blair et al., 2007).

3.2.3.3 Behavioural coding

The overall reliability of the questionnaire items were subject to rigour through the use of cognitive interviewing and behavioural coding the data generated. The objective of analysing whether the CIMQ is reliable through this test is not to determine dimensionality

of the entire questionnaire but rather unidimensionality of the various constructs or concepts being measured within the CIMQ respectively (Tavakol and Dennick, 2011, Green et al., 1977). Dimensionality is fundamental to reliability, as Tavakol and Dennick (2011) explains here:

"*A measure is said to be unidimensional if its items measure a single latent trait or construct. Internal consistency is a necessary but not sufficient condition for measuring homogeneity or unidimensionality in a sample of test items. Fundamentally, the concept of reliability assumes that unidimensionality exists in a sample of test items and if this assumption is violated it does cause a major underestimate of reliability. It has been well documented that a multidimensional test does not necessarily have a lower alpha than a unidimensional test*."

(Tavakol and Dennick, 2011).

The CIMQ is comprised of more than one construct or 'dimension' and therefore has dimensionality. Seeking to gather data on more than one dimension does not mean it is less reliable especially is these separate constructs of the questionnaire are individually explored during pre-testing (Drennan, 2003, Presser and Blair, 1994). Dimensionality may not result in the CIMQ being less reliable either, if the CIMQ were to be validated in the future. In essence, questionnaires can measure more than one thing and still produce reliable data from the separate constructs seeking specific data. As long as the sample of items in each dimension of the CIMQ pertains to gathering data on one construct then it is a reliable tool. Pre-testing data and informed construction of the final questionnaire (see appendix 2) and explored the constructs, the content and criterion across two dimensions or aspects of the CIMQ: nature of CM inclusion in nursing and midwifery education and secondly; attitudes, perceptions and beliefs towards CM inclusion in nursing and midwifery education.

Analysis of cognitive interview data allowed for identification of themes regarding specific CIMQ items issues. Responses to each item were analysed and coded to a theme that best reflected the content communicated by the participants (Thrasher et al., 2011). Problematic areas of questionnaire items have been uncovered in other studies using behaviour coding, such as behaviours of participants uncovered by Blair et al. (2007) including:

- Gives adequate/proper answer
- Qualifies answer
- Asks for clarification
- Answers 'I don't know'
- Refuses to answer
- Gives inadequate/improper answer

- Interrupts question reading
- Asks for all or part of question to be repeated
- Says question is not applicable

(Blair et al., 2007)

These were used as guides to behavioural coding of the cognitive interview data with the possibility to specify further behaviours exhibited within these broader behaviours listed. Further behavioural codes that come out of more in depth analysis were intended to be added, as appropriate to the data. However, this would only have been done if saturation was not met with the behaviours listed above.

The two methods of cognitive interviewing and behavioural coding used in combination have the ability to so more than pinpoint and address larger problems with a measure. They can also assist in enhancing data quality so that measures meet the tool's overall objectives. Cognitive interviewing can elicit the processes undertaken when completing questions, whereas behavioural coding can elicit what is not said by the participant (Presser et al., 2004). Together, they allow the methodology to better answer the research question of whether the CIMQ is reliable.

3.2.3.4 Sampling

Sampling of the target pre-testing participants reflected the overall methodology and as such employed purposive sampling of the target group. This involved nursing and midwifery course content decision makers that were purposefully sampled due to their knowledge of the content of and contributions to the nurse and midwifery education fields across Australia (Blair and Conrad, 2011). The definition of content-decision maker in this study refers to anyone who was directly responsible for or had influence over the content included and delivered to nursing and midwifery students at higher education institutions. Purposive sampling of individuals who met this definition and were known to the research group were contacted and asked to participate. Nursing and midwifery informants were interviewed from a national spread of Brisbane (n=2), Sydney (n=1), Melbourne (n=1) and Adelaide (n=1) totalling five pre-testing interviews. The profile of those who were participants in the pre-testing interviews included a nursing or midwifery educator from a

higher education institution who had or would have control over CM content in the courses respondents were involved in. Participants were approached via email and if open to participation, were then phoned to discuss the project and a suitable interview time.

The definition of content decision-maker in this context includes any person employed by a higher education institution to be involved in nursing or midwifery education that is in a position to influence the inclusion of CM content. This definition included whether respondents supported inclusion, it was included and respondents influenced delivery of CM content or it was not included and respondents were in a position at an institution to comment on why. The most suited and appropriate participants were recruited by word of mouth from experienced midwifery and nursing professional development educators, who were part of this study's research team and who had experience providing professional development at numerous higher education institutions on CM. Upon initial contact, some general questions were asked regarding the potential participants role as a nursing or midwifery educator at their higher education institution. This was to ascertain whether they had any degree of control or influence over content and their knowledge of CM presence, thereby ensuring those sampled could adequately pre-test the CIMQ. As CM content in nursing and midwifery is an emerging phenomenon, purposive sampling of the few able to comment on the occurrence was undertaken across as many locations as could be attained with the limited resources at the interviewer's disposal.

The interviews were conducted in an allocated space at the participants' higher education institution. These were not always the most advantageous locations however were sufficient for gathering pre-testing data on the CIMQ. Interviews were undertaken in available public locations of the interviewee's choosing, were administered with a paper CIMQ and a hand-held audio recorder.

The administration of the CIMQ followed a set protocol of general introduction to the questionnaire, purpose of the interview and general time allocated for completion and interviewing.

The interviewer remained within the vicinity of the first two (2) interviews whilst participants completed the CIMQ, however this was ascertained to be detrimental to the pre-testing data quality being gathered. For the final three (3) interviews, the interview protocol was adjusted so the interviewer waited in a different location from the participants

while participants completed the CIMQ independently before the interview regarding the questionnaire commenced.

3.2.4 Design of the analysis

3.2.4.1 Analysis of the CIMQ

The analysis plan for this questionnaire addresses two key objectives. First, to test the reliability of the CIMQ (constructs included in the measure) through cognitive interviewing of a small pre-testing sample. Second, to identify improvements for CIMQ items by coding the behaviour of participants during the cognitive interviews (interaction with content and criterion) to further gauge the consistency and repeatability of the questionnaire, as much as possible. The pre-testing method of behavioural coding was used after the fact to help with questionnaire design and item iteration. This was done by implementing appropriate changes in response to behaviours of the participants towards each content item and its criterion (Thrasher et al., 2011).

3.2.4.2 Underlying assumptions of behavioural coding

Using cognitive interview for data collection and behavioural coding for analysis are methodologically well matched (Thrasher et al., 2011) however, these methods do have underlying assumptions that can compromise their strength as methodological tools. Primarily, behavioural coding assumes the issues that arise during cognitive interviewing was be reflective of those that would occur in a natural setting (Blair et al., 2007). Every effort was made when designing the interview protocol and when conducting the subsequent cognitive interviews to control the pre-testing environment to mimic what would normally occur whilst completing the CIMQ. However full replication of the participant undertaking the CIMQ in their natural setting was not always feasible and is unlikely to have occurred for every interview. As such, the cognitive processes that occurred during the pre-test and subsequent interview are unlikely to cover all problems with the CIMQ. As a result, the behaviours that were analysed and coded are unlikely to be fully reflective of the actual inconsistencies within the CIMQ. For example, that the meaning of constructs, content and criterion of the CIMQ can vary across groups is a fundamental measurement bias particular given that the CIMQ is intended for use on two different conventional healthcare groups - nurses and midwives. Additionally, the meaning of behaviours exhibited during the interview and coded during analysis may vary between

groups. These assumptions of cognitive interviews and behavioural coding was considered when interpreting results of this study the results of this study.

Evidence suggests the combination of cognitive interviewing and behavioural coding can remedy the singular weaknesses of either approach individually (Thrasher et al., 2011). The selection of both methodical tools for this study remains a robust choice to achieve the study's goal of pre-testing the CIMQ.

3.3. Chapter Summary

This chapter has detailed and justified the steps and processes followed in this study. The previous chapter explored attitudes of nurses and midwives to CM and provided the general constructs from which the CIMQ arose. The considerations involved in the development of the content and criterion of these constructs have been outlined in this chapter. So too has be appropriateness of the pre-testing methods chosen for investigating the reliability of the CIMQ. This chapter also described the process for carrying out pre-testing the CIMQ. The results of this testing are what follows in the next chapter.

4.0 RESULTS CHAPTER

4.1 Chapter Introduction

The Pre-testing interviews for the Complementary Integrative Medicine Questionnaire (CIMQ) revealed a number of weaknesses in the original version of the questionnaire, which were systematically addressed throughout the pre-testing process. Across the CIMQ, a number of problems were identified. Most weaknesses identified during pre-testing of the initial draft of the CIMQ related to the ability for the survey to capture information where CM inclusion in course content was informal. In response, the constructs for *General Course Characteristics* and *CM Content Inclusion in Degree* underwent substantial revisions, with flow on revisions to the *Course Content and Delivery* construct. In addition, clarification of the Definitions and Instructions also resulted in changes to the questionnaire. Finally, the differing approaches of respondents to the *Attitudes and Perceptions* construct, especially if the respondents had dual qualifications in both nursing and midwifery, were a fundamental challenge during pre-testing the CIMQ and were not able to be surmounted due to pre-validated nature of that constructs' content and criterion.

Overall, cognitive interviewing and behavioural coding used in combination were able to indicate a larger problem with the CIMQ; effectively responding to the main query of this study. The developed questionnaire is more reliable than it was for measuring the inclusion of complementary medicine (CM) content in Australian nursing and midwifery courses, but not reliable enough due to the historical education setting of these two professions. Cognitive interviewing was able to test the meanings referred to in the questionnaire, whilst behavioural coding provided further information on this area. Behavioural coding also provided data on wording, order, items and clarity to the intended sample group; effectively responding to the first sub question of the study. The pragmatic additions added to the interview after the cognitive aspect was complete, queried the most effective approach to engaging and recruiting the intended sample group(s) in the completion of the questionnaire. The participants gave indications on how to increase health professional response rate to the CIMQ. This is especially important given the finite sample of nursing and midwifery course content decision makers in Australia; effectively responding to the second sub question of this study.

In this chapter, each construct - Course Characteristics, Complementary Medicine Inclusion, Complementary Medicine Delivery and Attitudes and Perceptions to Complementary Medicine – is reported in this order here in the results section of the study. Changes made to the CIMQ are presented followed by how the participants behaviour during cognitive interviewing. Specifically, the final version of each construct is reported, with the exact content item and criterion for that construct compared, from initial CIMQ version to the final version. The status of changed or unchanged specified. Following this, each participant behavioural coding in response to the content of each construct is reported, and the participant profession is specified in relation to each behaviour coded.

4.2 Overview of results from pre-testing the CIMQ

Across the initial 23 item CIMQ with 29 segments, 26 segments were changed due to the pre-testing interview data. Data driven changes resulted in a Final CIMQ version with instructions, content and criterion more reflective of current CM inclusion in nursing and midwifery higher education. In general, changes were made to questions wording to clarify and specify meaning, question response options to allow for accurate data capture that reflects actual phenomenon occurring and some to question order. A total of 3 segments were left unchanged from the initial version submitted for ethics approval to the final version after all analysis was completed. The three unaltered segments were: the instructions on how to complete the CIMQ, on-Medical CM Practitioner Involvement and Openness to CM (IMAQ). Behavioural coding of pre-testing interviews revealed a number of problems throughout the CIMQ that guided adjustments to the questionnaire to enhance the questionnaire's reliability. Sampling and recruitment data gave feedback on the best time periods and communication pathways for reaching out to intended participants to help ensure sufficient response rates. Accurately capturing the informal nature of CM inclusion required the *General Course Characteristics* and *CM Content Inclusion in Degree* constructs to undergo substantial revisions, with flow on revisions to the *Course Content and Delivery* construct occurring as a consequence. Formal inclusion was described by respondents as inclusion which was explicitly stated and outlined in the degree, curriculum or subject details that CM is taught. Informal inclusion was described by respondents as the teaching of CM that did not appear in any official documentation and was usually introduced at the teaching level due to specific lecturer's interest. Measuring informal inclusion of CM

required quantifiable questions to be posed regarding the flexibility of highly prescriptive nursing and midwifery courses. The set structure and set progression of nursing and midwifery education meant determining the existence of any CM within them, was highly problematic. It seemed that forming an exhaustive list of response options (criterion) was difficult when CM inclusion was informal and only partially covered in the degree.

4.3 Instructions and definitions

Changes were made to numerous areas of the CIMQ including question items (content), response options (criterion) and formatting. Content and formatting of the Instructions and definitions also underwent changes. The title segment was also changed so respondents could better understand the content contained within the questionnaire. The definitions segment was expanded to include definitions of education terminology from the Tertiary Education Quality Standards Agency (TEQSA) to ensure respondents from across higher education institutions had a clear understanding of the intended meaning of each item (table 4.3 Changes Made to Segment 1). The title of the survey initially included the university, faculty and name of the entire pre-test study, "*University of Technology Sydney, Faculty of Health, The Inclusion of Complementary Medicine in nursing and midwifery Courses: A Questionnaire Pre-Test"* which was change to the name of the CIMQ. The instruction on how to complete the survey questionnaire were reported by respondents as clear in the initial version and so was left unchanged. The definitions part of the 'instructions and definitions' segment was changed from the initial version, which included the NHMRC definition of CM and a list of twenty-two (22) CM professions, treatments and/or therapies. Throughout the pre-testing process, it was reported that clarification around education terms such as 'subject', 'course' and 'higher education award' was required. Clarification of these three terms was suggested by respondents, in order to help overcome the issue of multiple uses of the terms and their definitions across multiple higher education institution faculty's. TEQSA definitions for, subject', 'course, and 'higher education award' were included in the definitions part of the 'Instructions and definitions' segment to orient the respondents to what these terms would refer to throughout the CIMQ.

Final version after changes made		
Segment	Content item and criterion	Status
Instructions and Definitions	***Curriculum in Integrative Medicine Questionnaire (CIMQ)***	Changed to reflect survey name not study name
	How to complete the Curriculum in Integrative Medicine Questionnaire (CIMQ) Please answer every question you can. If you are unsure about how to answer a question, mark the response for the closest answer. Please read the instructions above each question carefully. The questions require you to mark only one answer, unless otherwise specified.	Unchanged
	Definitions to be clear about For the purposes of this questionnaire, the following terms will apply: **Complementary Medicine:** *"Complementary Medicine (CM) is a broad term used to describe a wide range of health care medicines, therapies (forms of treatment that do not involve medicines) and other products that are not generally considered within the domain of conventional medicine. It includes practices such as naturopathy and homeopathy, as well as general lifestyle-based disciplines such as yoga and Pilates*." (National Health and Medical Research Council) • Diet therapy • Reflexology • Chinese Herbal Medicine • Tai chi/chi gong • Faith healing/prayer • Therapeutic touch/Reiki • Homeopathy • Western herbal medicine • Hypnotherapy • Yoga **Subject**: *a discrete unit of study and a combination of subjects make up a course of study.* **Course:** *a single course leading to an Australian higher education award, such as a bachelor's degree* **Higher education award:** *a diploma, advanced diploma, associate degree, bachelor degree, graduate certificate, and graduate diploma, master's degree or doctoral degree* (**Tertiary Education Quality Standards Agency Act, 2011).**	Changed to include TEQSA definitions of higher education terms

Table 4.3 Changes made to segment 1 of the CIMQ: Instructions and definition

4.4 Construct 1: Changes made to Course Characteristics construct

The first construct of the CIMQ was designed to gather data on the general course characteristics of the nursing or midwifery course the respondent is involved in. Changes were made to all 5 content items (table 4.4) where the final version of the item and alteration status is tabulated. Regarding behavioural coding, items 1, 2 and 5 obtained the most observations from respondents (table 4.4.1). This construct was changed substantially due to participants' difficulties in attempting to distinguish nursing education from midwifery education, as the two courses often have shared subjects and cohorts are often taught together in these subjects even though discrete awards exist for each.

Item 1 initially asked about the degree that the respondents were most responsible for and instructed them to select the higher education award that had the most enrolments, if the respondents were equally responsible for both. The formatting for content item 1 was also altered so that those teaching more than one qualification could more clearly select just one conventional healthcare (CHC) profession. This way, just one professions degree was reported on throughout the CIMQ. Instructions regarding this requirement of giving data on a single CHC were outlined in more detail to help support the formatting changes and ultimately; understanding of what the question was asking.

Between item 1 and 2 was an instruction that initially detailed how to proceed with the CIMQ after their selection in item 1; '*For the purposes of the survey, please only refer to the course identified in question 1'*. This instruction was refined to ensure that respondents completed the CIMQ not only in relation to the single higher education award indicated in item one, but also the role the respondent fulfilled in relation to it as indicated in a subsequent question (item 2).

Item 2 was not initially included in the CIMQ and was added to enquire about the respondents' primary role in relation to the degree the respondents are involved in, after interviewees related the problematic nature of defining a 'course content decision maker'. Incidental data regarding the educational structure and responsibilities of people currently working in nursing and midwifery higher education also emerged through the cognitive interviewing. Specifically, participants outlined that faculty associated with decision-making may not be the ones actually deciding if CM content is included:

"*Participant 1: It could be couldn't it? So some universities could have adopted that approach whereas I think because I-I'm interested, the person who's written the program has gone Oh well [participant 1] can teach that bit. Like I'm away next year and I don't know who's going to teach this course again when I'm not here. They'll just have to get good speakers in.*"

Participant 1-Nurse

Similarly, item 3 was also not initially part of the CIMQ and was added a supplemental question to add detail to the data collected from item 2. This item enquires after the secondary role the respondent played in relation to the specified higher education award to allow for course content decision makers to be identified in the sample.

Item 4 in the final CIMQ was initially item 2 and was changed from enquiring about the number of enrolled students per year; '*What is the number of students enrolled in the degree each year? <u>Select one option</u>'* to asking about the number per cohort.

Item 5 was worded to ask about full time years of study I the degree initially, but was changed to refer to the term, 'course' to be consistent with what was specified in the 'instruction and definitions' segment of the CIMQ.

Item 6 asked about the percentage of electives in the degree, which was changed to 'course' again to align with the terminology specified for use throughout the CIMQ. The response option type for item 6 was also changed to a continuous variable because respondents reported criterion issues regarding the large percentages per multiple response option available. It was observed that the respondents responded more favourably to nominating a small numbered percentage to reflect the set course structures that exist, to their knowledge.

Final version after changes made		
Construct	Content item and criterion	Status
General Course Characteristics	1. Which of the following options best describes the higher education award you are involved in *currently*? Complete the question by selecting the healthcare field of the higher education award you are involved in and selecting a box to indicate the award level. *If you are involved in more than one higher education award, select the award which has the highest number of enrolments.* **Select ONE (1) Healthcare field** **Undergraduate** **Postgraduate** Nursing / Midwifery ☐ ☐	Changed to clarify instructions and format for single professional award selection
	For the purposes of the survey, please only refer to the higher education award, and your role in the course leading to its attainment, identified in question 2.	Changed to specify exact role in relation to award
	2. What is your primary role in relation to the above specified Course? Select one option. ☐ Co-coordinator ☐ Lecturer ☐ Other - Please specify: ____	Addition to clarify respondent role in relation to award selected
	3. What is your secondary role in relation to the above specified Course? You may select multiple options. ☐ Co-coordinator ☐ Lecturer ☐ Other - Please specify: ____	Addition to add details to respondent role in relation to award selected
	4. What is the number of students enrolled in each cohort of the Course? Select one option. ☐ <20 ☐ 21-50 ☐ 51-100 ☐ 101-150 ☐ 151+	Changed degree to 'course'
	5. How many years of full time study equivalent (FTE) are involved in the Course? Select one option. ☐ <1 ☐ 2 ☐ 3 ☐ 4 ☐ 5+	Changed degree to 'course'
	6. What percentage of FTE in your Course are electives? Indicate number in boxes. ☐☐☐	Changed degree to 'course'

Table 4.4 Changes made to Item Content of Construct 1

4.4.1 Construct 1: Course Characteristics-Behavioural Coding

Construct 1 proved problematic initially, as all respondents asked for clarification or qualified their answers. Respondents who identified as coming from the nursing profession were observed as having the most behaviours and reactions to the CIMQ items in Construct 1. The item number and summarised question is tabulated under the 'content' heading (see table 4.4.1). The behaviours observed of participants during the pre-testing interviews are tabulated under the 'behavioural coding' heading with 'N' demonstrating the number of times the behaviour was observed. The following explanation outlines how to interpret the tables. Under 'midwifery' or ' nursing' are marks (•) that indicate a particular behaviours was observed solely in that CHC group throughout the cognitive interviews. The symbol (•) essentially indicated a profession specific behaviour. Behavioural coding without a mark (e.g. no •) indicates that the behaviour was observed in both midwife and nurse respondents and not profession specific

Item 1 appeared to elicit confusion from pre-testing interviewees. The most common behaviours exhibited for this item across both midwifery and nursing respondents were 'asking for clarification or qualified answer (n=3, respondents 2, 3 and 5) and 'needing questions repeated' (n=3, respondents 2, 4 and 5). In response to content item 1, midwifery respondent(s) exhibited misunderstanding in that the respondents replied with 'I don't know' (n=1, respondent 2) exclusively in response to this item. Nurse respondents indicated the question was 'not applicable' but then 'gave a proper answer' (n=1 respectively, respondent 5) exclusively in response to item 1. The final version of item 1 allowed for a single choice response option that produced data in a discrete variable.

Initially, item 2 was unclear as analysis of cognitive interviewing showed the most frequent behaviour observed was confusion. The majority of nursing respondents (n=2) 'asking exclusively for clarification or qualifying an answer' (n=3, respondents 3 and 5 twice) which was a behaviour exhibited by nursing respondents. It could be that midwifery respondents were also unclear about item 2, but participants did not exhibit this behaviour in response to this item during the pre-test interview. The final response option provided for item 2 allowed for a single choice to be selected that produced data in a discrete variable

Item 3 was observed to be difficult for midwife respondents to answer, as midwives were the only respondents who were confused by the item or had difficulty selecting from the

repose option provided in the survey questionnaire. Nursing respondents were able to give a proper answer to item 3 in the CIMQ. The final version of item 3 allowed for a single choice to be selected that produced data in a discrete variable.

Comparatively, item 4 was difficult for nursing respondents to engage with as only nurses were confused by the question and were unable to easily select an accurate answer form the response options. Item 4 allowed was structured to allow for a single choice response option; producing data in a discrete variable.

The initial version of item 5 appeared to poorly reflect nursing and midwifery respondents' experiences of their course structure, with the majority asking for clarification or qualifying their answer (n=3, respondents 1,2 and 3). The end version of item 5 was formed to allow for a single choice to be selected and will produce data in a discrete variable when used.

Content	Behavioural coding	N	Midwifery	Nursing
1. Award and level involved in	Asked for clarification or qualified answer	3		
	Needed question explained or reworded	3		
	Needed question repeated	2		
	Answers I don't know	1	•	
	Stated question not applicable	1		•
	Gives adequate or proper answer	1		•
2. Role in relation to course	Asked for clarification or qualified answer	3		•
3. Students enrolled each cohort	Had difficulty using the response options	2	•	
	Needed question explained or reworded	1	•	
	Answers I don't know	1	•	
	Gives proper or adequate answer	1		•
4. Amount of FTE study	Had difficulty using the response options	2		•
	Gives proper or adequate answer	2		•
	Asked for clarification or qualified answer	1		•
5. Percentage of electives	Asked for clarification or qualified answer	3		
	Stated question not applicable	3		
	Had difficulty using the response options	2		•
	Gives proper or adequate answer	1		•

Table 4.4.1 Behavioural coding of observations for construct 1: general course characteristics

4.5 Construct 2: Complementary Medicine Inclusion-Changes Made

The second construct of the CIMQ was designed to gather data on the inclusion of CM content in the nursing or midwifery course the respondent is involved in. Changes were made to all 4 content items relating to CM inclusion (Table 4.5). The content within this construct was adjusted due to the difficulties in attempting to quantify CM inclusion in nursing and midwifery education chiefly because of the reported informal presence of CM driven by individual educators.

The formatting for content item 6, which is the first question which assumes CM inclusion, was revised following analysis, to provide respondents with a broader range of response options. These revised response options were intended to be more appropriate to the diversity of situations that were reported to exist in relation to CM presence in nursing and midwifery education courses. The final version of item 6 was shaped in response to data outlining the number of ways CM content can be present.

Item 7 initially enquired about whether CM content was part of a course or a stand-alone course taught on its own. This question was very problematic for respondents to answer and was removed due to the item's inapplicability to the phenomena reported by respondents. Now item 7 is altered after incorporation of the cognitive interview data to ask in what year CM content was taught and allow for respondents' to select multiple response options. This was done to reflect that cognitive interview data whereby informal, interwoven CM content was present in nursing and midwifery that needed a more flexible question/answer format accurately reflect the reported phenomenon.

Initially item 8 was a follow on question from the old question 7 and asked whether CM was taught in another course as it was not indicate a stand alone subject. 'Course' was changed to 'subject' to reflect the TEQSA definitions clarified a the beginning of the survey and question logic was added to ensure respondents were directed to the correct part of the CMQ if respondents indicated in their last qualifying item that there was no CM content in the award respondents were responsible for.

Item 9 was changed from a single continuous numeric response options to 3 categorical variables all with contuses numerical option specification possible. This was done in response to cognitive interview data whereby in order to allow for more flexible response

options; allowing answers to better reflect the fluid situation regarding CM content and the way CM content is informally included, according to interviewees:

"Participant 2: On that [CM]? That's very different to what we do, which is from a broad inter-professional learning perspective. [We] don't ignore the topic, but theme it into whatever else, where appropriate. So if we were talking about pain relief in labour, we would talk about some of them using acupressure.
Interviewer: Sure, so you would say general reference throughout the degree?
Participant 2: Yeah..."

Participant 2-Midwife

This data indicated that item 9 needed response options expanded from a single numeric continuous variable to three categorised, with continuous numeric elaboration on each category, that could also all be selected. The increased flexibility in the final version of this item will allow data to be collected around the flexible and varied CM inclusion that may be occurring in nursing and midwifery degree in Australia.

Initial version of item 10 was moved and became item 6, as it made sense to place the question earlier in the course characteristics construct to allow respondents to reflect on the answer before proceeding to more detailed questions on CM inclusion.

Construct	Final version after changes made	Status
CM content inclusion in degree	6. Is CM content part of a stand-alone specific CM subject? Select one option. □ Yes, as a required subject □ Yes, as an elective subject □ Both □ No (if no, skip to Q8)	Changed to broaden response options
	7. In which year(s) of the Course are CM topics are covered? You may select multiple options. □ 1st year □ 2nd year □ 3rd year □ 4th year □ 5th year □ Unsure	Changed wording to better reflect phenomenon occurring
	8. If not part of a stand-alone subject, is this content part of another subject? Select one option. □ Yes, as a required subject □ Yes, as an elective subject □ Both □ No (if no, skip to Q18)	Changed to better reflect phenomenon occurring
	9. What is the estimated amount of time (in hours) students spend learning about CM content? Select all boxes that apply and indicate hours numerically in the boxes provided. □ Formal __ __ □ Informal __ __ □Unsure	Changed wording to clarify meaning and broadened response options

Table 4.5 Changes made to construct 2: CM content inclusion in degree

4.5.1 Construct 2: Complementary Medicine Inclusion-Behavioural Coding

Construct 2 required changing following after analysis in order to incorporate respondents' feedback. Both midwifery and nursing respondents asked for clarification or qualified answers equally during the pre-testing process (see table 4.5.1).

Behaviours exhibited in response to Construct 2 showed many of the initially worded questions were unclear to respondents. The most common response during pre-testing interviews are the CIMQ had been completed for Construct 2 across both midwifery and nursing was 'asking for clarification or qualify an answer'. However, this was closely followed by 'giving a proper or adequate answer'. Upon an analysis, the data showed that following interaction with the interviewer, interviewees were often more able to supply the correct data the item was seeking to gather. In response to content item 6, midwifery respondent(s) exhibited the behaviour of, 'needing question repeated', 'interrupting question reading' and 'refusing to answer question' all exhibited by a single midwifery participant (n=1, respondent 2). As this was single respondent exhibiting these behaviours and not across all midwifery participants (n=2) it does not appear that the item was any more unclear to midwives than it was to nursing respondents. Nursing respondents indicated item 7 was problematic by 'needing the question repeated' but then 'gave a proper or adequate answer' exclusively for this item, but then 'gave a proper answer' in spite of this (n=1 respectively, respondent 5) exclusively in response to item 1.

Item 8 re-directs those who indicate no CM content to the attitudes and perceptions construct to continue the CIMQ. Nursing respondents had difficulty using the initial response options provided so the options were altered to reflect the feedback given during the interviews. Item 9 enquired about the time spent learning CM content, which was difficult to answer given respondents asked for clarification or qualified their answers 7 times throughout the pre-testing process. One nurse respondent clearly demonstrated the difficulty with terminology and clarity in item 9:

"Interviewer: How much contact do they have with the information that is structured for the course? Or structured for the learning of the CAM part of the course, if it's meshed in with other stuff.

Participant 3: So when you're saying contact, because I'm used to the terminology … if, we have fast contact, and then we have flexible but you're talking about you can contact online.
Interviewer: What if it's part of this structured course? So even if it's online, a lecture that they're listening to or something is contact with … and that's our contact hours.
Participant 3: So students … what is the title student learning?
Interviewer: Learning hours?
Participant 3: Yeah. Something like that, but I think contact time."

Participant 3 – Nurse

Item 9, in its final version, allowed for increased flexibility in reporting the time spent learning CM related content and now prompts respondents to consider various types of CM inclusion and the degree to which CM is present in the award respondents are involved in. Observations made of respondents during the cognitive interviews indicated this approach would be more beneficial to the design of this CIMQ item and allow for more reliable data gathering.

Content (item and format)	Behavioural coding	N	Midwifery	Nursing
6. CM presence as subject	Gives proper or adequate answer	4		
	Asked for clarification or qualified answer	3		
	Needed question repeated	2	•	
	Needed question explained or reworded	2		
	Stated question not applicable	2		
	Interrupts question reading	1	•	
	Refuses to answer	1	•	
	Had difficulty using the response options	1		•
7. Year CM covered	Asked for clarification or qualified answer	4		
	Needed question repeated	3		•
	Needed question explained or reworded	3		
	Gives proper or adequate answer	2		•
8. CM presence as partial subject	Had difficulty using the response options	2		•
	Gives proper or adequate answer	1		•
	Stated question not applicable	1	•	
	Interrupts question reading	1		•
9. Hours learning CM	Asked for clarification or qualified answer	7		

	Gives proper or adequate answer	4		
	Needed question explained or reworded	3		•
	Stated question not applicable	3		
	Had difficulty using the response options	2		•
	Needed question repeated	2		•
	Answers I don't know	1		•

Table 4.5.1 Behavioural coding of observations for construct 2: CM content inclusion in degree

4.6 Construct 3: Complementary Medicine Delivery-Changes Made

The third construct of the CIMQ was designed to gather data on the delivery of the CM content of nursing or midwifery courses. Changes were made to 6 out the possible 7 content items (table 4.6). In general, difficulties appeared to arise around terminology across higher education institutions despite clarification of universal terms in the definitions and instructions.

For example, the change made to the initial version of item 13 was to change CM Practitioner to 'guest lecture' which was a term much more easily recognised by higher education nurse and midwifery educators:

"Participant 1: So I ticked demonstration because I obviously demonstrated it but I think there's… there was an acupuncturist and do a demon-she, she demonstrated how to do acupuncture.

Interviewer: So would that be a guest speaker?

Participant 1: Yes. Yeah, yeah.

Interviewer: Ok. So that wasn't clear?

Participant 1: So she came in. She came in and did a guest presentation but when she left I thought, you know I felt the students didn't get much from her presentation."

Participant 1 - Nurse

Item 15 also underwent changes to clarify what was meant by 'assessment requirement' and was finally re-worded to be 'CM content related learning' as assessment appeared to indicate summative or formative categorisation. Similarly, item 16 was revised from 'evaluate' the outcomes to 'assess' the outcomes in order to make the differentiation between summative CM learning and formative CM learning tasks clear to nursing and midwifery higher education faculty.

Construct	Final version after changes made	Status
Complementary Medicine (CM) course content and delivery	11. Which topics are covered in your CM course work? You may select more than one option. (see appendix 2 for a complete list of criterion (response options)	Changed to language to clarify meaning
	12. Does the primary instructor of the CM content have a higher education award in CM? Select one option. □ Yes Please specify: _____ □ No	Changed language to clarify meaning
	13. Besides the primary instructor, are non-medical CM practitioners involved in course delivery? Select one option. □ Yes – all of the delivery □ Yes – some of the delivery □ No – none of the delivery	Unchanged
	14. What instructional methods are used within the delivery of CM content? You may select multiple options. (see appendix 2 for a complete list of criterion (response options)	Changed to expand response options to better reflect phenomenon
	15. What are the CM content-related tasks undertaken for CM learning? You may select multiple options. (see appendix 2 for a complete list of criterion (response options)	Changed to expand response options to better reflect phenomenon
	16. What is the method(s) used to assess CM content outcomes for CM learning? You may select multiple options. (see appendix 2 for a complete list of criterion (response options)	Changed language to clarify meaning

Table 4.6 Changes made to construct 3: complementary medicine delivery

4.6.1 Construct 3: Complementary Medicine Delivery-Behavioural Coding

Construct 3 also required revision as respondents has to ask for clarification or qualify answers' in regards to the content. Respondents also had difficulty using response options which indicated lack of appropriateness with the criterion of construct 3 (see table 4.6.1).

Item 14 had the highest reported incidence of having difficulty using response options, which was reported by both midwifery and nursing respondents. This was exclusively reported by midwifery respondents who said the question was not applicable. Only one midwifery respondent went on to give a proper or adequate answer (respondent 2). So the lack of reliability in item 14 seemed to be that is did not reflect the current phenomenon present in midwifery in nursing education regarding CM. Item 15 in its initial version, confused respondents with number of queries for clarification or qualifying an answer and having 'difficulty using response options' (n=3 respectively) exclusively exhibited by nursing respondents (respondents 1 and 3):

"Participant 3: You just want to know what they're doing? Okay, so I would also have case study there. You're not getting assist on it. Sorry, what do you want to know here? Do you want to know what they have to do to …?
Interviewer: Engage with the learning and synthesise with their content they're in contact with.
Participant 3: Okay, so you're not just interested in assessment there. Oh, okay writings. Do you mean produce a paper, is that what you meant?
Interviewer: Yes. Like write a paper or do some kind of project on CAM. "

Participant 3 – Nurse

Lack of clarity regarding the terminology initially used exacerbated confused behaviour in the cognitive interview and had to be elaborated on by the interviewer in the initial version of Item 15.

Content	Behavioural coding results	N	Midwifery	Nursing
10. CM teaching objectives	Had difficulty using the response options	2		
	Interrupts question reading	2		
	Needed question repeated	2		•
	Gives proper or adequate answer	1		•
11. CM topics covered	Asked for clarification or qualified answer	1		•
	Gives proper or adequate answer	1		•
12. Instructor qualifications	Asked for clarification or qualified answer	1		•
	Had difficulty using the response options	1		•
	Needed question explained or reworded	1	•	
13. Non-Medical CM Practitioner Involvement	Asked for clarification or qualified answer	2		•
	Gives proper or adequate answer	2		•
14. Instructional methods	Had difficulty using the response options	3		•
	Needed question repeated	1		•
	Stated question is not applicable	1	•	
	Gives proper or adequate answer	1	•	
	Needed question explained or reworded	1		•

15. CM Learning tasks	Asked for clarification or qualified answer	3		•
	Had difficulty using the response options	3		•
	Needed question explained or reworded	1		•
	Answers I don't know	1		•
16. Methods of evaluating CM learning	Needed question explained or reworded	2		•
	Had difficulty using the response options	2		•
	Asked for clarification or qualified answer	1		•
	Stated question is not applicable	1		•

Table 4.6.1 Behavioural coding of construct 3: complementary medicine delivery

4.7 Construct 4: Attitudes and Perceptions to Complementary Medicine-Changes Made

The fourth construct of the CIMQ was designed to gather data on attitudes and perceptions of nursing or midwifery course decision makers towards CM. Changes were made to all 4 content items (table 4.7). This construct underwent some change despite the presence of pre-validated tools to help ensure the CHBQ and IMAQ were appropriate for nurse and midwife respondents.

Firstly, items 18-21 originally used the term 'physician' which was changed to 'health professional' in order to make the statements applicable to the nursing and midwifery respondents. This change was minor in nature and had a low risk of affecting the internal consistency and repeatability of the content and criterion included. The formatting for content item 18, which is the first question that assumes CM inclusion, was altered to give respondents a broad range of criterion or response options appropriate to the diversity of situations that were reported to exist in relation to CM presence in nursing and midwifery education courses. These were determined by the interview data outlining the number of ways that CM content can be present. To allow for accurate responses and question logic associated with this item, cognitive interview data was drawn upon to guide changes. Item 9 was changed in order to allow more flexible response options to accommodate what appears to be a fluid situation regarding CM inclusion, according to interviewees:

"Participant 2: On that [CM]? That's very different to what we do, which is from a broad inter-professional learning perspective. [We] don't ignore the topic, but theme it into whatever else, where appropriate. So if we were talking about pain relief in labour, we would talk about some of them using acupressure.
Interviewer: Sure, so you would say general reference throughout the degree?
Participant 2: Yeah..."

Participant 2 - Midwife

Pre-testing construct 4 resulted in a unique finding emerging; midwifery and nursing faculty would answer attitude and perception items regarding CM differently depending on whether respondents approached the construct from a nursing or midwifery perspective.

Consequently, an important addition was made to the course characteristics construct, where a demographic question regarding the respondent's qualification and what profession respondents spent the majority of their career practicing. As one respondent explained during pre-testing for construct 4:

"Participant 1: I know some of the other dilemma I had was, as a midwife-nurses and midwives think differently and as a midwife we might not agree with what women chooses to do but it's not our place to tell her no to do it. Whereas the nurse in me would say you shouldn't be doing that because that's contraindicated with your treatment or there's no scientific proof. But as a midwife I would not say that.
Interviewer: Ok so do you think that question would be appropriate to nurses and midwives? Do you think they are both able to answer that?
Participant 1: yeah yeah you just have to think about it practically don't know it just depends on what you're trying to get out of that."

Participant 1 – Nurse

Item 24, was added to the end of the fourth construct to ask which profession the respondents identified with more nursing or midwifery. The addition of this item in this place of the CIMQ was done to help ensure respondents answers prior to item 24, are not influenced by their perception around which profession respondents most identified with, but are spontaneously answered. Rather than ask about qualifications or years spent actually practicing either profession, item 24 collects respondent perceptions regarding whether respondents see themselves as primarily a nurse or a midwife. This added item is intends to account for the issue of dual qualifications influencing responses to attitude and perception questions.

Construct	Final version after changes made	Status
Attitudes and perceptions towards CM	17. What do you believe is the motivation for inclusion of CM topics in coursework at your institution? <u>You may select multiple options.</u> (see appendix 2 for a complete list of criterion (response options)	Changed to reflect generic terminology used across institutions
	18. Please read and respond to each of the following statements below by circling the number that most aligns with your belief, *1 being closest to Absolutely Disagreeing* with the statement and *7 being closest to Absolutely Agreeing*. <u>You may select one option per statement only</u>	Changed to clarify instructions
	19. Please read and respond to each of the following statements below by circling the number that most aligns with your belief, *1 being closest to Absolutely Disagreeing* with the statement and *7 being closest to Absolutely Agreeing*. **Note: the term 'Health Professional(s)' refers to health professionals from YOUR professional group.** <u>You may select one option per statement only.</u> (see appendix 2 for a complete list of criterion (response options)	Unchanged
	20. Please read and respond to each of the following statements below by circling the number that most aligns with your belief, *1 being closest to Absolutely Disagreeing* with the statement and *7 being closest to Absolutely Agreeing*. **Note: the term 'Health Professional(s)' refers to health professionals from YOUR professional group** <u>You may select one option per statement only.</u>	Changed to clarify instructions and make reference to conventional professionals more broadly

	(see appendix 2 for a complete list of criterion (response options)	
	21. Please read and respond to each of the following statements below by circling the response that most aligns with your experiences. <u>You may select one option per row only.</u> (see appendix 2 for a complete list of criterion ([response options])	Changed to clarify instructions and make reference to conventional professionals more broadly
	22. Is CM taught at your place of employment? (E.g. are there chiropractic, osteopathic, Chinese medicine or naturopathy higher education awards offered at your institution?) <u>Select one option.</u> □ Yes □ No □ Unsure	Changed to clarify meaning of question
	23. For what reason(s) is CM not included in the Course you're involved in? <u>You may select multiple options.</u> (see appendix 2 for a complete list of criterion (response options)	Changed to the word 'course'
	24. Indicate which profession you identify with the most? <u>Select one option.</u> □ a Nurse □ a Midwife	Addition

Table 4.7 Changes made to construct 4: attitudes and perceptions to CM

4.7.1 Construct 4: Attitudes and Perceptions to Complementary Medicine-Behavioural Coding

Construct 4 included pre-validated tools which respondents were informed of prior to completing the CIMQ and participating the pre-testing interview. Respondents gave feedback regarding some awkward instructions and response options provided in pre-validated sections. This feedback was invaluable in ensuring the items were appropriate for nursing and midwifery course content decision makers. Despite the feedback on problematic aspects of the pre-validated areas of the CIMQ, respondents mostly were able to give a proper or adequate answer (see table 4.7.1).

Item 17 appeared to be somewhat confusing for nursing respondents, with them exclusively exhibiting the behaviour, 'asking for clarification or qualifying answer' (respondents1 twice and 3) Item 18 was where the pre-validated tool began within the CIMQ and the reliable nature was shown in the lead behaviour exhibited; 'gives proper or adequate answer' (n=7). Nurses exclusively felt the needed to ask for clarification or, more accurately in this instance, qualify their answer (n=3, 1 twice and 5). Qualifying an answer after completing the question may suggest using likert scale response options for complex attitudinal statements as a did not sit well with respondents, possibly due to the internal tensions relating to dual professional identity and required elaboration:

"Participant 5: I suppose for me it was one of those cases where it applies in some cases but not always and so I struggled with where do I put that, so in some context it would be 'strongly agree,' some others it wouldn't, wouldn't agree with that . So I'm assuming there are some examples of where it Stated if 'generally' or 'usually' where you can kind of create that's looking at most situations that have to fit there but when it didn't have it in there I was thinking I'm not sure how to answer that. So the truth is not just tested and certainly not recognised manner should be discouraged.

Interviewer: So this is [x]?

Participant 5: Yes. In that example so 'generally' I'd agree with that but there are some…

Interviewer: Cases where…

Participant 5: Some caveats to that. In certain circumstances for certain individuals, certain conditions where there might not, might be a new condition, a lack of evidence in the field

where you don't have much of an option to provide something. So I guess if it was qualified with some kind of in general…"

Participant 5 – Nurse

The pre-validated item 19 mainly elicited the response of 'giving a proper or adequate answer' (n=5) but many respondents also 'asked for clarification or qualified answer' (n=3, respondents 1, 2 and 5) which was also the case for item 20 (respondents 3 and 4). At item 21, original CIMQ items commenced and respondents mainly 'asked for clarification or qualified answer' (n=3, respondents 3 twice and 3) but also 'needed questions explained or re-worded' (n=2, respondent3 and 4). This suggests the initial iteration of this item was unclear (n=4) however the final interviewee (n=1) 'gave a proper or adequate answer' in response to this item, suggesting the final iteration was clearer although this is based on a small sample.

Content	Behavioural coding	N	Midwifery	Nursing
17. Inclusion Motivation(s)	Asked for clarification or qualified answer	3		•
	Interrupts question reading	3		
	Had difficulty using the response options	2		•
	Needed question repeated	2		
	Stated question is not applicable	1		•
	Refuses to answer	1	•	
	Needed question explained or reworded	1		•
18. Attitudes and beliefs regarding CM (CHBQ)	Gives proper or adequate answer	7		•
	Asked for clarification or qualified answer	3		•
	Had difficulty using the response options	1		•
	Stated question is not applicable	1		•
	Needed question explained or reworded	1		•
	Had difficulty using the response options	1		•
	Stated question is not applicable	1		•
	Needed question explained or reworded	1		•
19. Openness to CM (IMAQ)	Gives proper or adequate answer	5		•
	Asked for clarification or qualified answer	4		
	Answers I don’t know	2		

	Needed question repeated	2		
	Needed question explained or reworded	2		
	Refuses to answer	2		
20. Relationships with CM (IMAQ)	Asked for clarification or qualified answer	2		
	Gives proper or adequate answer	1		
	Needed question repeated	1		
	Gives proper or adequate answer	1		•
	Needed question repeated	1	•	
21. Experiences with CM	Asked for clarification or qualified answer	3		
	Needed question explained or reworded	2		
	Had difficulty using the response options	1		•
	Refuses to answer	1		•
	Gives proper or adequate answer	1		•
22. CM presence at institution	Asked for clarification or qualified answer	2		
	Had difficulty using the response options)	3	•	
	Needed question explained or reworded	3		
	Stated question is not applicable	1	•	
23. Non-inclusion reasons	Asked for clarification or qualified answer	2		
	Needed question explained or reworded	1	•	

	Gives proper or adequate answer	1		•
24. Profession most identified wtih	N/A	-	-	-

Table 4.7.1 Behavioural coding of construct 4: Attitudes and perceptions regarding complementary medicine

4.8 Sampling and recruitment

Engaging practitioners in research was a focus of this study and is as the second sub question of this study, it was specifically addressed in the CIMQ pre-testing interviews. Sampling and recruitment questions were asked of respondents as part of the interview protocol. These questions were included in an attempt to enhance response rate for future data collection of nursing and midwifery course content decision makers, who are often difficult to engage in research.

Sampling and recruitment data indicated sending out the CIMQ after marking periods and using the National Competency Standard references to CM for demonstrating importance, as advantageous techniques to ensure adequate response rate to the CIMQ:

"Interviewer: In order to garner interest of people, like getting their interest, at least, in this, do you think it would affect people's decision to click on the link or not if the guidelines were specifically stated in the email that we are trying to find this out because nursing and midwifery guidelines specifically elude to the need for new graduates to have at least familiarisation or a competency around practising in a modern healthcare setting where lots of people use CAM kind of thing, and then list what that is?...Do you think that would maybe spur people on to click it?
Participant 3: Yeah. Well, you will need to make accounts for what matters. So if you say, "Look this is recognised as an area that needs to be addressed, and we're doing something to address it," people are more likely to engage in it. If there is something there from [Indiscernible 31:05], but that's interesting to me because we're doing curriculum development right now, and nobody has mentioned that. So I'll go and have a look. I think that's a good idea to do that."

Participant 3 - Nurse

Both nurse and midwife course content decision-makers described the busy timetable of the people which could not be overcome by using different CIMQ delivery modes, some respondent described:

"Interviewer: So do you think if these questionnaires were done over the phone, it might have a better success rate with nurses and midwives if you called, and spoke, and ticked off, and asked them the questions rather than sending them a link?
Participant 3: Well, probably it does with most things but you have to get them to agree to do that. I mean, online you know surveys are very common, just survey monkey kind of surveys are quite common. But of course people are really busy."

Participant 3 – nurse

--

"Interviewer: Okay, and what do you think the best avenue is for getting midwifery academics to engage with this? Do you think it would be better online, or calling them up over the phone and doing it, or a mail-out? What do you think, in your experience?
Participant 4: How to capture them? They mostly are very busy individuals."

Participant 4 - midwife

The feedback received from respondents regarding sampling and recruitment suggests that although a busy timetable may be an insurmountable barrier, working in with higher education marking periods and citing the National Competency Standards could help secure an adequate response rate to the CIMQ. These results guide feasible use CIMQ in the Australian setting.

4.9 Chapter summary

This results chapter has reported the changes made to the CIMQ in response to the data gathered during the cognitive interviews that pre-tested the survey questionnaire. It also reports on the behaviours observed in respondents in regards to the CIMQ. Cognitive interviewing and behavioural coding when analysing interview data was outlined as the most appropriate choice of methods for the research question and aims of this study in the previous chapter. The findings described in this chapter indicate how and why changes were made to the survey questionnaire to increase reliability and produce a measure that is better designed to collect accurate data on CM inclusion in nursing and midwifery courses.

The trends in specific professions, have difficulty with certain questions and responses options in the CIMQ is interesting and a novel finding of this study that is yet to be explained or contextualised.

5.0 DISCUSSION CHAPTER

5.1 Chapter Introduction

This is the first study to pre-test a measure for gathering data from Australian nursing and midwifery populations regarding the inclusion of CM content in higher education. This study identifies a large possibility of bias present in all data gathered from nurses and midwives in Australia concerning CM but also possibly more generally in researching midwives and nurses, especially those with dual qualifications in both professions. This study also found a pervasive issue surrounding terminology, regarding not only CM concepts and ideas, but also educational definitions.

5.2 Dual degree qualifications in nursing and midwifery introduces bias when surveying nurses and midwives

The most significant finding of this study was that current educational structures for nurses and midwives in Australia pose serious challenges with regards to gathering accurate data from either group about attitudes to CM in survey form. It appears dual qualification enmeshes both professions, thereby making it difficult for nurses and midwives to respond to survey items from a single professional perspective exclusively. Data gathering of CM inclusion in nursing and midwifery courses as well as attitudes and perceptions to CM inclusion would have been seriously compromised by this phenomenon. It would appear that the finding from this study shows nurses and midwives had difficulty responding to attitudes and perceptions questions regarding CM and health from either a nurse perspective of counsel patients on safety or midwife perspective of respect for women's choices. It would seem that this key finding reflects the trend of dual qualifications but differing professional identities. More importantly, it has affected CM perceptions or attitudes in the CIMQ. There could be several reasons for the difficulty in responding to surveys regarding attitudes to CM, one possibly being dual qualifications or the integrated nature of midwifery and nursing practice within hospital structures. Dual qualifications in nursing and midwifery can result in an individual graduating with qualification in both the nursing and midwifery professions but practicing solely or the majority of the time in one profession. This could lead to respondents of nursing or midwifery surveys regarding CM attitudes answering on the basis of perspectives of both professions, even though

respondents may practice mostly, or totally; one profession. The intertwined early education beginnings of nurse and midwives may not be the only factor contributing to the conflict of perspectives occurring when a nurse or midwife responds to attitude question regarding CM. If this finding can be replicated, it would seem that many data gathered on midwifery and nursing groups regarding their attitudes and perceptions at least to CM, are unreliable. This is due to the possibility that nurses or midwives may be influenced by or answering from the perspective of another professional's perspective and not their own professional perspective, thereby seriously biasing the data. Research could not be sure that the responses to attitude and perception surveys regarding CM reflect the single professional perspective of nurses from nursing respondents or midwives from midwifery respondents. For example, when trying to ascertain the attitudes and perspectives of nurses regarding CM, it is possible that midwifery perspectives may influence their response options, especially if respondents have a dual qualification, thus making it impossible to get an understanding of nurses' attitudes exclusively from their professions view and not that of another profession. Without discrete data on the attitudes and perceptions of discrete professional groups, there can be little understanding of their uninfluenced attitudes making the way forward to addressing these attitudes unclear. It would seem the evolution of nursing and midwifery education in Australia has had an impact on the professional identity and boundaries of nurse and midwives, thereby impacting on their ability to respond to surveys as one profession or the other.

The study shows nurses and midwives had difficulty responding to attitudes and perceptions questions regarding CM and health from the perspective of a single profession where respondents held dual qualifications. As this is commonly the case in Australia (Australian Council on Healthcare Standards, 2012, Fenwick et al., 2012, Lane and Reiger, 2013, Leap, 1999, McKenna and Rolls, 2007), this ads complexity to the integrity of surveys wishing to collect discrete data for either profession, such as CIMQ.

Pre-testing the CIMQ identified this issue and can be taken into account in further research of nurses and midwives to improve data quality. Healthcare professionals within the conventional and allied health sector include doctors, nurses, midwives, pharmacists and dentists. Each profession is educated in their own field and this education is the starting

point from which respondents may form their professional world view, opinions, beliefs and attitudes regarding varied aspects of their job and all it entails (Vinjamury et al., 2012). Although health professionals generally hold the Hippocratic Oath in common and are committed to 'do no harm', over the course of their education and professional careers, respondents develop distinct professional identities (Hughes, 2008, Reiger and Lane, 2013). Role, collegial environment and health services provided shape how a professional see themselves (Benoit et al., 2010, Brykczynski, 2012, Denner, 2007).

5.2.1 The developing separation of midwifery and nursing professional identities is not enough to overcome risk of bias

Since the introduction of a separate midwifery bachelor degree in Australia in 2002, midwifery has been slowly making a case for itself as a distinct profession with unique educational and professional needs and requirements (McKenna and Rolls, 2007). The midwifery education sector has had to work through barriers and perceptions regarding nursing qualification requirements for safe midwifery practice and is now substantially professionalised alongside other conventional healthcare profession in Australia (Leap, 1999, Nursing & Midwifery Board of Australia, 2014b). The origins of midwifery as an appendage qualification post-registration as a nurse continues as an attitude held in the contemporary healthcare landscape. Many course coordinators of midwifery and/or nursing education programs are qualified in both nursing and midwifery and may also have worked as one profession more than the other over the course of their practical careers prior or concurrent to academia (Leap, 1999). The duel influences of their education and practice experiences for respondents with qualifications in both nursing and midwifery have implications for any research conducted on these groups. Separation of professional identities has also been reflected in the introduction of direct entry degrees into midwifery effectively allowing students graduate without being nurses as well. The education structure in Australian need to be taken into account when gathering data on phenomenon related to both professions.

5.2.2 Direct entry degrees do not fully separate the education of nurses and midwives

Dual qualifications for nurses and midwives in Australia is now largely an historical influence, with man nurses or midwives opting to undertake direct entry degrees in their preferred single profession. Despite the fading out of dual qualifications, many of the faculty in higher education institutions were qualified in the dual degree context. Even today, direct entry education has still meant both professions have similar educational foundations but have different healthcare roles upon graduation; nursing generally focussing acute and chronic care and midwifery generally facilitating a natural biological process. Nurses and midwives require the same basic skills and training in health as other health professions, but nurses and midwives have also shared higher education resources in order to meet dual qualification demand within the higher education financial limitations prevailing in Australia (Fenwick et al., 2012, Leap, 1999). Midwifery qualification was originally an award sought after or in sub-ordinance to nursing qualifications but has since separated itself into an independently sought award with distinct value. In some Australian states, there was a delay with regulatory bodies adjusting to the equalisation of midwifery and nursing degrees, so midwives and nurses continued to be registered by the same body as a 'class' of nurse, which was at odds with the differing purposes and philosophies of their roles. The similar origins of nursing and midwifery followed by the distinct separation of midwifery as a profession in Australia has caused tensions, as midwives sought to define themselves as different to nursing (Leap, 1999, McKenna and Rolls, 2007, Fenwick et al., 2012, Adams, 2006, Adams et al., 2011a, Broom and Adams, 2009).

5.2.3 Practice setting and professional exposure could further exacerbate bias

The primary setting of nursing and midwifery professions is hospitals. In this setting, nurses and midwives often work alongside each other and likely have an influence on each other's perspectives regarding such topics as CM, particularly given the dominant evidence based medicine model highly valued in hospital healthcare. This 'end point' of the nursing and midwifery relationship in the healthcare service setting is not as likely the cause of this conflict of identity when responding to attitude questions regarding CM as the 'beginning point' during nurse and midwifery education. Regardless of the contributing factors, the

implications of this finding are far reaching. There appears to be a significant issue with surveying nurses and midwives in relation to their attitudes regarding CM; two professions from the conventional health professional group which is one of the most surveyed populations in health.

5.3 Validated measures for a specific health professional group may not be applicable to other health professional groups

Utilisation of a single measurement tool for gathering data from different but related groups could have implications for the reliability of the ensuing data collected (Schwarz and Strack, 1991, Nápoles-Springer et al., 2006, Schwarz, 2007). The CIMQ construct intending to gather data on attitudes and perceptions was changed despite the presence of pre-validated tools, in order to ensure the CHBQ and IMAQ were appropriate for nurse and midwife respondents. Altering the delivery of validated items can impact the internal consistency of said validated items and is not ideal (Tavakol and Dennick, 2011). Respondents in this study however gave feedback regarding the item instructions and even some problematic criterion or response options within these validated questions which was invaluable in ensuring the items were appropriate for nursing and midwifery course content decision-makers. Indecisiveness of responders over construct 4 entitled 'CM attitudes and perceptions' may have derived from the fact the section contained survey items initially validated for medical student populations (Groves et al., 2009). Other research has shown that although different health care provider groups, such as midwives and obstetricians, see themselves as distinct from one another, the perceived professional boundaries ebb and flow in response multi-factorial influences external to the healthcare landscape (Lane, 2002). This appears to be equally nascent in the differentiation between nurses and midwives, with nurses coming from a specific perspective of acute or chronic care in the face of cost effective and efficacy pressures (Brykczynski, 2012). Other literature (Adams et al., 2011a) has also found nurses and midwives view their place and role in healthcare differently, corroborating the finding of distinct professional identities reported fin this review. Nurses see their role as caring for the sick and bringing them back to wellness, whether it be from acute or chronic conditions with their role being subordinate to doctors.

Midwives view themselves as respecting the choices of women whilst facilitating the natural biological process of birth with their role to collaborate with women.

Other views of role and practice held by nurses and midwives different from those described above, could help demonstrate the potential bias in applying a single measuring tool to both groups. A professional from either group may not perceive the meaning of a validated question nor responses options in the same way depending on whether respondents are a nurse, a midwife or both. Pre-testing the CIMQ gave rise to such issues but may not have necessarily reached a solution for the issues associated with surveying multiple groups of populations. Pre-testing surveys to increase reliability is an imprecise exercise with no set or widely accepted protocol or guidelines to help reduce pre-tester bias (Presser et al., 2004, Presser and Blair, 1994, Drennan, 2003). Despite this, pre-testing remains the best available method of beginning to broach problems with a designed measuring tool (Presser et al., 2004).

5.3.1 Nurses and midwives were uneasy answering likert-scale attitudinal questions regarding CM

Respondents reported agitation when responding to the set pre-validated questions with likert criterion regarding their attitudes and perceptions. The possibility of dual qualification could make it difficult to remain certain from which perspective respondents are responding to the attitude and perceptions questions (Leap, 1999, McKenna and Rolls, 2007). In addition, unclear definition of CM impacted understanding of terms used in the CIMQ, as it was difficult for participants to maintain clarity in regards to what terms were referring to. The terms 'complementary', 'alternative' and 'medicine' have been used in varying combinations to refer to treatments and products that are generally understood to be outside of conventional medicine, but with no other set definition to date (O'Connor et al., 1997, Gaboury et al., 2012). Literature suggests has found defining CM can be confusing, controversial resulting in definitions that are too general or rely on exclusions (O'Connor et al., 1997). This could explain some of the uneasiness the respondents reported during the pre-testing process of this study. Researchers have argued it may be more helpful for clarity of understanding for both the public and regulators for each CM profession and its

treatments or therapies, to have a definition that combines all under a 'CM umbrella', however this is not currently the case (Kristoffersen and Fønnebø, 2008) (Gaboury et al., 2012). Confusion surrounding the definition of CM may have influenced the respondents need for clarification on the introductory 'Definitions and Instructions' page of the CIMQ. A CM definition was detailed to reflect nationally held definition from the NHMRC (National Health and Medical Research Council, 2014), but this detailed definition still required re-clarifying for to ensure respondents understood before commencing the CIMQ.

Unease observed in midwives and nurses when responding to CIMQ items about attitudes and perceptions, may also be due to the desire to qualify their answers regarding the area of CM. The data from this study show that nurses and midwives may have felt uneasy when forced into selecting closed ended responses to complex attitudinal statements. It would seem it was problematic for respondents not being able to elaborate or justify their responses regarding a somewhat controversial area for conventional healthcare professionals: complementary medicine. This may stem from their confusion around how to approach answering the questions when respondents hold two different perceptions and/or attitudes regarding CM (Hughes, 2008, Lane, 2002, Brykczynski, 2012); one as a qualified nurse and one as a qualified midwife. Unease around likert-scale responses to statements involving a myriad of concepts and understandings may also have simply stemmed from the urge to communicate their reasoning and justify their perception. Especially in light of the prevailing evidence-based medicine culture that is esteemed in contemporary conventional healthcare (Benoit et al., 2010), contrary to traditional evidence based medicine that can be found in CM (Adams et al., 2012, Kelly et al., 2010, Laekeman, 2010).

Given the substantial challenges around implementing validated items for doctors in the CIMQ for nurses and midwives, it would appear more useful to remove the attitudes and perceptions construct from the CIMQ. This could assist in decreasing response bias if the first construct of the CIMQ, which gathers data on General Course Characteristics only, is administered. Attitudes and perceptions for the particular population of nurses and midwives cannot be adequately measured with a single survey questionnaire tool that is validated for doctors.

5.4 Diversity of terminology across educational institutions is problematic for survey design

The definitions segment was expanded to include education definitions from the Tertiary Education Quality Standards Agency to ensure consistency of understanding across higher education institutions regarding courses and subject. Whilst the TEQSA standards were used in the survey, this study highlights that many self-regulated universities are using the terminology which has been historically applied by the institution rather than complying with TEQSA standards. Provide an example of one word being used to describe two or thing different elements of curriculum. For example, a degree qualification may be described as a 'program' in one institution and a 'course' in another. Whereas a subject within a degree may also be called a 'course' or a 'subject' depending on the institutions conventions.

Language specific to each sample population was important when refining the questionnaire. I this study, construct 3 'CM course content delivery' was refined due to population specific language. The population of healthcare educators are sampled the broader target population group of higher education; an area that uses a vast array of education terms and definitions (Elder et al., 2007, Barberis et al., 2001, Moore, 2010, Sok et al., 2004). None of these terms are highly structured in their use and can be very dependent on the culture and cub-culture of healthcare educators at any particular higher education institutions. For example, it was found that 'specialty speakers' were listed instead of 'guest speakers' in the initial CIMQ as a categorical option. Some respondents knew exactly what speciality speakers was referring to however for other, guest speaker was a clearer term to use.

This study's finding are reflected in other literature that upholds the importance of terminology in surveys and impact of terminology on cognitive interpretations (Thrasher et al., 2011, Willis, 2002). Inconsistent application of terms seems to be entrenched to such a strong degree, that even providing definitions at the beginning of the survey does not ensure the intended definition was applied by the respondent consistently throughout the CIMQ. In general, difficulties appeared to arise around terminology across education institutions despite clarification of universal terms in the definitions and instructions.

5.5 Effective engagement with the CIMQ relies on timing and communication of significance

Both nurse and midwife course content decision-makers described the busy nature of the people in their roles and how challenging it can be to participate in research. The level of responsiveness to survey questionnaires from health professionals has been an ongoing issue in survey research and methodology (Cook et al., 2000, Cook et al., 2009, VanGeest and Johnson, 2011, Dykema et al., 2013). Engaging practice-based professions in research, such as those that work in health, can be a substantial limitation to gathering data and generating knowledge regarding important health related challenges in contemporary healthcare (Cook et al., 2009, McLeod et al., 2013). Not only was the target population of this study practice-based professionals but also educators. This added dimension to the sample group behoved the researcher to undertake further measures to address responsiveness issues of the CIMQ sample.

In summary, the three main factors impacting successful use of the CIMQ in the Australian context are likely to be; the dual nature of respondents perceptions and attitudes possibly stemming from dual-qualification in both these fields, similar workplace setting with prevailing norms, unclear CM definitions and diverse terminology used sometimes interchangeably for the same education definitions.

Current educational structures for nurses and midwives in Australia pose serious challenges with regards to gathering accurate data from either group in survey form. Nurses and midwives had difficulty responding to attitudes and perceptions questions regarding CM and health from the perspective of a single profession where respondents held dual qualifications. Pre-testing the CIMQ identified this issue and can be taken into account in further research of nurses and midwives to improve data quality. The introduction of a separate midwifery bachelor degree in Australia in 2002, midwifery has been slowly making a case for itself as a distinct profession with unique educational and professional needs and requirement.

Dual qualifications for nurses and midwives in Australia is now largely an historical influence, with man nurses or midwives opting to undertake direct entry degrees in their preferred single profession.

The primary setting of nursing and midwifery professions is hospitals. In this setting, nurses and midwives often work alongside each other and likely have an influence on each other's perspectives regarding such topics as CM, particularly given the dominant evidence based medicine model highly valued in hospital healthcare. Utilisation of a single measurement tool for gathering data from different but related groups could have implications for the reliability of the ensuing data collected. Other views of role and practice held by nurses and midwives than those described above could help demonstrate the potential bias of applying a single measuring tool to both groups. This is because different professional groups, such as nurses and midwives, may not interpret the meaning of a question. Pre-validated or not, responses options may not be viewed in the same way, depending on whether respondents see themselves primarily as a nurse or a midwife. Respondents reported and behaved with agitation when attempting to respond to the pre-validated measures in regards to their attitudes and perceptions of CM. Unease observed in midwives and nurses when responding to CIMQ items about attitudes and perceptions may also be due to the desire to qualify their answers regarding the area of CM.

5.5.1 Survey delivery mode and timing is important for sample responsiveness

Delivery mode of survey questionnaires has been found to be an area of survey questionnaire design that has significant potential to introduce bias into data (Bowling, 2005, Cook et al., 2000). This study's sample and recruitment data not only reported that the digital format best suited the nature of health professional educators. This is interesting given some other evidence that nurses in particular respond better to paper and telephone based survey questionnaires (VanGeest and Johnson, 2011), although other research has found the responsiveness to postal surveys is also declining (Cook et al., 2000). This study data also indicated the post-marking period would be the most advantageous time period to recruit participants to undertake the CIMQ. Marking periods fall across a range of times throughout the year so the CIMQ could be recruited for a number of time per calendar year. The findings of this study might be explained by the added dimension of the professional population being surveyed also educators who may have substantial paper-based resources to deal with on a daily basis. Therefore, a postal survey may not be the most advantageous survey questionnaire delivery mode. Financial incentives have been found to help increase

nurse responsiveness to survey questionnaire design (VanGeest and Johnson, 2011), however this was not within the scope of this study to utilise. The data from this study indicated a financial incentive would be of little motivation given the time poor nature of nurse and midwifery content decision makers to even take up this offer. So although not part of cognitive interviewing of the questionnaire, 'recruitment and sampling' findings were of value and could impact questionnaire implementation. Other findings of this study through questioning around recruitment provided direction regarding lack of feasibility when researching practice-based professions (Walter, 2006).

5.5.2 Emphasising the significance of CM to promote engagement

Sampling and recruitment data suggested that outlining the National Competency Standards for nursing and midwifery and the CM references contained in them would an advantageous technique. Respondents reported that this justification for involvement would help ensure understanding of the CIMQ's significance, thereby contributing to and adequate response rate to the CIMQ. Other literature has found health professionals are driven by the need to meet standards put forth by their governing bodies can support and disseminate survey questionnaire research. Specifically, support by these bodies has been found to improve response rates (VanGeest and Johnson, 2011, Cook et al., 2009, Blair and Conrad, 2011, Adams and Wardle, 2009). Recruitment data in this study suggests outlining the relevance of CM to the National Competency Standards may help spur potential respondents into undertaking the CIMQ. Specific reference to the competency standards upheld for nurses and midwives in Australia alongside substantial networking with key stakeholders in the regulating bodies could galvanise the sample population into engaging with the research and improve response rate of the CIMQ.

Specifically, it was indicated in the data for this study that buy-in from the respondents would be most beneficial to responsiveness to the measure. This is an established aspect of successful survey questionnaire design and methodology in other research as well (Dykema et al., 2013, VanGeest and Johnson, 2011, Cook et al., 2000). Ensuring practice-based professions understand significance of the questionnaire and the study to their everyday practice could make the research relevant, according to respondents of this study. Ways to achieve this are highlighted in the literature as obtaining buy in from the respondent's

professional associations with key contacts that can advocate for the cause of the survey questionnaire research (Cook et al., 2000, VanGeest and Johnson, 2011). Clearly, survey questionnaire design and implementation is a complex issue when approaching practice-based profession-educators.

5.6 The set structure of nurse and midwife higher education made defining appropriate measures of CM inclusion difficult

Following on from the main finding, construct one: 'General course characteristics' was changed in response to the difficulties in clarifying nursing from midwifery education, as the two cohorts are often taught together even though discrete awards exist for each. The first construct proved problematic with the leading behaviour observed in regards to the content items within this construct being; 'asking for clarification or qualifying answers'. It appeared informal CM inclusion made it difficult of respondents to determine if CM content was even included at all. In Construct 1 of the CIMQ 'General course characteristics' required explicit direction from outset to ensure no CM content anywhere and correct question logic was followed (Grasha 2002, Rowe 2012). This could possibly be due to the perception that course progression in nurse and midwife degrees are prescriptive and set, however upon probing respondents often described informal CM inclusion. Flexible CM content integration meant categorical variables and even continuous variables were problematic and difficult to quantify (Teichler et. al. 2013). It might be that in response to the set nature of nurse and midwife degree progression, which often results from highly regulated professions, CM is interwoven informally at the delivery level of nurse and midwife education. In light of the apparent lack of codified CM inclusion in nursing and midwifery curriculum, it seems informal inclusion is being spurred on by lecturers delivering learning experiences that reflect real world issues and realities, such as high CM use amongst nursing patients and women in midwifery care (Hope-Allan et al., 2004, Rojas-Cooley and Grant, 2006, Quimby, 2007a, Balneaves et al., 2010, Gaboury et al., 2011, Abul-Fadl et al., 2012, Stewart and Odle, 2013). Increasing flexibility of learning environments presents difficulties in quantitative measurement and fundamentally impacts survey design.

5.6.1 Informal inclusion of CM content

The strengths and weaknesses of quantitative aspects of survey design such as categorical variables influenced the refinement of the CIMQ. Specifically, Construct 2 'CM content inclusion in degree' was difficult to measure due to informal CM inclusion. Informal inclusion of CM at a grass roots level meant asking quantifiable questions regarding the flexibility of highly prescriptive nursing and midwifery courses and the existence of any CM within them was highly problematic. Construct 2 underwent change due to the difficulties in attempting to quantify CM inclusion in nursing and midwifery education due to the reported informal presence of CM at the discretion of individual educators. Unknown or little known CM inclusion methods were unforeseen when drafting categorical variables to select from in the CIMQ (Groves et. al. 2009). The initial response options did not fit the phenomenon of CM inclusion occurring in reality, however more appropriate response options were difficult to form and include when respondents were queried about what would better suit their reality. Construct 2 proved problematic with the leading behaviour observed in regards to the content items within this construct being; 'asking for clarification or qualifying answers' which were equally observed in both nursing and midwifery participants. The fluid nature of CM inclusion explained throughout pre-testing in response to the fixed response options initially provided in the CIMQ, highlighted the challenges of applying quantitative measurements to a dynamic social area such as education.

5.6.2 Identifying relevant CM course content decision makers impacts sampling frame specificity

The sampling frame adopted for this study was also commented on by the respondents, who indicated the nature of CM inclusion was such that the frame may need to be broadened to capture the intended data of the CIMQ. Sampling suggestions were incorporated into the questionnaire by allowing for multi-level high education respondents in recognition of the varied content contributors. Previous evidence suggests that the complexity of institutional systems may render the target population and sample of a survey questionnaire somewhat irrelevant and this appears to have also been reflected in this study (Cook et al., 2009, Cook et al., 2000, Dykema et al., 2013, Klabunde et al., 2012). Course content decision maker respondents appear to be the most appropriate starting

point for data gathering with this questionnaire. Although course content decision makers have an important role in defining CM inclusion in nursing and midwifery courses, it appears course content decision makers can be unaware of the actual CM inclusion occurring within their courses at the lecturer level (Lloyd et al., 2007). This might indicate a respondent role for lecturers of nursing and midwifery courses in reporting on CM inclusion in nursing and midwifery degrees through the CIMQ. Application of questionnaires such as the CIMQ may involve purposive sampling, however insights gathered from this study help reduce coverage bias (Fowler, 2014). These challenges make it difficult to gather discrete data concerning nurse attitudes and midwifery attitudes to CM inclusion in their education courses.

5.7 Involving health care professionals in research

The focus of this study and the second sub question of this research was to engage practitioners in research. The practice skills and scope required of nurses and midwives in Australia to be registered for practice includes completion of accredited higher education degrees (Nursing & Midwifery Board of Australia, 2014b). National nursing and midwifery standards do in fact indicate that nurses and midwives are required to be familiar with and to fully engage with CM. A specifically designed tool to systematically measure or implement CM content in Australian nursing and midwifery courses would hypothetically garner interest from the sample group. However the challenges of involving health care professionals in research are well documented (Adams and Wardle, 2009, Cook et al., 2009, Dykema et al., 2013, VanGeest and Johnson, 2011, Wardle and Seely, 2007). Nurses and midwives in this study suggested future researchers could consider sending out the CIMQ after marking periods as this may avoid overwhelming time pressures and competing priorities for the target sample. They also suggested referring to the National Competency Standards for Nursing and Midwifery to demonstrating the importance of CM as a topic and as such encourage an adequate response rate to the CIMQ.

The finding of this study regarding financial incentive is reflected in other literature (Blair and Conrad, 2011); however participants also reported being time poor and this is an issue that financial incentive may not be able to overcome, as the issue appears to be structural

and not specifically fiscal (Adams, 2006, Adams and Wardle, 2009). Participants reported linking the CIMQ to the national standards to demonstrate importance. It has been suggested that highlighting mutual benefit could help (Adams and Wardle, 2009); however reference to the national standards in combination with financial incentive could introduce a coercive element to sampling and recruitment. It is important efforts to increase response rate to the CIMQ, the research processes followed remain ethical (Walter, 2006) and do not bias the data collected (Bowling, 2005). Ultimately the finite sample of nursing and midwifery course content decision makers in research, such as the CIMQ, will require a flexible and well-funded project and responsive research team to overcome the remaining challenges to involving health care professionals in research.

5.8 Implications of this study

Australian healthcare system needs has a need for CM familiarisation, which can be addressed through education. CM use is high and broader acknowledgement and understanding of this is required to meet this phenomenon (Eisenberg et al., 1997, Van der Schee and Groenewegen, 2010b, Wardle et al., 2012). This includes acknowledgment and understanding in higher education for all healthcare providers, including nurses and midwives. All healthcare professionals need an adequate knowledge of their patients/client base including other professionals engaged in care (Girgis et al., 2005, Quimby, 2007a, Broom et al., 2010). The need for CM familiarity can be addressed through education and Australian competency standards might benefit from explicit competencies in CM to be incorporated. Making CM familiarity more explicit in the standards could better guide CM inclusion and its intended outcomes for students and future nursing and midwifery professionals

Australian healthcare education needs exploration to determine the level of CM content currently included and possible barriers to that inclusion. Exposure to knowledge of CM to increase graduates confidence and competence when caring for those accessing CM (Trail-Mahan et al., 2013, Shorofi and Arbon, 2010, Bjersa et al., 2012). To do this, a consistent approach to measuring current CM inclusion in order to inform consistent approach to CM

inclusion, is required (Homer et al., 2009, Australian Health Ministers' Advisory Council, 2008).

The literature review from this study indicated attitudes not hindering CM inclusion. This is not surprising given that numerous international studies found attitudes of nurses and midwives towards CM was positive (Hessig et al., 2004, Mollart, 2004, Martensson et al., 2011, Bertrand, 2010). Nurse and midwife attitudes to CM education also appear to be mainly positive (Gaffney and Smith, 2004, Torbeck et al., 2004, Adams et al., 2011c, Bourgeault and Hirschkorn, 2008, Perrin, 2008, Adams and Tovey, 2008, Adams et al., 2011a, Sewitch et al., 2008, Laws et al., 2009, Munoz-Selles et al., 2013, Williams and Mitchell, 2007, Mitchell et al., 2006). Besides their attitudes to CM, CM education is something that has been strongly argued for in the literature. Education regarding CM is also something many studies have found is wanted by conventional healthcare groups, including nurses and midwives. However, evidence suggests nurses, midwives and other CHC students want more education on CM (Booth-La et al., 2010, Adib-Hajbaghery and Hoseinian, 2014).

Informal inclusion seems to be a feature of CM inclusion in Australia and the power of individual lecturers must be taken into account when design a sampling frame for investigation the issue of CM inclusion in CHC. CM inclusion was often informal and reflects the increasingly flexible nature of higher education content and delivery (Brykczynski, 2012, Lee et al., 2005). The influence of the individual lecturer in the higher education structure e.g. attitude, background, knowledge and skills (Barberis et al., 2001, Olsen, 1999). Not only was inclusion but also the quality of CM content delivery was highly dependent on lecturer (He et al., 2010, Lloyd et al., 2007, Torbeck et al., 2004).

A central focus of this study was not only to pre-test the CIMQ but also explore the best way to overcome barriers to adequate response rates from practice-based professions such as nursing and midwifery. Ways to encourage participation from practice-based professions were to adopt a pragmatic health services approach to ensure that this vital aspect of engaging practically based professions was addressed (Balakas et al., 2013, Wyatt and Post-White, 2005, Wardle and Seely, 2007, Adams, 2007b). Incentivisation and knowing

competency standards and regulatory requirements can assist with gathering fuller picture of CM inclusion (Quimby, 2007a). For accurate representation in data of official CM inclusion, course content decision makers are still the most appropriate sample for CIMQ (Benoit et al., 2010).

The refined CIMQ included the best structure, sample and recruitment for the CIMQ supports potential reliability of the questionnaire able to be gleaned from the pre-testing process in this study. The CIMQ is of great value to healthcare and healthcare education as it is the first measure that can be applied to nurses and midwives in and Australian setting to gather important information on Cm inclusion in CHC. An original contribution has been made by formulation of the CIMQ; it is the first of its kind. Systematic literature review further highlights the importance of the CIMQ as it identified current attitudes not a consistent barrier and CM inclusion increases confidence and competency. So to date, we do not know not only what is included but why it is, or rather isn't included. Methodological weaknesses to date have impacted progress in CM inclusion in CHCs. This methodologically focussed study help bring strength and rigor to the field of educational research in CHC regarding CM. This study has provided a way to use a single reliable tool which would benefit from a more systematic approach to CM inclusion and ultimately assist higher education stakeholders and healthcare consumers.

5.8 Limitations of the study

The limitations of this study are primarily to do with the size and scale of the pre-testing interviews meaning that the results are not generalizable. However, the non-generalizability of the pre-testing results, is not a significant limitation give the purpose of this study and the research question. This study sought to develop a specific and precise measure based on a systematic review of the literature in the areas related to the research question and then test that measure on a national spread of nursing and midwifery content decision makers. The study also sought to incorporate the feedback collected via the pre-testing data to improve the reliability of the results gathered with the CIMQ and ensure it was fulfilling the purpose of indicating the level of CM inclusion in nursing and midwifery courses. For all tenants and purposes, this study has achieved that. Another limitation of this study was the diverse settings in which the pre-testing interviews took place and the

potential for this to introduce bias into the data given the noisy, sometimes unhelpful interview locations. In addition, the initial participants completed the CIMQ whilst the pre-testing interviewer was in the room and sought clarification throughout the survey questionnaire instead of completing it under similar conditions that it would be when used. This practice was stopped after the second interview and pre-testing interviewees, after a short preamble orientation to the pre-testing interview process were left alone to complete the CIMQ without our aide or interruption and then underwent cognitive pre-testing questions afterwards. This limitation likely did not alter the findings a great deal but did provide weight to findings regarding confusion and misunderstanding of certain content and criterion of the CIMQ emerging through the pre-testing data. Future use of the ICMQ could overcome these limitations by adhering to the methodology outlined in this study, following the implementation plan as much as feasible and ensuring wider sampling to exhaust the number of possible course content decision makers in Australian nursing and midwifery who are responding.

5.9 Future directions for research

This study shows a way to detect content inclusion from the development of a pre-tested tool aimed at examining if higher education institutions delivering CHCs include CM content in their curriculum. The development of the CIMQ *allows researchers to add to* the health services research discussion regarding the manner through which conventional healthcare practitioner's first *formal* engagement with CM and the CM training nurses and midwives are exposed to (Adams and Wardle, 2009). The developed survey questionnaire is to be used on nursing and midwifery faculties nationally to allow for ***consistent, comprehensive and meaningful data collection*** on the included CM content within their curriculum. Implementation could help change and shape the face of CM education in Australia in a systematic way for the first time and contribute to ensuring safe and informed healthcare provision to the public. This research question is important to making sure there is a reliable way to approach measuring CM inclusion in nursing and midwifery courses in Australia. It also allows for data to be gathered on course content decision makers and heir attitudes towards CM and its inclusion the higher education awards they are involved in, thereby

controlling the Cm content students are exposed to and the level of competency in CM they graduate with. The data arising from the CIMQ's use in the future will require exploration and may give rise to additional studies in health education, CM and patient-centred care.

5.9.1 CIMQ Implementation plan

The ideal implementation of the CIMQ as indicated by rigorous survey methodology and the results from this study pre-testing the CIMQ, includes the final version for use with nurses and midwives found within this study, areas for contacting potential respondents, initial recruitment contents and suggested timeframes for recruitment.

5.9.1.1 Instructions for users

A web-based survey is the preferred mode of delivery and paper and telephone delivery modes are not favourable. Incentivisation should be done using reference to the importance of CM in the National Competency Standards.

5.9.1.2 Suggested Analysis

Descriptive statistical analysis would suffice to pain an overall picture of CM inclusion in Australia, especially given the finite number of course content decision makers available. If a number allowing for statistical power can be sampled, inferential statistics could be performed on the data gathered with the CIMQ. In particular, step-wise regression may allow for profiling of content decision makers who are more or less likely to include CM in their nursing and midwifery curriculum to be formed.

5.9.2 Chapter Summary

This discussion chapter has highlighted the key findings of major importance from this study and posited exploration of these findings in light of other research. Specifically, dual qualifications and the unique history of discrete higher education awards developing in Australia is likely a major confounder in all data gathered on midwifery OR nursing specific data. In addition, the array of education terms used in different ways across higher education institutions also seriously undermines the reliability of survey questionnaire measures, as demonstrated in this and other studies. This study has highlighted the substantial issues with applying validated tools to gather reliable data from multiple professions. In particular, measures that seek to delineate the attitudes and perceptions of discrete professions should ideally use a measure validated to measure attitudes of each

individual profession before use, to avoid undermining attempts to test reliability of a new tool. This discussion chapter has also underscored the importance of effectively engaging practice-based professionals, such as nurses and midwives, in research and ways to maximise investment in the research cause and targeting advantageous windows of time. In line with other research, the pragmatic aspects of survey research can obtain adequate response rates when addressed which this study has done for the CIMQ. There now exists a survey questionnaire that is capable of capturing data regarding the level of CM inclusion present in nursing and midwifery higher education study, despite the complex interplay of these professions prescriptive course structure and progression combined with informal CM inclusion.

6.0 CONCLUSION CHAPTER

This study is the first to systematically review and identify constructs for a survey questionnaire intended to measure the level of CM inclusion in nursing and midwifery course in Australia. Pre-testing survey questionnaires is a vital process in ensuring the measure and thereby the tool gather reliable data upon which the research question can be answered. The methodology was designed in such a way that the research questions were addressed in this study. The main research question is answered in that the Curriculum in Integrative Medicine Questionnaire (CIMQ) shows promise as a reliable tool for measuring the inclusion of CM content in Australia and nursing courses. The first sub question of this research has been attended to, as now the wording, order, items and meanings referred to in the questionnaire were clarified for the intended sample group throughout as the findings of this study demonstrate. The methods of cognitive interviewing and behavioural coding analysis specifically dealt with the second sub-question as these methods revealed the best time for engaging nurse and midwifery course contend decision makers in the CIMQ is the marking periods in higher education. The pre-testing process was designed in a way that data explicitly outlined the need to reference the national competency standards that govern both professions to highlight the importance of completing the CIMQ for the professions.

7.0 APPENDICES

Appendix 1. Full literature review search strategy

Search terms	First search: 1. "complementary medicine" or "alternative medicine" or aromatherapy or naturopathy or acupuncture or massage or herbal THEN search: 2. curriculum or syllabus or graduate or training or student or faculty 3. COMBINE the above 2 searches with 'AND' Separate searches for each of the following: 4. nurse or nurses or nursing THEN add to outcome step 3 and search with 'AND' 5. midwife or midwives or midwifery THEN add to outcome step 3 and search with 'AND' 6. pharmacist or pharmacists or pharmacy THEN add to outcome step 3 and search with 'AND'							
Focus	Attitudes toward CM education in a) Nursing, and b)Midwifery courses from 1)students 2)faculty and 3)professionals.							
Time	2004-2014 (10 years)							
Database	**Description**	**Reason**	**Hits**	**Duplicates**	**Title**	**Abstract**	**Full Txt**	**Final**
CINAHL	CINAHL (Cumulative Index for Nursing and Allied Health Literature) is the most comprehensive resource for nursing and allied health information. CINAHL has a searchable subject index providing access to articles in a wide collection of peer reviewed nursing and allied health publications. Abstracts and full text articles are included for a large proportion of articles.	Has sociological and original research content on the chosen faculty(ies).	Nurse=103 Mid= 10	Total papers imported =5774 Duplicates found=2043 Duplicates removed = 1365	Removed based on title N=4108 (TOTAL=301 left)	Removed based on abstract N=71 (TOTAL=230 papers left)	Removed based on full text N=138 *+34 upon final data check and removal of conflated	4 1
PubMed	PubMed is the free interface of the (U.S.) National Library of Medicine's databases including Medline. Users are encouraged to make use of the online tutorials provided by the database to get the most out of searching - particularly in relation to searching via MeSH (Medical Subject Headings). Subject coverage includes: medicine, nursing, dentistry, veterinary medicine, the health care system, psychiatry, psychology and the preclinical sciences.	Has sociological and original research content on the chosen faculty(ies).	Nurse= 651 Mid= 142					21 7

Health Source	Health Source: Nursing provides access to full text articles in nearly 550 scholarly journals focusing on many medical disciplines. Coverage of nursing and allied health is particularly strong.	Has sociological and original research content on the chosen faculty(ies).	Nurse=207	(TOTAL=4409 left)			data	2
			Mid=26				(*58 papers left)	1
PsychINFO	PyscInfo is an indexing and abstracting service produced by the American Psychological Association. Sources indexed include scholarly books, peer reviewed journals and dissertations (theses) all in the field of psychology and the psychological aspects of related modalities, such as medicine, psychiatry, nursing, sociology, education, pharmacology, physiology, linguistics, anthropology.	Has sociological and original research content on the chosen faculty(ies).	Nurse=166					3
			Mid= 19					1
EMBASE	EMBASE, the Excerpta Medica database, produced by Elsevier Science, is a major biomedical and pharmaceutical database indexing over 3,500 international journals in the following fields: drug research, pharmacology, pharmaceutics, toxicology, clinical and experimental human medicine, health policy and management, public health,occupational health, environmental health, drug dependence and abuse, psychiatry, forensic medicine, and biomedical engineering/ instrumentation. There is selective coverage for nursing, dentistry, veterinary medicine, psychology, and alternative medicine. EMBASE is one of the most widely used biomedical and pharmaceutical databases because of its currency and in-depth indexing. Frequent updates allow access to the latest medical and pharmacological trends. Approximately 375,000 records are added yearly.	Has sociological and original research content on the chosen faculty(ies).	Nurse= 1040					5
			Mid= 197					0
AMED (OVID)	AMED is a unique bibliographic database produced by the Health Care Information Service of the British Library. It covers a selection of journals in complementary medicine, palliative care, and allied professions.	Has sociological and original research content on the chosen faculty(ies).	Nurse=25					1
			Mid=1					0
Manual	Checked the references of papers fond in the above	To ensure the limited research relevant to	Nurse=0					

Hand checking	databases.	the focus is exhausted	Mid=0					
Totals	NursMid=2587|NursMid Dups=1246	NurMid Tit =953|Abts ex=272		FTex=71	Nurs=35	Mid=10		

Appendix 2. Curriculum in Integrative Medicine Questionnaire (CIMQ)

How to complete the Curriculum in Integrative Medicine Questionnaire (CIMQ)

Please answer every question you can. If you are unsure about how to answer a question, mark the response for the closest answer.

Please read the instructions above each question carefully. The questions require you to mark only one answer, unless otherwise specified.

Definitions to be clear about

For the purposes of this questionnaire, the following terms will apply:

Complementary Medicine: *"Complementary Medicine (CM) is a broad term used to describe a wide range of health care medicines, therapies (forms of treatment that do not involve medicines) and other products that are not generally considered within the domain of conventional medicine. It includes practices such as naturopathy and homeopathy, as well as general lifestyle-based disciplines such as yoga and Pilates*." (NHMRC)

For the following questionnaire, this will include:

- Acupuncture
- Acupressure
- Aromatherapy
- Ayurveda
- Chiropractic
- Deep breathing exercises
- Diet Therapy
- Chinese herbal medicine
- Faith healing/prayer
- Homeopathy
- Hypnotherapy
- Iridology
- Massage therapy
- Meditation
- Naturopathy
- Nutritional medicine
- Osteopathy
- Reflexology
- Tai chi/Chi gong
- Therapeutic touch/Reiki
- Western herbal medicine
- Yoga

Subject: *a discrete unit of study and a combination of subjects make up a course of study.*

Course: *a single course leading to an Australian higher education award, such as a bachelor's degree*

Higher education award: *a diploma, advanced diploma, associate degree, bachelor degree, graduate certificate, and graduate diploma, master's degree or doctoral degree* (**Tertiary Education Quality Standards Agency Act, 2011).**

GENERAL COURSE CHARACTERISTICS

1. Which of the following options best describes the higher education award you are involved in currently? Complete the question by selecting the healthcare field of the higher education award you are involve and selecting a box to indicate the award level. *If you are involved in more than one higher education award, select the award which has the highest number of enrolments.*

Select ONE (1) Healthcare field	Undergraduate	Postgraduate
Nursing / Midwifery	□	□

For the purposes of the survey, please only refer to the higher education award, and the course leading to its attainment, identified in question 1.

2. What is your role in relation to the above specified Course?

□ Co-coordinator □ Lecturer □ Other - Please specify: _____

3. What is the number of students enrolled in each cohort of the Course? Select one option.

□ <20 □ 21-50 □ 51-100 □ 101-150 □ 151+

4. How many years of full time study equivalent (FTE) are involved in the Course? Select one option.

□ <1 □ 2 □ 3 □ 4 □ 5+

5. What percentage of FTE in your Course are electives? Indicate number in boxes.

□□□

6. Is CM content part of a stand-alone specific CM subject? Select one option.

□ Yes, as a required subject □ Yes, as an elective subject □ Both □ No (if no, skip to Q8)

7. In which year(s) of the Course are CM topics are covered? You may select multiple options.

□ 1st year □ 2nd year □ 3rd year □ 4th year □ 5th year □ Unsure

8. If not part of a stand-alone subject, is this content part of another subject? Select one option.

□ Yes, as a required subject □ Yes, as an elective subject □ Both □ No (if no, skip to Q18)

9. What is the estimated amount of time (in hours) students spend learning about CM content? Select all boxes that apply and indicate hours in number on the lines.

□ Formal __ __ □ Informal __ __ □Unsure

COMPLEMENTARY MEDICINE (CM) COURSE CONTENT AND DELIVERY_____

10. What are the principal course/teaching objectives for CM within the subject or course? Number them in order of priority, 1 being the most important in the course and 4 being the least important.

a) Broad overview of CM concepts	□
b) Scientific evaluation of effectiveness	□
c) Practical training in CM methods	□
d) Other	□

Please specify: _____

11. Which topics are covered in your CM course work? You may select more than one option.

a) Homoeopathy		l) Western herbal medicine	□
b) Naturopathy	□	m) Eastern herbal medicine (Chinese)	□
c) Acupuncture	□	n) Nutritional supplement therapy	□
d) Acupressure	□	o) Diet therapy	□
e) Ayurvedic medicine	□	p) Meditation	□
f) Aromatherapy	□	q) Deep breathing exercises	□
g) Chiropractic	□	r) Yoga	□
h) Faith healing/Prayer	□	s) Osteopathy	□
i) Therapeutic touch/Reiki	□	t) Hypnotherapy	□
j) Massage therapy	□	u) Reflexology	□
k) Iridology	□	v) Tai Chi/Qi Gong	□

w) The role of CM practitioners	□
x) Referral and interprofessional collaboration with CM practitioners	□

y) Other	□

Please specify: _____

12. Does the primary instructor of the CM content have a qualification in CM? Select one option.

□ Yes □ No If yes, please specify_____

13. Besides the primary instructor, are non-medical CM practitioners involved in course delivery? Select one option.

□ Yes – all of the delivery □ Yes – some of the delivery □ No – none of the delivery

14. What instructional methods are used within the delivery of CM content? You may select multiple options.

a) Standard/faculty lecture	□
b) Seminar	□
c) Guest lecture/demonstration	□
d) Student oral presentation	□
e) Video presentation	□
f) Case-presented methods	□
g) Problem-based methods	□
h) Other	□

Please specify: _____

15. What are the CM content-related tasks undertaken for CM learning? You may select multiple options.

a) Required readings	☐
b) Paper or project	☐
c) Examination	☐
d) No requirements	☐
e) Other	☐

Please specify: _____

16. What is the method(s) used to assess CM content outcomes for CM learning? You may select multiple options.

a) Summative scaled grades (i.e. Pass to High distinction, or percentages)	☐
b) Pass/fail	☐
c) Course feedback forms	☐
d) They were not assessed	☐
e) Other	☐

Please specify: _____

ATTITUDES AND PERCEPTIONS TOWARDS CM_____

17. What do you believe is the motivation for inclusion of CM topics in coursework at your institution? You may select multiple options.

a)Student interest	☐
b)Faculty interest	☐
c)Practicing community interest	☐
d)Patient interest	☐
e)Historical/institutional interest	☐
f)Institutional pressure	☐

g)Previous personal experience with CM	□

Please specify: _____

18. Please read and respond to each of the following statements below by circling the number that most aligns with your belief, *1 being closest to Absolutely Disagreeing* with the statement and *7 being closest to Absolutely Agreeing*. <u>You may select one option per statement only.</u>

Statement(s)	Response options						
a) The physical and mental health are maintained by an underlying energy or vital force.	**1** absolutely disagree	**2**	**3**	**4**	**5**	**6**	**7** absolutely agree
b) Health and disease are a reflection of balance between positive life-enhancing forces and negative destructive forces.	1	2	3	4	5	6	7
c) The body is essentially self-healing and the task of a health care provider is to assist in the healing process.	1	2	3	4	5	6	7
d) Complementary therapies are a threat to public health.	1	2	3	4	5	6	7
e) A patient's symptoms should be regarded as a manifestation of a general imbalance or dysfunction affecting the whole body.	1	2	3	4	5	6	7
f) A patient's expectations, health beliefs and values should be integrated into the patient care process.	1	2	3	4	5	6	7
g) Treatments not tested in a scientifically recognized manner should be discouraged.	1	2	3	4	5	6	7

h) Effects of complementary therapies are usually the result of a placebo effect.	1	2	3	4	5	6	7
i) Complementary therapies include ideas and methods from which conventional medicine could benefit.	1	2	3	4	5	6	7
j) Most complementary therapies stimulate the body's natural therapeutic powers.	1	2	3	4	5	6	7

19. Please read and respond to each of the following statements below by circling the number that most aligns with your belief, *1 being closest to Absolutely Disagreeing* with the statement and *7 being closest to Absolutely Agreeing*. **Note: the term 'Health Professional(s)' refers to health professionals from YOUR professional group.** You may select one option per statement only.

Statement(s)	Response options						
a) It is ethical for health professionals to recommend therapies to patients that involve the use of subtle energy fields in and around the body for medical purposes (i.e. Reiki, Healing touch, Therapeutic touch, etc.).	**1** absolutely disagree	**2**	**3**	**4**	**5**	**6**	**7** absolutely disagree
b) Health professionals should avoid recommending botanical medicines based on observations of long-term use in other cultures and systems of healing, because such evidence is not based on large randomized controlled trials.	1	2	3	4	5	6	7
c) Health professionals should warn patients to avoid using botanical medicines (herbs) and dietary supplements until they have undergone rigorous testing such as is	1	2	3	4	5	6	7

	required for any pharmaceutical drug.							
d)	Massage therapy often makes patients "feel" better temporarily, but does not lead to objective improvement in long term outcomes for patients.	1	2	3	4	5	6	7
e)	Healing is not possible when a disease is incurable.	1	2	3	4	5	6	7
f)	Therapeutic touch has been completely discredited as a healing discipline.	1	2	3	4	5	6	7
g)	It is irresponsible for physicians to recommend acupuncture to patients with conditions like chemotherapy-related nausea and vomiting or headache.	1	2	3	4	5	6	7
h)	The health professional's role is primarily to promote the health and healing of the physical body.	1	2	3	4	5	6	7
i)	Information obtained by research methods other than randomized controlled trials has little value to health professionals.	1	2	3	4	5	6	7
j)	The spiritual beliefs and practices of patients play no important role in healing.	1	2	3	4	5	6	7
k)	It is not desirable for a health professional to take therapeutic advantage of the placebo effect.	1	2	3	4	5	6	7
l)	Chiropractic is a valuable method for resolving a wide variety of musculoskeletal problems.	1	2	3	4	5	6	7
m)	A patient is healed when the underlying							

	pathological processes are corrected or controlled.	1	2	3	4	5	6	7
n)	Patients whose health professionals are knowledgeable of multiple medical systems and complementary and alternative practices, in addition to conventional medicine, do better than those whose physicians are only familiar with conventional medicine.	1	2	3	4	5	6	7
o)	The spiritual beliefs and practices of health professionals play no important role in healing.	1	2	3	4	5	6	7
p)	Health professionals knowledgeable of multiple medical systems and complementary and alternative practices, in addition to conventional medicine, generate improved patient satisfaction.	1	2	3	4	5	6	7
q)	End of life care should be valued as an opportunity for health professionals to help patients heal profoundly.	1	2	3	4	5	6	7
r)	The health professional's role is primarily to treat disease, not to address personal change and growth of patients.	1	2	3	4	5	6	7
s)	It is appropriate for health professionals to use intuition as a major factor in determining appropriate therapies for patients.	1	2	3	4	5	6	7
t)	The health professional's role is primarily to promote the health and healing of the physical body.	1	2	3	4	5	6	7

u) The innate healing capacity of patients often determines the outcome of the case regardless of treatment interventions.	1	2	3	4	5	6	7

20. Please read and respond to each of the following statements below by circling the number that most aligns with your belief, *1 being closest to Absolutely Disagreeing* with the statement and *7 being closest to Absolutely Agreeing*. **Note: the term 'Health Professional(s)' refers to health professionals from YOUR professional group** <u>You may select one option per statement only.</u>

Statement(s)	**Response options**						
a) Health professionals who strive to understand themselves generate improved patient satisfaction.	**1 absolutely disagree**	**2**	**3**	**4**	**5**	**6**	**7 absolutely agree**
b) A strong relationship between patient and health professional is an extremely valuable therapeutic intervention that leads to improved outcomes.	1	2	3	4	5	6	7
c) Health professionals who model a balanced lifestyle (i.e. Attending to their own health, social, family and spiritual needs, as well as interests beyond medicine) generate improved patient satisfaction.	1	2	3	4	5	6	7

d) Counseling on nutrition should be a major role of the health professional towards the prevention of chronic disease.	1	2	3	4	5	6	7
e) Quality of life measures are of equal importance as disease specific outcomes in research.	1	2	3	4	5	6	7
f) Health professionals who strive to understand themselves provide better care than those who do not.	1	2	3	4	5	6	7
g) Health professionals should be prepared to answer patient's questions regarding the safety, efficacy, and proper usage of commonly used botanical medicines such as Saw Palmetto, St. John's Wort, Valerian, et.	1	2	3	4	5	6	7
h) Instilling hope in patients is a health professional's duty.	1	2	3	4	5	6	7

21. Please read and respond to each of the following statements below by circling the response that most aligns with your experiences. <u>You may select one option per row only.</u>

Question(s)	Response options		
a) Have you received education or training about CM?	Yes	No	Don't Know
b) Have you seen patients or others using CM?	Yes	No	Don't Know
c) Do you think that individuals' health can be enhanced by the use of CM?	Yes	No	Don't Know
d) Do you have any experience using CM for you or your family	Yes	No	Don't Know
e) Do you have any experience recommending CM to others?	Yes	No	Don't Know

22. Is CM taught at your institution? (e.g. are there chiropractic, osteopathic, Chinese medicine or naturopathy higher education awards offered at your institution?) Select one option.

☐ Yes ☐ No ☐ Unsure

23. For what reason(s) is CM not included in the Course you're involved in? You may select multiple options.

a) no focus on CM in the department	☐
b) funding problems of CM activities	☐
c) hindrance of conventional therapy training	☐
d) lack of political support for CM activities	☐
e) CM is not an area of expertise	☐
f) CM should be not integrated in universities	☐
g) Other (please elaborate) _____	☐

~ Thank you for your assistance by completing this survey ~

If you would like to receive further information about publications or conference presentations arising from this research, please email Helene Diezel of the University of Technology Sydney at Helene.M.Diezel@student.uts.edu.au

Appendix 3. Cognitive interview transcripts

Participant 1

Participant 1: Complementary therapy part which was maybe 3 hours.

Interviewer: Ok

Participant 1: No, no; 6 hours cos each tut was there hours and…maybe four hours cos there was a guest speaker and there wasn't many people so, four hours.

Interviewer: So contact time doesn't refer to face to face?

Participant 1: Yeah.

Interviewer: But whatever it means to you, answer that way.

Participant 1: Ok, I've put contact hours in regards to the content of the complementary therapies as well.

Interviewer: Ok

[Break in interview-background noise]

Interviewer: I can see here that you selected…the course you were teaching was teaching CAM this semester.

Participant 1: Yes.

Interviewer: Yes. Would you mind completing the questions as if you didn't teach any CAM now that you've done this one that truthful to your scenario? Would you mind going back and just answer the questions at the end that say why didn't you include CAM and things like that? Even though they're not relevant to your situation but just to go through them to see if they make sense?

Participant 1: I don't quite get what you want me to do

Interviewer: So there's questions at the end of the survey that you automatically get sent to if you answer in the very first one 'no we teach no CAM"

Participant 1: Alright ok.

Interviewer: And I can show you the questions if you like right here.

Participant 1: Alright I did them.

Interviewer: You did respond to them?

Participant 1: I thought I did.

Interviewer: You did, yes. But what I would like you to do is respond to them as if it was the opposite case-as if you hadn't taught CAM.

Participant 1: Ok.

Interviewer: If that's possible. Which-it's just a scenario it's just a pretend thing.

Participant 1: Yep.

Interviewer: So these are the two questions here. So you've just ticked 'no-we don't' and then you get flicked to this one-these two questions which already has your answers from the previous survey on them.

Participant 1: So for what reasons are there no CAM activities in your department. So I've put 'there's no focus on CAM in the department' and 'CAM is not an area of expertise' so I've already done them.

Interviewer: You did them in you other survey.

Participant 1: Yes then.

Interviewer: So even though you're teaching CAM, these questions still apply to you? Is that what you're saying?

Participant 1: Well I read that as why isn't there a single course on complementary therapies.

Interviewer: Right, Yep.

Participant 1: so I answered the rest cos I teach an element of complementary therapy within a course that I do.

Interviewer: Yep.

Participant 1: So I read that as why there isn't a complementary therapies course.

Interviewer: By itself kind of thing, okay.

Participant 1: It's to do with the fact that the nursing and midwifery board of Australia don't actually require complementary therapies to be course content within the program.

Interviewer: Right.

Participant 1: It isn't actually….I think the complementary therapy content that we have is because the person who wrote the core, who wrote the program has chosen to add it in.

Interviewer: Right, ok. So now that you have completed the survey, would you mind if we went inside and I asked you a few questions about what you write?

Participant 1: Yeah that's fine.

Interviewer: Okay.

Participant 1: The language I used within my course was complementary and alternative therapies. So I use CAM-complementary alternative medicine because when I was reading around the subject that looked like a common abbreviation that was being used in the literature.

Interviewer: Yes, okay. What about the instructions on how to complete the survey and definitions-did that make sense to you?

Participant 1: Yep that's all understandable-it's just difficult cos I can't see the thing.

Interviewer: Yeah poor visibility.

Participant 1: It's just the font.

Interviewer: Um So in the part for general course characteristics, this first part here 'insert faculty, undergraduate or postgraduate'; did that make sense to you?

Participant 1: Yes – I haven't inserted the faculty.

Interviewer: Is there anything you would do to make that clearer or change that in any way?

Participant 1: Maybe, just for your information, the name of the course might help. You know 'what course is this being taught in'?

Interviewer: Yep.

Participant 1: Because in undergraduate, the course is being taught for the first time ever this semester and it was called 'therapeutics in midwifery' which I thought was a really good title. It really explained what the course was about. The content of the course then included many other things like mental health, pharmacology. So I thought that title was good. Whereas the post graduate aspect is called fundamentals of midwifery knowledge and it's very…it doesn't sort of explain what the course is about, but the complementary therapies in the post graduate courses are only a very small amount.

Interviewer: Okay. Could you see the way this is laid being able to accurately gather data on the way that CAM content is delivered to nurses or midwives?

Participant 1: I just think that being an ANMAC assessor, I've assessed other universities course content and names of titles of courses are very important for highlighting what the course content is about.

Interviewer: So you wouldn't have a mixture of undergraduate and postgraduate student sin a certain CAM module? You would only ever have separate ones?

Participant 1: Yeah you'd either have an under graduate program or a postgraduate program but then usually, as an ANMAC assessor, in terms of midwifery you would look at the whole program and go where do they deliver their science?, where do they deliver alternative therapies?. So yeah, that just might help you.

Interviewer: Okay. So for this here, the questions on the demographics of the course. The first one was 'what is the number of students enrolled in the course each year'. Is that clear to you?

Participant 1: Yes that was fine.

Interviewer: And the question, 'how many years of full time study equivalent are involved in the degree', what did that mean to you?

Participant 1: Well our students do a double degree so that's four years.

Interviewer: So you took it to mean full time attendance on campus?

Participant 1: Yes. The length of the program.

Interviewer: Okay. And number 4, 'what percentage of full time equivalent in your nursing or midwifery are electives'-did that make sense to you?

Participant 1: I was a bit at that and I came to the conclusion that you meant how many courses were electives.

Interviewer: Okay.

Participant 1: And the thing is with nursing and midwifery, because we're accredited from the national body, there aren't any electives. Well there's very, very few. Students have to complete a set amount of course content to be accredited.

Interviewer: So were the options appropriate or do you think they should have been…

Participant 1: For data collection, you could even have zero and then one to five. Cos when you collect data and you start putting it into SPSS, but if you've got nought to five, it could be that there was one course or three courses.

Interviewer: Yep

Participant 1: But if you've got a definitive zero, that'll tell you much more than that nought to five. So that may…yeah…

Interviewer: Alrighty.

Participant 1: That may be really helpful for you.

Interviewer: Okay. And number five, 'does the degree include complementary alternative medicine select one option

Participant 1: Yes or no. Yes.

Interviewer: Yes or No and that was appropriate? Okay. And number six 'in which year of the degree is CM content commenced'

Participant 1: Yeah that was easy to understand.

Interviewer: That's was easy? Okay. Were the option appropriate to the question?

Participant 1: Yes.

Interviewer: And number seven, was this content part of a stand-alone specific complementary medicine course, if yes go to Q9'.

Participant 1: Oh-and I probably couldn't read that and so I answered every question. What's if not…if not part.

Interviewer: Yes. This content part of a stand-alone specific complementary medicine course. As in, this whole course is just about CM. What did you take that to mean?

Participant 1: Yeah, yeah. I've answered that correctly. If not part of a stand-alone, is this content part of another course. Yes. Yes.

Interviewer: Okay. Does that make sense to you?

Participant 1: It does but now I'm…

Interviewer: Would you change it?

Participant 1: But now I'm listening I think if you can make questions as simple as possible so maybe, 'is this content part of'…you see, between universities as well, you'll hit the problem that we call ours a 'program' with 'courses' in it.

Interviewer: Right.

Participant 1: And some universities call it 'course' with 'modules'.

Interviewer: Yes.

Participant 1: So you'll just have to watch the language with that sort of data collection.

Interviewer: Okay. Alright. And were the options appropriate? 'Yes as a required subject', 'Yes as an elective subject' or 'No'.

Participant 1: 'Yes it was required'. So I understood that.

Interviewer: Yeah? Great. So number eight, this is if it's not part of a stand-alone but it's imbedded in one. 'If not part of stand-alone subject, is this content part of another course?' Did that question make sense to you? Or would you word it differently?

Participant 1: (Speaking to self-reading survey) If not part of a stand-alone subject…it was a required course. I think I've just ticked that because yes it is a required course. It's not a stand-alone.

Interviewer: Ok. Alrighty, so are those options appropriate to that question do you think?

Participant 1: Yeah

Interviewer: Yes? Ok. Number 9, 'what is the total contact time (in hours) relating to the complementary medicine in the degree?'

Participant 1: OK

Interviewer: What did that mean to you?

Participant 1: So, the course that I taught had thirteen weeks and each week was a two hour tut. That's not counting the study the student does. But actually the course was divided into three, like a third was from ecology, a third was mental health which you know could include CAM therapies and then a third was dedicated to CAM therapies. SO I've just counted two lessons there.

Interviewer: So if you could reword that question how would you reword it?

Participant 1: (Speaking to self-reading survey) I would just clarify what you mean by the content, the contact hours, you know? Is it face to face teaching or even maybe have a list. Face to face teaching or I presume you're going to be giving this to people who are going to be going out on clinical placements and that sort of thing.

Interviewer: Ok

Participant 1: Is this just for nursing and midwifery?

Interviewer: It's just, at his stage it's just for nursing and midwifery but it's for course content decision makers only. So academic nurses and academic midwives.

Participant 1: Ok, so I assume you mean contact time as in face to face?

Interviewer: Face to face-ok. Alrighty, and are those options appropriate? Just writing it in there or would you prefer a list of options and change that at all?

Participant 1: I now wondering if I should change that to the whole contact hours for the whole course?

Interviewer: Ok so that's still a confusing point.

Participant 1: I'm still not sure…

Interviewer: Ok. Alrighty. Number 10, 'If complementary medicine is taught in more than one year, what is the year of the degree that the majority of the complementary medicine is taught?'

Participant 1: Yeah so I understood that. If we'd taught it in different years I would have just put a cross in each year.

Interviewer: Ok.

Participant 1: But for this program it's just only taught in second year.

Interviewer: It's only taught in second year?

Participant 1: Yeah.

Interviewer: Ok. And so those options are appropriate options?

Participant 1: Yes. And that was clear.

Interviewer: So 'Complementary Medicine course content delivery'-that title was all good?

Participant 1: Yes.

Interviewer: Yep? So number 11, 'what are the principle course teaching objectives-number them in order of priority one being the most important and four being the least important'. So, was that clear to you?

Participant 1: Yeah.

Interviewer: Yes? Ok and what about these options are they appropriate or not?

Participant 1: They were for my course.

Interviewer: Yeah.

Participant 1: Yep.

Interviewer: If you could change them what would you change them to?

Participant 1: I'm just trying to think if there was anything additionally than other because those three are really relevant

Interviewer: okay.

Participant 1: The only other thing I included in my course which isn't there is lie the ethical principles around-because we're practitioners and so it's around how much do you advocate for certain therapies. You know the premise was that as a midwife we shouldn't be recommending anything that hasn't got scientific evidence. However, there's that moral dilemma of well you're not going to tell a woman that what she's using is hocus pocus because you want to support her in her choices. So ethics would have been the fourth one I would have put there.

Interviewer: Ok. Thank you. So number 12, 'which topics are covered in your complementary medicine course work? You may select more than one option'.

Participant 1: Yeah.

Interviewer: So what is that asking you to do there-can you tell me in your own words?

Participant 1: Yeah so I identified there topics that I actually covered or as well as what topics the students covered. So the students were asked to present a poster on a chosen CAM therapy. So I've included the CAM therapy's that the students chose as well.

Interviewer: Oh, ok...

Participant 1: So the students did hypnotherapy, reflexology, umm massage.

Interviewer: Ok so were the options appropriate to the question do you think?

Participant 1: Yes.

Interviewer: Would there be anything you would add or change?

Participant 1: You had homeopathy there didn't you?

Interviewer: Yeah it was right up the top.

Participant 1: Yep.

Interviewer: So do you think it needs extra identification for the mandated modalities covered and then the student-selected modalities covered so that can be identified?

Participant 1: Yeah, I thought about that and I thought well not it was covered because the students covered it and taught one another so I need to include that.

Interviewer: Ok.

Participant 1: So maybe what course content was delivered and what course content was covered by student's assessments. Something like that, yeah.

Interviewer: Ok. So number 13 was, 'does the primary instructor have a qualification in complementary medicine?' Was that clear?

Participant 1: Yes.

Interviewer: Would change that in any way?

Participant 1: I was going to say that only other I would say is ask which ones. SO I've done therapeutic massage and aromatherapy.

Interviewer: Ok so would you change the way that's laid out at all?

Participant 1: I think that it was just cos of the light I couldn't see it. Maybe the yes could be next to the yes box.

Interviewer: Sure.

Participant 1: That's maybe why I've missed it.

Interviewer: OK. Number 14, 'besides the primary instructor, are non-medical complementary medicine practitioners involved in course delivery?' What did that mean to you that question?

Participant 1: I think I was a bit confused when I read that but now that makes perfect sense.

Interviewer: Sometimes you just need a second go.

Participant 1: Some of the delivery, yes.

Interviewer: So if you could re-write that, how would you say it so it makes sense straight off the bat?

Participant 1: I think it was the non-medical that threw me. I would have just put, 'are CAM therapists…' yeah I think it was the non-medical and I though hang on a minute.

Interviewer: So someone without a conventional healthcare qualification.

Participant 1: Yeah I would have just put, 'are CAM therapists/CAM practitioners involved in the delivery of the course?'

Interviewer: Ok

Participant 1: Yeah

Interviewer: Would that be confusing at all with people who do have qualifications like nurses or midwives with an aromatherapy qualification?

Participant 1: Well the thing is, I understood that you were asking if I had any additional qualifications not my nursing or midwifery. I knew what you meant by that. But yeah the nonmedical I though what does she mean here.

Interviewer: Oh ok. Alrighty. So number 15, 'what instructional methods are used in the delivery of complementary medicine content?'

Participant 1: So that's clear. (Reading from survey) lecturer, seminar, demonstration.

Interviewer: Are the options appropriate?

Participant 1: Yes.

Interviewer: Yep. Would you change anything at all about that question?

Participant 1: I'm trying to think of something that wasn't on there. Maybe with the practitioner lecturer demonstration you could have student practicals

Interviewer: Ok. So there are complementary medicine practicals?

Participant 1: Yeah because I taught aromatherapy and I actually got the students to mix synergies. I actually got students to do hands on synergy mixings.

Interviewer: Ok, great.

Participant 1: So I ticked demonstration because I obviously demonstrated it but I think there's… there was an acupuncturist and do a demon-she, she demonstrated how to do acupuncture.

Interviewer: So would that be a guest speaker?

Participant 1: Yes. Yeah, yeah.

Interviewer: Ok. So that wasn't clear?

Participant 1: So she came in. She came in and did a guest presentation but when she left I thought, you know I felt the students didn't get much from her presentation. It was as she was like, I've got all this knowledge and I'm not sharing it with you.

Interviewer: (laughing) safeguarding.

Participant 1: She was going, 'we don't really know how it works, this is the philosophy, this is the needles and this is what you do.' But yeah I…

Interviewer: Not knowing how it works and knowing it works is two different things though.

Participant 1: Yeah it was, I just felt, I felt that-I mean I've obviously heard other acupuncturists speak and yeah I'll get somebody else next time.

Interviewer: Yeah of course.

Participant 1: Yeah cos I wasn't blown away. I thought oh that's a bit disappointing. The students enjoyed it but I think when you know more about it you thinking 'aww! It could have been better.'

Interviewer: Yeah sure. Ok so number 16.

Participant 1: So yeah students practicals.

Interviewer: Practicals and things like that.

Participant 1: We get them to do massage as well. I believe that…

Interviewer: Hands on practice…

Participant 1: hands on practice sort of cements what you're saying.

Interviewer: Yes, absolutely. So what are, number 16 'what are the academic requirements of the complementary medicine topic?' what did that mean to you? What was it asking you in that question? Can you tell me in your own words?

Participant 1: I interpreted that to mean what do the students do and I think it would have been worded better by saying what are the academic assessments' or something like that because requirements could mean 'what did they have to do' which is how I interpreted it. So they had to do readings but they also had to do a quiz, they had to do a project.

Interviewer: Ok are the options appropriate to the question then?

Participant 1: Yeah I mean I answered it fine. I interpreted it to mean both. Like what did the students have to do as part of their learning and what did they do for as part of their assessments. That's how I interpreted it.

Interviewer: So you didn't interest it as what baseline knowledge they needed to have before they tackled the CM content?

Participant 1: No.

Interviewer: Ok. Number 17 was 'what is the method used to evaluate student outcomes for complementary medicine topics?' Was that clear or unclear?

Participant 1: Yeah so you were asking if it was a pass/fail course or a summative grade and it's summative.

Interviewer: Would you reword that question in any way?

Participant 1: (Speaking to self-reading survey) See when you say what method was used to evaluate students' outcome I expected then to see a list of like how do we assess them. As in was a case study, was a poster, di they create a leaflet, did they do a presentation.

Interviewer: Oh, ok.

Participant 1: That's what I expected to see. And then I though oh no she doesn't mean that she asking if its pass/fail or graded.

Interviewer: Ok.

Participant 1: Yeah.

Interviewer: Ok. So if you could reword that question how would you reword it?

Participant 1: So what do you want to collect from that?

Interviewer: We want to, well we want to gather how you evaluate student outcomes. So in this case we've only gone for pass/fail or summative but you're saying maybe a little more details around the summative might be…

Participant 1: So yes it's a summative scale course. The feedback forms are actually from the students to us not the other way around. They get feedback in their assessments but if you were interested to know how do we assess their learning we do student poster presentations, which I've put down here, student poster presentation, they did a quiz and after the poster bit they had to write a reflective summary about what they learned from the course and how they would apply it to practice.

Interviewer: Ok.

Participant 1: So one of the students has been failed because she said she'd just go out there and do reflexology. Oh no you won't!

Interviewer: Dearie!

Participant 1: (laughing) from doing a poster.

Interviewer: Yeah from doing a poster. This is actually a four year degree you know. Ok so the last section is 'attitudes and perceptions towards complementary medicine'. Did that title make sense to you?

Participant 1: What do you believe…no, no I had to think about this part. (Speaking to self-reading survey) What do you believe is the motivation for inclusion. Yeah I thought you meant what is the motivation for inclusion of CAM therapies within the program at the institution. I think, I still think that's what you were asking. So I still think that's how I interpreted it. I still think that's what you were asking me.

Interviewer: But the title 'attitudes and perceptions' is ok?

Participant 1: Yes.

Interviewer: Ok so question 18.

Participant 1: That's what I was re[ferring to]-yeah.

Interviewer: So you took that to mean…

Participant 1: What was the motivation for including CAM therapies within the program.

Interviewer: Ok

Participant 1: by the institution.

Interviewer: As perceived by you. Yep.

Participant 1: And so I actually thought well, there's no motivation for the university to include the program and it's just purely comes down to the individuals who write the program content.

Interviewer: Ok.

Participant 1: At national level the Australian Nursing Midwifery Board of Australia, if I'm correct in thinking, does not specify that there needs to be a certain amount [of CAM].

Interviewer: No. They do refer to it in the guidelines to what competencies that they need in an elusive way.

Participant 1: Yeah it's very elusive isn't it? Within the scope of a midwife's practice it says that you need to be able to safely give advice on complementary therapies and that advice could be well don't use it couldn't it?

Interviewer: Yes.

Participant 1: It could be couldn't it? So some universities could have adopted that approach whereas I think because I-I'm interested, the person who's written the program has gone Oh well [respondent 1] can teach that bit. Like I'm away next year and I don't know who's going to teach this course again when I'm not here. They'll just have to get good speakers in.

Interviewer: Yes.

Participant 1: Compared to other universities I think who teaches their CAM when…I mean I only know aromatherapy and therapeutic massage and I've got guest speakers in to speak about other things. But as an academic we can critically analyse research papers so it does help if you've got an appreciation and understanding about the philosophy of CAM therapies.

Interviewer: So do you think the motivation of inclusion of CAM therapies is more down to professional sort of capital that's already added to the institution rather than the just the institution?

Participant 1: My answer in there, I put 'community interest' because that's the reason-that's how I argued for CAM therapies to be in the program because I said look women want to know about complementary therapies and if women are asking our students should be able to answer them safely.

Interviewer: Yeah. So are the options appropriate to the question? Or would you change them in any way?

Participant 1: You see student interest wouldn't determine the content of the program because the programs written before-hand. 'Faculty interest' well I suppose I was interested and nobody else is. Patient interest well…

Interviewer: Which is what you used to argue for having it included.

Participant 1: That's how I argued, yeah. Historical or institution… you see I think in here, there could be one that says, 'the nursing and midwifery agenda at a national level,' 'best practice standards,' that would be a good one to put.

Interviewer: Ok.

Participant 1: Practice standards or guidelines or something like that.

Interviewer: Ok.

Participant 1: I hope this is helping.

Interviewer: Yes it is. It is helping a lot thank you. So number 19.

Participant 1: Now I hope I did these the right way.

Interviewer: Yes, now what was confusing about this? Was there something in the layout you found unhelpful?

Participant 1: No, no, no. It was because I kept losing the cursor, once I was going down I couldn't see the cursor and I was going now what was that? Do I agree or disagree? I had to keep going back up so sorry it took so long.

Interviewer: That's ok. So do you think a repetition of the agrees, disagree-agrees further down would…

Participant 1: Oh if I could have seen the screen it would have been better but after every page break you need-these would have been good. Do you know when I moved down to the next page I was so confused.

Interviewer: referring to the first table, sure.

Participant 1: If it had been paper based I would have done it much quicker cos I was just circled. Which is what it says it says circle doesn't it?

Interviewer: Yes. So number 19, did that make sense to you: 'please read and respond to each of the following statements below by circling the number that most aligns with your belief.'

Participant 1: Yes. It did. It was very clear. It's just I kept losing the cursor.

Interviewer: So were the instructions ok about absolutely disagreeing being 1…

Participant 1: Yes.

Interviewer: Yep. Let's move down to the statements. Did a) make sense to you? 'Physical and mental health are maintained by an underlying vital force'?

Participant 1: yeah it made sense. It did make sense.

Interviewer: Ok great. Uh b) 'health and disease are a reflection of balance between positive life enhancing forces and negative destructive forces'?

Participant 1: Yeah I understood it.

Interviewer: You understood it? Was it jargon free?

Participant 1: Umm…

Interviewer: As much as possible?

Participant 1: As much as possible yeah but I just thing if someone is not well read about complementary therapies they'd be going what is that about.

Interviewer: Yeah, sure, sure, sure. Was c) 'the body is essentially self-healing and that task of healthcare providers is to assist in the healing process' a clear statement?

Participant 1: Yes.

Interviewer: Yes? Would you change that in any way?

Participant 1: No.

Interviewer: d) complementary therapies are a threat to public health' is that clear?

Participant 1: that was very clear, yeah.

Interviewer: Yep e) a patients symptoms should be generally regarded as a manifestation of a general imbalance and dysfunction affecting their whole body.'

Participant 1: Yeah its-I don't know how you'd reword it. But I had to think about it.

Interviewer: you had to think about? If you could well you said you didn't know how you'd reword it but you could change it how you would change it-is there a word you'd take out or change or substitute it for something else that might be clearer to midwives and nurses?

Participant 1: I would change, and this is just picky now, I would change should to CAM-CAM be regarded instead of should but that just sounds like I'm being picky now.

Interviewer: No that good that's what we want. Would you change anything else?

Participant 1: No that's fine.

Interviewer: No? So f) a patient's expectations and values should be integrated into the patient care process.

Participant 1: that's clear.

Interviewer: that was clear? [g)] treatments not tested in a scientifically recognised manner should be discouraged. Is that clear or unclear?

Participant 1: Yes.

Interviewer: would you change that in any way?

Participant 1: no that's fine.

Interviewer: did that lead you to any particular answer on the scale of agreeing or disagreeing with you?

Participant 1: the reason I'm sort of in the middle is because it would be determined by what the complementary therapy was. Cos I thought it would depend on the treatment.

Interviewer: Ok

Participant 1: I know some of the other dilemma I had was, as a midwife-nurses and midwives think differently and as a midwife we might not agree with what women chooses to do but it's not our place to tell her no to do it. Whereas the nurse in me would say you shouldn't be doing that because that's contraindicated with your treatment or there's no scientific proof. But as a midwife I would not say that.

Interviewer: Ok so do you think that question would be appropriate to nurses and midwives? Do you think they are both able to answer that?

Participant 1: yeah yeah you just have to think about it practically don't know it just depends on what you're trying to get out of that.

Interviewer: yes. Ok. So we're just trying to see what their strength of belief in current evidence based conventional approach to evidence base is in the manner that it should be dealt with in their practice.

Participant 1: And the funny thing is that I know [your supervisor] and so when I was reading these questions now what would [your supervisor] say.

Interviewer: (laughing) yes. So h) was effects of complementary therapies are usually the results of a placebo effect. Was that statement clear?

Participant 1: That's a good statement. Very clear.

Interviewer: Very clear? Do you think midwives and nurses would be able to answer that?

Participant 1: Yes. I think the general public could answer that as well.

Interviewer: Sure. Ok 'i) complementary therapies include ideas and methods from which conventional medicine could benefit'.

Participant 1: I understood it.

Interviewer: Yes. Would you change anything about it?

Participant 1: Maybe you could make the statement as in 'conventional medicine could benefit from the ideas and methods of complementary therapies' so make the statement so you either agree or disagree with the statement you've made.

Interviewer: Ok.

Participant 1: so make the statement really care and that would make the statement, 'conventional medicine could benefit from the ideas and methods of complementary therapies'.

Interviewer: so just kind of switch it around.

Participant 1: just makes it stronger and then someone can either go yes I agree or no I disagree.

Interviewer: ok j) most complementary therapies stimulate the body's natural therapeutic powers.'

Participant 1: That's clear. I would just [unclear 10:17 part 3]

Interviewer: were the options appropriate for those statements.

Participant 1: yeah. I would say the Likert scale avoid a middle cos people often go for the middle.

Interviewer: if they're not sure.

Participant 1: I'd tried not to go for the middle. Either you agree a bit or you disagree a bit. In research they say avoid the middle.

Interviewer: Yes well these are actually pre-validated sections on attitudes that we're using that have been validated in other countries but we could try to kind of change the wording to force the issue I guess from neutral to unsure so that they're really admitting that this is about a lack of knowledge not about not being passionate either way.

Participant 1: You could get somebody who just circles four all the way down and it sort of doesn't tell you anything.

Interviewer: So number 20 'please read and respond to each of the following statements by circling the number that most aligns with your belief' which is similar to 19. This is a separate validated tool. So a) was 'is it ethical to health professionals to recommend

therapies to patients that involve the use of subtle energy fields in and around the body for medical purposes such as Reiki, healing touch and Therapeutic touch.'

Participant 1: I said that I disagreed with that statement because I don't think health professionals should be recommending any treatment

Interviewer: Ok. So was that wording ok?

Participant 1: It was really understandable.

Interviewer: Was is it too long at all or it was ok.

Participant 1: No, no. That was fine.

Interviewer: That was ok. Um b) health professionals should avoid recommending botanical medicines based on observations of long term use and in other cultures and systems of healing because such evidence is not based on large randomized control trials.' Was that clear?

Participant 1: Yes.

Interviewer: Yes? Would you reword that in a different way?

Participant 1: No, no. That's fine as it is.

Interviewer: That's fine as it is. So c) health professionals should warn patients to avoid using botanical medicines or herbs and dietary supplements until they are undergone rigorous testing such is required for any pharmaceutical drug.' Is that statement clear to you?

Participant 1: Yes.

Interviewer: Yes. Wold you change anything or re-word that any way that might make it clearer to others?

Participant 1: No, no that's fine.

Interviewer: d) was massage therapy often makes patients feel better temporarily but does not lead to objective improvement or long term outcomes for patients.' was that statement clear to you.

Participant 1: It wasn't clear the first time I read it and I had to think about it.

Interviewer: Which bit of it did you find unclear do you think?

Participant 1: So I think just the first bit, 'massage therapy often makes patients feel better temporarily is sort of one statement and its do we agree or do we not agree and I read this second bit separately but just not the project. Yeah I feel like its two questions.

Interviewer: Two questions in one?

Participant 1: Yeah.

Interviewer: Ok. Alrighty e) healing is not possible when a disease is incurable. Was that clear to you?

Participant 1: That made me think as well.

Interviewer: Made you do a double take?

Participant 1: Yeah.

Interviewer: Was there a word in there that sort of threw you specifically? Or an idea that the word was referring to that was a bit…

Participant 1: Would it be better if you said 'when a disease is incurable…' it's all those double negatives isn't it. Yeah I just found that a bit…I was unsure what you were asking

Interviewer: What do you think it's asking the way it worded?

Participant 1: The healing I interpreted was I thought well mentally you could make somebody feel better that's how I interpreted it. Mentally you could make somebody feel better even though you could not cure them. But yeah that's what happens when your questions a bit obscure people start to make sense of it in their own head don't they.

Interviewer: Yes. So you took healing to not be bodily healing but like mentally or psychologically feeling good about ones help

Participant 1: Yes.

Interviewer: Ok. F) Therapeutic touch has been completely discredited as a healing modality. Was that clear?

Participant 1: I disagree.

Interviewer: would you change anything about that?

Participant 1: Not that was just clear.

Interviewer: did that lead you to a certain answer agreeing or disagree-did it make you feel something inside that influenced your position?

Participant 1: Yes.

Interviewer: Yes it did?

Participant 1: I was certain about it, yeah.

Interviewer: you were certain? Ok. So g) 'it is irresponsible for physicians to recommend acupuncture to patients with conditions like chemo therapy related nausea, vomiting or headache.'

Participant 1: I actually couldn't say for I went for number four because I, I just couldn't decide.

Interviewer: Ok.

Participant 1: I think it was because of the chemo therapy related, I thought I don't know.

Interviewer: Ok. Do you feel that other nurses and midwives would be able to indicate about that statement?

Participant 1: Yes. I don't practice nursing and so I'm like oh well I don't know. Cos if you've got someone who's receiving chemo therapy and really nauseous and you know the acupuncture would work then maybe as a physician they might recommend that.

Interviewer: Ok.

Participant 1: But we don't normally recommend acupuncture.

Interviewer: So do you think that's more of nursing specific statement rather than midwifery?

Participant 1: Yeah.

Interviewer: Ok. Do you think midwives have experience with nauseousness with their patients?

Participant 1: We do but it's in pregnancy.

Interviewer: Yeah.

Participant 1: So we wouldn't recommend anything.

Interviewer: Oh, ok. So h) 'the health professional role is primarily to promote the health and healing of the physical body.' Is that statement clear to you?

Participant 1: Yes

Interviewer: Would you reword that in any other way?

Participant 1: No. I understood that

Interviewer: i) 'information obtained by research methods other than randomised control trials has little value to health professional.' Is that statement clear?

Participant 1: Yeah. I disagree

Interviewer: You disagree? Sure. Was the way that the statement was worded did that lead you to a certain answer do you feel? Was it leading you on to an answer?

Participant 1: I see what you mean. I'm supposed to be meeting a student.

Interviewer: Ok. I would like to ask you if you foresee any barriers with getting other midwifery or nursing course content decision makers to complete this is they were sent an online link.

Participant 1: An online? No, no that fine. It's part of our job to sort of be involved in research and give feedback.

Interviewer: Ids there a best time of year for recruitment do you think for nurses and midwives who are academics?

Participant 1: Yeah look at the program, look at the university, the university timetables. SO for this university its exam time now. This is a really busy time-people are marking. But maybe the summer break would be a good time you know between November and February would be a good time cos they're all on summer breaks.

Interviewer: Ok. Yep. Did you have any other feedback about the survey in general you wanted to add?

Participant 1: No just some of those questions with the double…

Interviewer: meanings?

Participant 1: meanings they made you think which is fine to make us think but it depends…

Interviewer: what data you're trying to get out of it yeah.

Participant 1: what you want out of each questions yeah.

Interviewer: Well thank you for your time.

Participant 1: Good luck.

Participant 2

Interviewer: Right.

Participant 2: So what will you do with that now? Will you put my name on it?

Interviewer: No.

Participant 2: Or will you just put my participant number on it?

Interviewer: Just participant number.

Participant 2: That's fine. I don't mind having my name on it, it is just I'm worrying about how you're going to be able to relate to all this work

Interviewer: Yes, okay. So this interview is a cognitive interview, so it's not necessarily about gathering data on in this particular issue of CAM content in nursing midwifery courses, but it's about looking at the tool we've developed and seeing if it's appropriate for that purpose.

Participant 2: Just tell me that make sure that I have got the right definition of CAM — CAM?

Interviewer: Yes, there's a definition in the front of the survey which talks about a broad term used to describe a wide range of health care medicines, therapies, forms of treatment that do not involve medicines, and other products.

Participant 2: That's fine.

Interviewer: It is the recent NHMRC one.

Participant 2: That's good. Just making sure that I'm thinking the same thing as you, so good.

Interviewer: Cool. So I'm going to give you a survey to complete, and then I will give you a different one to complete as like a pretend scenario, So that I can get your feedback on both different types of questions since you're very experienced in this area. That you've had experience in this area. I just have two questions for you first. What are your nursing and/or midwifery qualifications in total?

Participant 2: I have a certificate in nursing. I did the old fashioned and became a state registered nurse. I did a Certificate in Midwifery, and then I did an Advanced Diploma in

Midwifery, and then I did a Master of Health Care Law and Ethics, and then I did a PhD in Midwifery. I also have a postgraduate certificate in Adult Education.

Interviewer: Okay, wonderful. The second question I have for you is the program you are responsible for and the courses in that program. Is there any CAM Content present or not?

Participant 2: If you mean, is there any actual explicit teaching of, no. Although, there would be referral to the values of perhaps.

Interviewer: Is there any reference to CAM throughout any of the teaching for the Postgraduate courses that you are responsible for?

Participant 2: Within our pharmacology screening of prescribing course, yes there is. Within the … and that's a Postgraduate course, and it's an ANMAC endorsed course.

Interviewer: Are you responsible for that one?

Participant 2: I'm not course-convened but I'm Program Director.

Interviewer: Okay, so I might give you this one to complete first if you wouldn't mind, and I will be here to answer any of your questions, and then after you finish completing it, we'll have a chat about the items and response options that are in this questionnaire.

Participant 2: And some of the course … because I'm responsible for brand new programs herein course development phase, so whilst they may not be … conceptually the courses aren't written yet. So we're doing one on advanced lactation, for example, and certainly, homeopathic remedies will be mentioned within that in relation to advanced lactation. So it will be, but it isn't yet.

Interviewer: That's fine. We'll just complete this one in relation to what's already done, but that sounds amazing.

[pause 03:46 – 03:55]

Participant 2: What I'm talking about would involve medicines, because I'm talking about [indiscernible 04:00]. Is it traditional medicines?

Interviewer: No, it's anything that's outside the domain of conventional medicine as it currently stands.

Participant 2: Okay, but it says here forms of treatment that do not involve medicines.

Interviewer: Yes, as in conventional, pharmaceutical, chemical …

Participant 2: It means that, and support pharmaceutical conventional because that's confusing me already, because I'm thinking, if we are giving somebody a homeopathic remedy, then that would be considered to be a medicine within that.

Interviewer: Yes, safety-wise, you definitely certainly would.

Participant 2: I would therefore … and seeing, is it saying that it's given us all the safe to use and safe not to use, then that even in the description is making me think, "Oh well, we don't include any homeopathy in this, but we actually do." Is that what you're saying?

Interviewer: No! This is anything that's –

Participant 2: Would this just be –

Interviewer: Outside what is conventional medicine, accepted as conventional medicine.

Participant 2: Oh, I know that, but it's the terminology -- forms of treatment -- that do not involve medicines.

Interviewer: Yes.

Participant 2: It is what people refer to as medicines.

Interviewer: Yes, so anything that would be … can come from a CAM modality would be referred to as a treatment, or a therapy, or a therapeutic approach.

Participant 2: Maybe you need to just need to clarify that a little bit, because that's —

Interviewer: Sure we can change the NHMRC one, yep definition.

Participant 2: For the purposes of what you want from me, I'm just saying it's thrown me off a bit.

Interviewer: Yeah, no worries.

Participant 2: Okay, and you've put here that homeopathies included, and it is just what people talk about, isn't it. They'll call them medicines even though colloquially that's what we will call them.

Interviewer: Absolutely.

Participant 2: I don't know what Ayurveda is. Oh, I know that's Tai Chi, but I don't know chi gong. So now you want me to do it?

Interviewer: Yes.

Participant 2: I feel like I'm a student in an exam.

Interviewer: No, it's all the things you know.

[pause 06:11 – 07:14]

Participant 2: Should I tick yes for this, even though it's not in there yet? But it will probably go in there.

Interviewer: No. Only whatever else is … whatever has been taught up to this date. Not the future.

Participant 2: None of these programs have been taught yet. It's a brand new program.

Interviewer: Okay.

Participant 2: So it is a no.

Interviewer: Okay.

Participant 2: Yeah?

Interviewer: Mm-hmm. They're just two different answers, so if it's a no, the instruction is to go to question 19, which will be …. There you go.

[pause 07:48 – 09:35]

Participant 2: I can't answer that because I don't know what's meant by "Botanical medicines."

Interviewer: Okay, just skip it.

Participant 2: Oh, you've written it here, I'm sorry. I will go back to it.

[pause 09:46 – 12:02]

Participant 2: I want to say something, or should I just try to answer it. I don't understand this question.

Interviewer: Okay.

Participant 2: Health professions; should it be knowledge will improve? It doesn't make sense.

Interviewer: Okay, sure. Thanks for the feedback.

Participant 2: I'm not meaning to be critical. I just don't understand.

Interviewer: No, no please do. We definitely want that. We definitely want to hear that. After you finish, we'll go through it.

Participant 2: I don't … yeah, that what … I mean, I don't know what I'm answering.

Interviewer: Sure.

[pause 12:34 – 15:00]

Interviewer: Beautiful. Thank you. Okay. We'll go through each of those items just for the beginning demographic ones that you answered, and then the last sections of the statements are actually pre-validated tools from other countries. Then we can go back and touch over any that you had any comments on. Is that okay?

Participant 2: Absolutely.

Interviewer: Firstly, I just wanted to ask you, what do you think the reasons are that there has been little or no support for CAM Content inclusion in the program, the Postgraduate Program that you are responsible for?

Participant 2: I think that where appropriate, it is included and I think it's …

Interviewer: So it is included in the degree?

Participant 2: Well, I'm talking about a degree that we're writing, so you told me to answer it in response to.

Interviewer: To the past.

Participant 2: We haven't actually taught it yet.

Interviewer: Okay, all right.

Participant 2: As I have already said to you, when we're looking at management of lactation issues, then we will be looking at all treatment modalities. That's a possible, and within the B-Med, when I was program Director in the B-Med, we do include, we bring chiropractors in, we talk about the value of acupressure, acupuncture. We don't teach people to do it. Within our approach to inter-professional learning, we make people aware. We would make midwifery students aware of the possibility of other complementary treatments, medicine, approaches that … but we have to because women are going to other therapists so we have to —

Interviewer: Can I just rephrase my question? What factors do you think, leading up to this point, had contributed to less CAM inclusion in the past than what will be in the future?

Participant 2: I think that we have to respond to what's happening out there in health care land, and more women are using, and asking questions about the safe use of complementary therapies. We need to be able to advise women appropriately. We don't need to be experts in which herbs to use et cetera, et cetera, but we need to be able advice

the woman to make sure she's using an appropriate practitioner. We do need to know which Aromatherapy are unsafe in order to make sure they tell the therapists that they're pregnant.

Interviewer: Sure, so what in the past do you think led to that that sort of thing not being included in a concrete way?

Participant 2: Well, it's difficult for me to say that, because even when I was in England and running a course in … and running a… and responsible for the education in the hospital, I actually introduced midwifery aromatherapists, and midwifery aromatherapists did in service teaching on which oils were safe, and which oils weren't safe. I haven't got a past where it's not been acknowledged, if you see what I mean.

Interviewer: It hasn't been ignored previously at this institution until –?

Participant 2: We've had a batch of midwifery at this institution since 2010, and since the program started, we have acknowledged and worked within a framework that acknowledges that women use complementary medicines, and therapies. We, therefore, need to teach students that, and to teach students how to liaise with those therapists, be aware of those therapist to a degree.

Interviewer: And that's how they've been learning previous to this date in the past?

Participant 2: There is no past, that's what I'm saying Helene [sp]. Since 2005, it's always been included.

Interviewer: Oh, so it is included at this institution right now since 2005 to 2014?

Participant 2: No, no. I was previously … I'm currently talking about the Postgraduate Programs that we're developing.

Interviewer: Right.

Participant 2: It will go into that, exactly what I'm talking about. We won't teach them which oils to use, et cetera. We'll teach them an awareness of. "Be aware of these other therapists and treatments that are available."

Interviewer: Okay, it is a plan to go into the …

Participant 2: Go to the right practitioner. Prior to being the Postgrad Director, I've been here since the very first day we started a Bachelor of Midwifery. Since we began teaching a

Bachelor of Midwifery at Griffith University, we have acknowledged the inclusion of complementary therapists in that sense, within our program.

Interviewer: So can I just clarify, it's been previously been included in the undergraduate degree from 2005 onwards?

Participant 2: No, no, no. The degree started in 2010, and from the day it started, there has been an acceptance and awareness of the use of complementary.

Interviewer: Okay. And the post Graduate one that you're responsible for will …

Participant 2: Starts next year and it will go in.

Interviewer: Okay, wonderful.

articipant 2: Do you get? There's never been a time that we haven't known it's there, acknowledged it's there, acknowledged that we may use these therapists, and midwives therefore need to know about it. We would bring in guest lectures, for example, to talk to the students within the courses.

Interviewer: If you had to site, maybe, a factor that was responsible for, or a contributing factor that helped with the inclusion …

Participant 2: Why we do that?

Interviewer: Yes, [crosstalk 21:15]

Participant 2: Is because most of us have come from a practice background, because we work collaboratively with CAM practitioners, because we've got an awareness, we work with women, we know women are using those practitioners, we have a good relationship, and it's a professional respect with CAM practitioners.

Interviewer: Great.

Participant 2: And we know that by us not teaching it, it doesn't mean women aren't going to access them. Therefore, acknowledge it, and make sure women are appropriately informed as to how to check that what they are doing is safe, but we're not the chiropractors saying, "Do this." We're saying, "Make sure that the person you go to is recommended, that they're know you're pregnant." So the advice you give to anyone.

Interviewer: Right, okay wonderful. Now, we'll just go through the sections of the survey, and I'll ask you some questions. We'll do the titles, and the instructions, and the questions, and the options. This title of the survey, did that seem clear to you?

Participant 2: The inclusion of complementary medicine. Could we put, "… and therapies?"

Interviewer: How would you reword it if you could reword it?

Participant 2: The inclusion of complementary medicine and therapies.

Interviewer: Okay, and how were the instructions and definitions? Were they clear to you at all? Yeah. Would you change them in any way?

Participant 2: I think if complementary medicine and therapies, it wouldn't then line up to that, so I don't know. I just think people … I suppose I've got a wider understanding than maybe a lot of people would have, because of personal use, people I know et cetera, et cetera, and whether if you gave this to somebody who didn't have like a personal knowledge, would they need a bit more guidance? But I think the fact that you have got all of these, helps.

Interviewer: Okay.

Participant 2: So it is probably me being pedantic.

Interviewer: That's okay. That's why we ask your input. What about the definition, and the list of modalities? Did those make sense? Were they clear?

Participant 2: They do, which is why, to me, some those I see as a therapy. So whether or not, we just need to put the word therapy in to clarify it for people somewhere in the preamble.

Interviewer: Okay.

Participant 2: Some of them I've never heard in talks.

Interviewer: The title of this section General Course Characteristics, was that clear?

Participant 2: Program?

Interviewer: You would change … how would you reword it if you could reword it?

Participant 2: I'd put program.

Interviewer: Okay.

Participant 2: Unless you want to talk about an individual course. If you're interested in the program of study, then for those … and it is clear here on the front page where you're saying, to have mapped the degree being the whole concept of study. If this is … and it could be about course. If you're going to a course, convening for the course that you're involved in. If it was the anatomy and the physiology course for example. I think it's about, "Am I interested in the degree program, and is this within the courses, within the degree program, there somewhere, or is it about just the out course here and there?"

Interviewer: And the instructions for question one, did they make sense?

Participant 2: Again it's just is it the course, or is it the program, but yes it does.

Interviewer: What about the options -- undergraduate and postgraduate, were those suitable for the question?

Participant 2: I think if you were coming to somebody, a university, yeah.

Interviewer: For the purposes of the survey, please only refer to the course identified in question in one. Was that clear?

Participant 2: Like I said we haven't started yet, and because I haven't started yet, that's why it was an estimate, because we have not run it yet. we don't know many we're going to have enrolled.

Interviewer: Okay.

Participant 2: And the other thing is, what is I would put average?

Interviewer: Sorry, for question two how would you reword question two?

Participant 2: What is the average number? You have put what is the number of students enrolled in the degree each year, but you've not said which year. It might 109 last year, 200 the year before. I think average number would be helpful with that one.

Interviewer: Were the options for question two suitable?

Participant 2: No. You need one and a half years.

Interviewer: Okay.

Participant 2: If it is postgraduate program.

Interviewer: Yeah, right, sure. Okay, and question three? Was that–?

Participant 2: That's what I've just said. You mean question four?

Interviewer: No, we were talking about the number of students, and then the options for the number of students.

Participant 2: Then I said it needs to be one a half years.

Interviewer: For question three, you think the options aren't suitable, and we would change those?

Participant 2: You'd need to add a 1.5 years for postgrad programs.

Interviewer: Okay.

Participant 2: Because you've got less than a year to do the six months grad certs, and the rest would be okay.

Interviewer: Okay and question four, was that clear to you?

Participant 2: It is, but you may want to determine whether they are free electives because … a free elective in a program is you can do absolutely any elective in the university anywhere. If somebody wants to go and do Chinese medicine, they could, and in the B-Med, for instance, we have 30 credit points of free electives. So they can do anything, but in the postgrad program, we have got fixed choice electives, so you can only do one of these six. Because one of these six is all aligned to the content of your program.

That's the same in every program, so you may want to split that to free choice electives, listed electives.

Interviewer: Question five, did that make sense?

Participant 2: Does the degree include CM content? It's very broad but if you want it to be that broad, yes.

Interviewer: Yes, okay. Were the options suitable?

Participant 2: Yeah.

Interviewer: And question six?

Participant 2: Even though I have not done them?

Interviewer: Yes.

Participant 2: In which year is the degree program is CM Content? Yep.

Interviewer: Okay, and number seven is that a clear question to you as a midwifery educator?

Participant 2: It is, but I think, again, because you've not defined CM content up here, we wouldn't do a required subject on CM Content, and we wouldn't do as an elective subject. What we do is we theme awareness of it into the program.

Interviewer: Right, interesting. How would you reword maybe the options if you could?

Participant 2: Is the content part …? I would put it back up to here. "Do you want a specific course? Do you integrate it as a theme within the program? Is it an awareness of something?" If you want to know, do people do, can they do an elective on –?

Interviewer: CAM?

Participant 2: On that? That's very different to what we do, which is from a broad inter-professional learning perspective. Don't ignore the topic, but theme it into whatever else, where appropriate. So if we were talking about pain relief in labour, we would talk about some of them using acupressure.

Interviewer: Sure, so you would say general reference throughout the degree?

Participant 2: Yeah, possible. I'm thinking of nausea. We would talk about using ginger, we'd talk about using buns.

Interviewer: Okay, sure. And question eight, is that a clear question? Or did we just do that one?

Participant 2: If not part of a standalone, is this content … I think it's … again, it's as though it's a required assess subject rather than the much broader …

Interviewer: Just general presence.

Participant 2: General presence of.

Interviewer: So that would be no then, because it is not an elective, and it is not a required subject?

Participant 2: But it's giving you then the wrong impression that there is no –

Interviewer: Presences whatsoever.

Participant 2: Presence within the degree.

Interviewer: Yeah, right.

Participant 2: Whereas I would say it is highly present, but just from the way I'm talking to you, hopefully you can see it is highly present within our program.

Interviewer: Okay, and question nine, is that clear?

Participant 2: I think people, it's clear but again, it depends on what's the design of the degree program. Our degree program, for instance, is in blended mode. That's the undergraduate which means that the students attend very few lectures and tutorials. They do lots of online learning, and they do lots of clinical learning. While they are out on clinical practice, every woman they see might have an aromatherapist in labour with her and they might not see any.

So it's really difficult to put hours in because it's not this number of hours of tutorial, this number of hours of lecture.

Interviewer: Okay.

Participant 2: But it doesn't mean to say –

Interviewer: It's not there.

Participant 2: That it's not there

Interviewer: Yeah, right, and question 10? Is that clear, does that make sense?

Participant 2: Again, it's back to the defining content. Because I would say that awareness of complementary medicine and therapists is in every year of the B-Med Program, but it isn't a taught subject.

Interviewer: Yeah, another standalone subject.

Participant 2: Yeah.

Interviewer: Okay, wonderful. We will go to the other questions so that you can answer it. Now, the questions 19 to 23, or 19 to 21, were part of previously validated tools. I just wanted to ask was there anything in general, first of all, that you had to say about those statements.

Participant 2: No.

Interviewer: No. Were there any specific statements that you had any comments on?

Participant 2: No, not really. Not on that one.

Interviewer: Sure.

Participant 2: Oh this one, I just didn't understand the question.

Interviewer: Okay, so what about 20K didn't make sense do you think? Which bit was confusing?

Participant 2: I just don't understand it. It is not desirable for health professionals to take therapeutic advantages of the placebo effect. I don't know what it is asking me.

Interviewer: So therapeutic advantage is unclear?

Participant 2: The whole thing put together. I know what a therapeutic advantage is, I know what placebo effect is, and is it asking, is it saying that if I know the effect might be placebo effect, I shouldn't still get the person to use it? Is that what it is asking me? Because if that's what it's asking me, then I think anything that gives this patient a therapeutic effect is desirable, and whether it turns out to be placebo, it doesn't matter, because to me, it's the end result that matters. But I didn't want to answer it because I wasn't sure what I was being asked.

Interviewer: Were there any other statements that you had any comment on?

Participant 2: There was just this one. Health Professionals knowledgeable of multiple medical systems in addition to generate–

Interviewer: And complementary medicine will turn part and practice it?

Participant 2: Generating improved –

Interviewer: Patients satisfaction.

Participant 2: It should be, it generates knowledge of not knowledgeable of. Just that word is a typo, but it doesn't make sense.

Interviewer: What did you take it to mean?

Participant 2: I didn't get beyond health profession ... if it had said, health professions knowledge of –

Interviewer: Health Professions that are knowledgeable of multiple medical areas …

Participant 2: It doesn't say that. It doesn't say health professions that are knowledgeable of. "Health Professions knowledgeable of," it's just the way it is written. It's [indiscernible 35:11].

Interviewer: Sure, so just awkwardly worded?

Participant 2: Then it just stops your concentration because you're trying to reword it to make it clearer, so you know what it's actually asking.

Interviewer: Okay.

Participant 2: Now you saying that, I can see, but it just –

Interviewer: It's just awkwardly worded.

Participant 2: Yeah, but if you're asking me, I think if I know more about complementary medicines, then I can be more knowledgeable when I'm explaining it, or answering questions to the patient and the patient will therefore, I do believe, be more satisfied because they've had their questions answered. If that's what is was meant to ask, then I would have had something over here, but I spent just too long trying to work out what it was actually asking me.

Interviewer: Great, thank you.

Participant 2: Some of it was just very personal, not professional opinion, I suppose, as well.

Interviewer: Yes. Were there any other statements?

Participant 2: Especially in this section.

Interviewer: Yeah.

Participant 2: No. No, and I don't know if we've got any specific [indiscernible 36:32].

Interviewer: Oh, okay.

Participant 2: No idea.

Interviewer: Okay.

Participant 2: Sure, we probably have. I'm sure we've got Chinese medicine, but we have what we should have, I suppose.

Interviewer: Okay, great. So, all of the ways that we have here for delivering … like instructional methods, none of those would apply to your circumstantive CAM presence or awareness. So standard faculty lecture, the question 15, seminar, practitioners, lecture –

Participant 2: We do that. Like I said we bring people in. We teach massage, we have normal birth workshops where we do lots of teaching of hands on massage techniques.

Interviewer: Is that like a thing that happens regularly in that course year after year?

Participant 2: Every year.

Interviewer: How many … is that the undergraduate course?

Participant 2: Yeah.

Interviewer: Yeah, oh okay.

Participant 2: And the postgraduate course. In the postgraduate course, we do a whole day on out smarting normal birth.

Interviewer: Okay, so that would be about eight hours?

Participant 2: Yeah.

Interviewer: Sure, okay.

Participant 2: That's just the face to face option. There'll also be lots of resources online around that too.

Interviewer: Okay. So student oral presentation, video presentation, case presented methods, problem based methods are those things that you do in your degree as an instructional method?

Participant 2: Again, it would depend on what we are referring to as CM Content.

Interviewer: Yes, are they appropriate options though for university –?

Participant 2: But I would say that it would go into standard lecture. It doesn't take into account very clearly online and blended learning. So it would need to say what are these materials, YouTube links, recorded lectures, recorded interviews, in order to meet the blended and online learning.

Interviewer: Sure, okay. For the question 18 –

Participant 2: Can I change this?

Interviewer: Yes, we have had a few people say those. So for question 18, what do you believe the motivation for inclusion of the CM is? Now, do you think these options are appropriate in your circumstance and possibly other circumstances that you know of?

Participant 2: So this is, why do we put it in?

Interviewer: Mm-hmm.

Participant 2: It would be predominantly to be reflective of contemporary practice.

Interviewer: So do any of those options reflect that?

Participant 2: What I have just said?

Interviewer: Yes.

Participant 2: No.

Interviewer: Okay.

Participant 2: A reflection of contemporary practice would be why we put it in.

Interviewer: Okay, so it's not driven by patient use?

Participant 2: That is driven by patient use, isn't it? A reflection of contemporary practice is more than patient interest.

Interviewer: Sure.

Participant 2: It's what is out there. It's what's happening out there, is why we put it in.

Interviewer: Sure okay.

Participant 2: I think that's dangerous, you wouldn't put that in a program. It is not pedagogically sound to just start putting things in, but if it's reflecting what's happening in healthcare land, that's a pedagogical driver, and a student may choose to do it within a broad assessment topic. But again, you wouldn't put it in just because a student is just interested in it. You wouldn't put it in just because Griffin happens to like it. There has to be a stronger driver, and I think that the driver is we recognise it's part of contemporary practice. It's what women, clients, patients are all accessing.

Interviewer: If you could reword an addition option for question 18, what would you word it as?

Participant 2: As I've just said, a reflection of contemporary practice.

Interviewer: Okay, beautiful. Thank you very much.

Participant 2: That's it?

Interviewer: That is all of them.

Participant 2: Oh, good.

Interviewer: All the once that you answered that applied to you in your situation, and I have a few further questions just about people in your situational position completing this. What do you think this as a data collection tool, what do you think the best time of year for recruitment would be?

Participant 2: Who would you be wanting to recruit? Would you be wanting to recruit just program leaders any lectures — ?

Interviewer: Course content decision makers.

Participant 2: I don't think there is any good or bad time.

Interviewer: No good or bad time for those people?

Participant 2: No, it is always bad.

Interviewer: Okay.

Participant 2: I don't mean that in a bad way, but there is no time better. Probably the worst time would be beginning and end of semesters, so mid-semester.

Interviewer: Okay, and do you see any barriers to course content decision makers completing this questionnaire?

Participant 2: I think just what we've talked about: the fact that people wouldn't see where what they do fits within some the wording of simple questions, which are tightly around traditional, curriculum, design and delivery.

Interviewer: Any other barriers in their work place?

Participant 2: And picking traditionally when filling a questionnaire because they haven't got time.

Interviewer: Can you think of a way that it might incentivise them to fill in the questionnaire?

Participant 2: A donation to charity. We've just done that, trying to get an increase in questionnaire. Make it online, make it not more than 10 minutes, and all the usual design features around reassuring people that you're nearly there thanking them at the end of each page. Make it quick and slick.

Interviewer: What do you think the best channels of contacting academic nurses or midwives would be?

Participant 2: Through the heads of school.

Interviewer: Through the heads of school of various educational institutions.

Participant 2: Yeah, through the heads of school, and ask them to pass it on.

Interviewer: Do you think that would have a high success rate?

Participant 2: No. I hate to say this, but I think you will struggle to get people to fill it in, because people just consider themselves to be … not have time. I also think …

Interviewer: Do you think they perceive it as an important area of women's health, understanding this?

Participant 2: I think so, but I'm biased. I'm biased to answer having just had my knee needled, and so I filled it in because Amy and I know each other, we work together, and highly tuned into what you do, but I don't know if I'm an exception. Would other people be as willing, as proactive, and the other thing is as Amy may have told you, the Midwifery at Griffith team are quite a unique bunch of people. We're all practitioners.

We all probably have worked with these modalities. We would have no hesitation in recommending them. Working collaboratively with CAM practitioners whereas …

Interviewer: What do you think is the best way to maximise your best chance in getting engagement from academic midwives is?

Participant 2: Are you as interested in academic midwives as academic nurses?

Interviewer: Yes.

Participant 2: Because I think academic nurses who are in the areas where they're more likely to be engaging. The other people I'd consider going to would be social work students, because … and I'm just thinking off the top of my head now. My daughter's a social worker in palliative care, and would be supportive to have got in her counselling of people guiding them. Especially around healing and hope therapy and –

Interviewer: Sure.

Participant 2: That's just a thought, but how would you get midwifery and nursing students to fill this in?

Interviewer: Academics.

Participant 2: Yeah, sorry academics.

Interviewer: It's okay.

Participant 2: Bribery?

Interviewer: And you think a donation to charity would be an —

Participant 2: I can consider is running further than … what numbers are you needing?

Interviewer: We just need to know in general.

Participant 2: Because I would think maybe running focus groups might yield on that.

Interviewer: And do you think that people will be opened to talking about the CAM Content, and their courses in front of other course content decision makers?

Participant 2: I don't know for sure. I don't know.

Interviewer: By someone's incentivisation?

Participant 2: I really don't know, and then it's about, do you want to go down course council level, because I made the decisions in what I teach in my course as part of the program. I think if you were to go to course level, i.e. midwifery lecture level rather than program director level, you would get a different response, right, because it would be biased, because it would be people like me that are filling in.

Interviewer: I'm sorry, how would that bias the results?

Participant 2: Because the people would be … if you went to course levels, and that we've got 10 people in the B-Med here, and he would probably all fill it in, because it's a program alignment. But I know that there are people in who work in other universities in other programs who are highly supportive of this, but probably the program decision maker isn't.

Interviewer: Okay.

Participant 2: If you could get them in the other programs because I think we're quite different as a group, then you'd be likely because that person might be putting content in …

Interviewer: In, yeah right.

Participant 2: … In the same way that we feed in to B-Med. So she has the person running the course, and doing the lectures maybe including, maybe bringing guest lectures in, but the program director might not necessarily be bothered, and have underlined interest to want to. They want to talk about it from a program point of view. The same with our nursing academics. I'm sure if the nursing academics to were teaching AMP would flick it.

Whereas the ones teaching chronic illness, would be highly likely to fill it in, because I'm sure that they'd be doing it exactly the same thing that we are doing in B-Med, and being aware that people with chronic rheumatoid arthritis are probably going for therapeutic massage, are probably going to a chiropractor, so they'd be more likely to be theming that in as content.

Interviewer: Interesting.

Participant 2: It's bigger than it might seem.

Interviewer: Yes, it is quite complex.

Participant 2: I have done something similar for nutrition. So do you … so [indiscernible 49:07] a similar study on the inclusion of nutrition. So do you do a standalone unit here? Well, every single thing we do with pregnant women we have to include nutrition. So when you talk about complex care, and you're talking about women becoming diabetic, you got to include nutrition. When you're talking about breast feeding, you've got to do nutrition, when you're are looking at the sick [indiscernible49:33] you've got to include nutrition.

Interviewer: Yeah.

Participant 2: So it's very difficult. To me it's a themed topic as part of a reflection of contemporary practice.

Interviewer: Yeah.

Participant 2: Now, how many people are you going to get to say that they consider this to be a contemporary practice?

Interviewer: The good ones maybe. I bet it's [indecipherable 49:57].

Participant 2: Even now I reckon–

Participant 3

Interviewer: So how did you find the survey?

Participant 3: Good. There's few things I think I can give some feedback on.

Interviewer: You would reword?

Participant 3: Yeah, yeah. So do you want me to go through them, or?

Interviewer: Yes, we'll go through these as much as we can.

Participant 3: I think … are you going to send these to people who do nursing and midwifery courses?

Interviewer: Yes.

Participant 3: I mean, nursing and midwifery you don't know.

Interviewer: Well, this particular design, at the moment, is aimed for nursing and midwifery course content decision makers. However, there may be a potential in the future to expand this out to other conventional healthcare modality.

Participant 3: I actually think you should ask what is the name of their course. So is it a bachelor of nursing, is it a postgrad midwifery, is it …? If you know the actual … what sort of course it is. Just remember, it's very different undergrad, postgrad. The difference … if you get it out, I think that will be valuable information to help me understand the

feedback that you're getting. And the other thing is a lot of people will know a lot about the courses, and be very involved with them, but not necessarily be coordinating the courses.

So you can get people that are very much involved in curriculum development, and quite influential. The course coordinators, for example. And that it might be valuable for you to have their opinions. I'm not sure … are you responsible, so that you agree that you are responsible for a nurse three years, that's easy for me to say that, because I happened to coordinate they course. But before, I was a course coordinator. I had pretty similar responsibilities as far as the teaching and the curriculum went.

So I'm not sure … when I read that I can just see … some of my colleagues could potentially give you good information, they might be wondering, "Oh."

Interviewer: How would you reword it if you could?

Participant 3: That you were involved with teaching for the last three years. Responsibilities, it's just a little bit unclear to me if you mean actually. the obvious thing, the whole thing, so maybe just involved. Yeah, I mean, I'm not quite sure. If you want to get the opinions of as many people as you can , yes. The lecturer on the ground will give you good information, so if you just, yeah maybe. And if you had any view, you ask them to actually name the course so bachelor of nursing, or bachelor of nursing and midwifery, or like this accelerated nursing program, we have a masters of nursing.

It's an 18 month course. It's not a … you have to have a previous degree to get into it, but it's not a master in nursing. It's a bit messy. So if you saw masters of nursing, you can do masters in nursing, but you can do a masters of nursing, so we get engineers that want to be nurses, and they are doing 18 month program. So it can get really messy. So they do an accelerated program because they are recognised as having academic ability, and they just [Indiscernible 3:11].

Interviewer: Yeah, they have something like that for teaching too.

Participant 3: Yeah, I'm sure they have. There's so many different options that if you just … so if you have the name of it, and you are actual, you could just go on the web and look at [Indiscernible 3:24] university, look, and it will tell you what that course is. So I just think it might make it a bit easier for you down the track.

Interviewer: Okay.

Participant 3: But you know, I'm just giving you my opinion. So the number of students enrolled here, I'm sending the number …

Interviewer: So question two, yeah?

Participant 3: Yeah, that's fine.

Interviewer: Question three.

Participant 3: Question three. Oh no, sorry, question four it was. The electives, the percentage. So I had trouble trying to work it out, because we, in the course, I was thinking of this one, might they do one elective across the four years? That's like six credit point. Are you familiar with credit points?

Interviewer: Yes.

Participant 3: I don't know how universal this is, but so we have 172 credit point course, six of it is an elective.

Interviewer: Okay.

Participant 3: So I put six over 172, whatever that is, is what it is.

Interviewer: It'll probably be under 1%?

Participant 3: No, but I don't … I'm not sure if you … Yeah, I don't know. Maybe that is the best way to put it. It's one standard unit, so that might be the best way to. I don't know. It depends how other universities do things.

Interviewer: And question five?

Participant 3: So does it within … so does the degree include CAM content? No. If you're talking about the core units, maybe we said …

Interviewer: I'm talking about the whole course.

Participant 3: Okay, so maybe if you met, because I thought he offered … oh, okay. You're talking about the core units. No. In the core units, it doesn't at the moment, but if you're talking about … so they have an option at the moment, to choose an elective.

Interviewer: So is degree unclear that it refers the whole degree, or should we put …

Participant 3: If you put … in terms of degree, include same content, and maybe in brackets including electives. We see the toll is they might do the elective, so they have the option to do it, but so others would give it [crosstalk]

Interviewer: Yes, it's available to them in their degree, but they chose if they do it, or not. Yeah.

Participant 3: I think if you want to know that's really they're seen as fundamental, you use word "core content" as a part of the co-curriculum.

Interviewer: Okay, sure.

Participant 3: If you just want to know they've got the opportunities, that's a different question, so it depends what you want to know there. I didn't actually answer those questions because of that. Because it's not core content at this point, it will be in the future though. If you send this out to me down the track, it'll be quite different my answers here.

Interviewer: Sure. And so if it does include the opportunity to take care, it goes into question six about what year that opportunity arises.

Participant 3: So maybe we have other here, because if it's an elective, they can pick it at a different time in their course.

Interviewer: Yeah right, sure. So as an option?

Participant 3: Yes. So a lot of people that do the course I'm enrolled with have other degrees and things, and it's misty. So maybe you just have something that could pick it anywhere.

Interviewer: So number seven, about …

Participant 3: This is [indiscernible 06:47] specific CAM course. Yes, it's an elective subject. Okay, so if I kept reading, it would have seen that you are including that. So you might lose people. Like you'd lose me there, so

maybe just make it a bit more obvious there. Because if I kept reading on [indiscernible 07:03]

Interviewer: In question five, sure.

Participant 3: Yeah because I just went, "Oh okay," so then I went to the next pick." If not [Indiscernible 7:09] then what subject is kind of part of another course.

Interviewer: So question eight?

Participant 3: Do you mean another course offered within the school or?

Interviewer: Yeah, or just offered that they can take, that they have access to. Because some of them take social work or different things.

Participant 3: Do you mean as an elective?

Interviewer: It wants to know if the CAM content that nursing and midwifery students are allowed to access is part of a standalone subject. Like you can tick that subject. I'm just going to learn about CAM. Or is it content part of another course? So like there's only a couple of lectures on CAM, and then a couple of lectures on something else, but it's part of a course that they can take if they want to.

Participant 3: What do you mean by a course that they can take -- as addition?

Interviewer: I mean like a subject.

Participant 3: A subject, okay. Yeah, probably is actually ad hoc, in bits and pieces.

Interviewer: So it's sort of part of another …

Participant 3: Sorry just with your …, if not per, obviously unless … but it's a content part of another. So the course that just … we use the term unit.

Interviewer: Yeah sure, unit.

Participant 3: But maybe other universities, but it wouldn't be course because it's a nursing course. The word course or program is the umbrella term for the whole thing. But if you are just looking at the different units, or even subject, unit or subject, just makes it a bit clear.

Interviewer: Sure.

Participant 3: So I'm not sure what other universities, but yeah. What's the total time? Okay. That would be hard to answer because …

Interviewer: Question nine.

Participant 3: Yeah because, look, for example the one I take. A lot of it is online. We got four half day workshops, so I'm not clear on that, Christine. if you want to know … It might be more useful for you to know if it's the equivalent of a six credit point unit, or which it is. So it's judged, because there is a requirement about how much people have to do to …

Interviewer: Get those points.

Participant 3: Yes. And some units we have online, some we have flexible where they're both, and some are face to face with clinical. So you have different experiences, but they're weighted. They're considered the same weight. So just the hours of contact time don't reflect … look, we have some units are totally online. Not that are here. So that you

wouldn't have any contact deals, but that doesn't mean it's not a lot of work for students. So maybe that Christine, just think about.

Interviewer: How would you reword it if we're going to?

Participant 3: If you want to know how much of the course that … what do you want to know from this?

Interviewer: How much contact do they have with the information that is structured for the course? Or structured for the learning of the CAM part of the course, if it's meshed in with other stuff.

Participant 3: So when you're saying contact, because I'm used to the terminology … if, we have fast contact, and then we have flexible but you're talking about you can contact online.

Interviewer: What if it's part of this structured course? So even if it's online, a lecture that they're listening to or something is contact with … and that's our contact hours.

Participant 3: So students … what is the title student learning?

Interviewer: Learning hours?

Participant 3: Yeah. Something like that, but I think contact time. Once again, other people will probably, but it's just more writing. It's taught [Indiscernible 10:47] which are the years of majority. Okay, that's fine. What is principle cross teaching objectives, and I'm going to run them in order of being the most … all right, okay it's good. You probably [Indiscernible 11:01] scientific …

Interviewer: On question 11?

Participant 3: Yeah question 11 sorry. Scientific evaluation, practical training. Look, we do stuff around board overview of CAM concepts. I hear that's good. What topics are covered? Does it promise structure of qualification? Yeah, that's good information. If it's disturbing, I think you're fine. Besides the primary instructor, [indecipherable 11:36] important. Yeah, that's good too, yeah. What instruction methods are used for delivery?

Interviewer: Are these clearly worded, they make sense to you?

Participant 3: Yeah.

Interviewer: Okay.

Participant 3: That's clear. What instructional methods are used within the delivery?

Interviewer: Are the options appropriate to the question?

Participant 3: Yeah, for the CAM stuff, it is. We do a lot of clinical stuff in midwifery course and nursing.

Interviewer: And there's no CAM in the clinical?

Participant 3: No. Nurses no, but yeah. It's a familiarisation thing, but yeah they do, I'm thinking till they do their interview of student [Indiscernible 12:18] video. I wonder if you do you want to have here in question 15, online learning activities, or something like that?

Interviewer: Sure.

Participant 3: Because we do a bit of that. Academic requirements. [indecipherable 12:41] examination or requirements. Well, so here in question 16, you could have case study. Do you want to know the assessment items? Is that what you want to know here? Academic requirements; what do you mean by that?

Interviewer: What they are required to produce during the course, or for their CAM learning if it's part of a bigger course.

Participant 3: So if you say assessment, yeah, that might help that bit there.

Interviewer: This is another question on assessment about whether it's pass fail summative, that kind of thing about the way they're graded, but these are the things they're required to synthesise their learning on CAM for.

Participant 3: So if you want to break it down to that level, in the unit I teach, some of it is summative, some of it's formative. So some of it, they get assist a mark and some of it, they don't, but they still have to do it, and other bits are nice, because none of them do that. So if you wanted to know what sort of … we have different forms within the one unit. We typically, in a six credit point unit, would have three forms of assessment, two or three. So they might have what's called a "hurdle requirement," where they have to present. But —

Interviewer: So how would you reword this question to get people to give that information on the ways …?

Participant 3: So if you …

Interviewer: It's not … there's another question for figuring out summative, formative this is just about …

Participant 3: You just want to know what they're doing? Okay, so I would also have case study there. You're not getting assist on it. Sorry, what do you want to know here? Do you want to know what they have to do to …?

Interviewer: Engage with the learning and synthesise with their content they're in contact with.

Participant 3: Okay, so you're not just interested in assessment there. Oh, okay writings. Do you mean produce a paper, is that what you meant?

Interviewer: Yes. Like write a paper or do some kind of project on CAM.

Participant 3: Insemination. Well, they'd have to have some requirements wouldn't they? You couldn't not expect them to do nothing. I think that.

Interviewer: Yes, the courses are pretty interesting.

Participant 3: I think that Christine, you need to think of it more about if you want … you're wanting to know what are they doing, with the CAM content that's being produced. How they engage with it.

Interviewer: What do the students have … yes.

Participant 3: So we do all sorts of things. They do have required writings, they do have various online activities, they have to do a case study, and they do a group presentation. We have guest speakers coming in.

Interviewer: So you think presentation or group presentation might be another option?

Participant 3: Yep. I'm going to just say presentation. I don't know. There are no requirements because you wouldn't … I mean, every course you're going to look at has been all nursing [indecipherable 15:48]. You can't get something approved at the university, let alone at the … we're accredited courses. As a national accreditation body, you can't … so there's structuring, plus you couldn't get a unit …

Interviewer: Some of them aren't standalone units, and some of them are embedded without the course content person's knowledge?

Participant 3: So you're thinking if somebody is doing just a lecture, and there won't be nothing attached to it, you want to pick that up.

Interviewer: Yeah, or a series of lectures that they've decided to hijack the content for, and they'll say so you can do your paper on this, this or this. And give them at a choice and then … but sometimes there isn't any.

Participant 3: Okay.

Interviewer: It hasn't been instruction in some .,..

Participant 3: So you want to give a standalone unit, okay.

Interviewer: Yeah. So question 17.

Participant 3: This unit comes from topics, okay all right.

Interviewer: Was that question clear?

Participant 3: Yeah, you just want to know if I actually get a … yeah.

Interviewer: Yeah.

Participant 3: [indiscernible 16:53] student outcomes. So if it's a standalone unit, this is easy. If it's embedded, they might just sit there and supposedly listen, and do nothing most probably. Because I've done a few guest lectures. I'm sure that's what they do; have a snooze, look on Facebook. Number 18, what do you believe is motivation? Okay it's good. Student faculty.

Interviewer: Are those options appropriate?

Participant 3: You could also say national requirements, regulatory body requirements. I'm going to just put NMEC [ph]. Do you know NMEC [sp]?

Interviewer: Is that part of opera? I've seen …

Participant 3: Yeah.

Interviewer: When I was on, I was reading regulation things for nursing. I mean, would [Indiscernible 17:46] that does.

Participant 3: Yeah, so inmate is the one that they have regulations around what … they come in and say they check us at our courses, and give us accreditation for five years or not. So if they say they want to see complementary medicine reflected as part of contemporary, then it'll be reflected. So they don't say that at the moment. They don't get down to that detail, but they can give us feedback. So it's worth, I think, some regulation or something around that.

Interviewer: Guidelines.

Participant 3: Because some of the stuff we put in, we might not put in if we didn't have to, let me tell you.

Interviewer: Sure. So these next set of questions are actually from pre-validated tools.

Participant 3: Okay. So you know what, I had no trouble here. These ones are over five, but I've got here when you're saying health professional, who are you referring to?

Interviewer: Any health professional.

Participant 3: So conventional and CAM?

Interviewer: It would refer to the health professional, the health professional group of the person completing the survey. So we've got health professionals, so it fits both nurses and midwives.

Participant 3: Okay, so in that case, I think you should clearly say, just put it, because this is validated, and you can't play with it. It's somebody else's toy. You could put an explanation, health professional refers to either nurse or midwife.

Interviewer: Okay.

Participant 3: So when I read that, because I'm thinking, "Oh, well if you're talking about what I expect …" because it's very different what I expect from a nurse, or a midwife, or a CAM practitioner. They have different scopes of practice. So I think you need to consider all health professionals, and you have a different expectation of knowledge and expertise around CAM from a CAM practitioner as opposed to a nurse. Okay so that was just I was underlining that because I really wasn't sure about that.

So things like these, but botanical professionals want patients to avoid using botanical medicines and [Indiscernible 19:53]. Until I … oh, that's erased all questions I suppose.

Interviewer: Was anything unclear about it?

Participant 3: No that's all right. There was one over here though. I can't remember. I'll get to it in a minute. If it's clear which health professional you're talking about, then it would be fine. Because was something about knowing herbal medicines, and I thought well, what I expect an herbalist to know is very different from what I expect a naturopath to know.

Interviewer: Sure.

Participant 3: Sorry, a midwife to know.

Interviewer: Sure.

Participant 3: Okay some of it … this is validated. You can't do much about it, but when people use words like he or profoundly, well what does that mean? That means different things to different people. And that's difficult to answer on, like, a scale like that I find [indiscernible 20:41]. Although I kind of know where that's coming from, I have a bit of a discomfort win, because people would define healing differently.

Interviewer: Differently.

Participant 3: You die in here, or not or … this is very different views of the world. The health professionals' role is primarily to promote health and healing of the physical body. Well, if you're talking about nursing and

midwifery, well, nursing and midwifery, are quite separate, are quite different. They have to, and they do have a different.

Interviewer: Do you think that would be clear and make sense to a nurse or a midwife?

Participant 3: Yeah. Once again, it's primary, because I think of obstetric emergencies. If a woman is bleeding to death, there's no point holding her hand, and supporting her emotionally if you're not dealing primarily with the problem that's going to kill her very quickly. So if push comes to show off, I suppose I would agree the primarily the physical was no, but it doesn't mean it's any more important. But it's in the hierarchy that we look at.

Interviewer: Is it prioritisation shifts depending on the situation.

Participant 3: Yeah, because you do deal with … and nurses, you grow trauma and so forth. You deal with acute emergencies in a way that CAM practitioners would really deal with them. And so the focus has always survived that. And then hopefully, the other bits come in. But yeah so primarily probably, because a lot of the stuff that we do actually is … midwifery, things can go wrong very quickly, and so safety around that is a physical thing first I suppose.

So that's tricky for me too because I'm … Yeah, I suppose that question is health professionals' role primarily to promote the health and healing. I don't know. Yeah maybe…

Interviewer: There are some people who may not think that much about that question.

Participant 3: No, I'm sure there's lots of them.

Interviewer: But that's interesting though, if it's confusing or yeah. I mean, and that's the thing with like its scale. They expect you to reduce it down and …

Participant 3: That's right. You can't. So it's okay. That question's okay, yep. Okay and once again … so when you're getting into those quite profound questions really around healing, and life and death, it's the issue of doing it on like a scale, and I suppose that question's as good as it can get on a lock at scale.

Interviewer: Sure.

Participant 3: What are these one's health professionals. These ones, I found quite straight forward. to answer them quite quick. This is one I was saying, so once again, if you've identified the health professional that you're interested in is either a nurse or a midwife, then that's a bit clearer. Should be [indiscernible 23:40] to answer questions. Okay, so that would be a bit clearer.

Interviewer: Great.

Participant 3: Instilling hope in patients as a health professional… it's just part of the validated tool.

Interviewer: Yes, and all the way until, 19 20 and 21.

Participant 3: Okay, I'm just done looking, instilling, I'll prefer supporting. I don't think you can instil hope, but that's me just being … I think that if they don't have hope, you can't make them have hope. Okay they were all easy.

Interviewer: Were they appropriate, question 22, the options?

Participant 3: Yeah, and you said it's … its casual training, because there's lots of nurses and midwives that have done …

Interviewer: Professional development, or …

Participant 3: Simple courses. Yeah, so if you're happy, there's a big difference between …

Interviewer: Training and education, qualification thing.

Participant 3: So I did four years, and it was a nice place a long time ago. And then there'll be somebody who's done a course on dry-needling. So it doesn't matter unless it matters to you.

Interviewer: Okay. Okay, 22.

Participant 3: And it may or may not matter. I mean … and a lot of people that are interested do a lot of reading around, and so you might have somebody that has any form of qualification, but spends their time trolling through systematic reviews, and is really quite well informed. So once again, you can't pick everything up. Maybe same page. They were good.

Interviewer: Okay.

Participant 3: So your questions are good, [Indiscernible 25:09]. Just that, you feel those earlier months.

Interviewer: And were the definitions clear?

Participant 3: Yeah, so I don't like that definition. But yeah that's the only definition, isn't it?

Interviewer: It is. And the title was clear, and the headings for each section?

Participant 3: Yes. It is clear to me, but I can tell you common confusion; when people say conformational medicine in my world, I think of the supplements, but you've explained it there. So just be aware of that. If you took that conformational medicine, I think you'll turn back environments, and minerals and then you say no to about the whole, all …

Interviewer: Spectrum of, yeah.

Participant 3: Yeah. So are you going to interview people?

Interviewer: Not at this stage.

Participant 3: Okay but if you ever are, just be aware that that's a really common…

Interviewer: View?

Participant 3: Yeah, it's a complementary medicines either are thinking of rather than conformational medicine. Because a lot of people are familiar with the TGI, and complementary medicines, and that sort of stuff, and that I think of it. But it doesn't matter, if you're not going to. I mean … and it is clear here so that's good.

Interviewer: And the last few questions I had for you were regarding the best way to get your colleagues, or the relevant nurses and midwives to engage with this survey. So …

Participant 3: Good luck.

Interviewer: Yes. So what barriers do you foresee to having them complete the survey, or at least commence?

Participant 3: There's two common barriers, one is time, the other is interest. You need to access the right people, and I said to Amy, "I can help you and Victoria with the midwives easily, and some of the nurses." So you need to find the right people that … Are you aiming for any academics or …?

Interviewer: Well, this is something we are assessing at the moment. Yes, something we are assessing at the moment. At the moment, it's just core content decision makers, like for the courses. But identifying who that is, and contacting the relevant person really is probably going to be problematic for sampling. So we may broaden it out, but that will require having maybe some extra questions, so people can identify who, what level they are, so that we can compare the perceptions of the elections to this to that, kind of thing.

Participant 3: And it's going to be hard to access. So they won't let you access the standard, you can't just easily access the database usually to grab a whole bunch of nurses or midwives. You can go through university …

Interviewer: No, it's listed in the universities, who the program coordinators are for nursing and midwifery, and different things, and there's about … but it's under 200, it's like 150. So an obsolete group kind of what I mean.

Participant 3: Look if you picked up the fine, you probably have a lot more success to find the right person. Because the … what's online isn't always …

Interviewer: Accurate and up-to-date.

Participant 3: Yeah. The person who is here might know very little about this.

Interviewer: So do you think if these questionnaires were done over the phone, it might have a better success rate with nurses and midwives if you called, and spoke, and ticked off, and asked them the questions rather than sending them a link?

Participant 3: Well, probably it does with most things but you have to get them to agree to do that. I mean, online you know surveys are very common, just survey monkey kind of surveys are quite common. But of course people are really busy. So …

Interviewer: Is there a good, best time of year or at least worst time of year to get this sort of link to them, and try and put them on board?

Participant 3: Probably early … You definitely wouldn't want to do it at the moment. Maybe January, February might be a bit quite of a sun [sp]. It probably is, but that's when a lot of people at the moment would be doing research. But you don't want to do it around results, sorry saying results.

Interviewer: Sure.

Participant 3: Yeah that's probably the best time but … I don't know if you find a way to wake that one in, you're doing better than me.

Interviewer: Okay, and what channels do you think are the best channels for contacting nursing and midwifery academics?

Participant 3: What channels? Well, I think, if you look up in the web, go the universities, look for the course coordinator, and contact them. I think that's going to be a … I can't think of another way that you could do it as an outsider.

Interviewer: In order to garner interest of people, like getting their interest, at least, in this, do you think it would affect people's decision to click on

the link or not if the guidelines were specifically stated in the email that we are trying to find this out because nursing and midwifery guidelines specifically elude to the need for new graduates to have at least familiarisation or a competency around practising in a modern healthcare setting where lots of people use CAM kind of thing, and then list what that is? I think it's 1.2.

Participant 3: Which guidelines are you referring to?

Interviewer: Nurse, the graduate ones in order to get registered?

Participant 3: I have to look at them, that's good.

Interviewer: I think it's like 1.2 through to 1.4.

Participant 3: Attribute to something, is it?

Interviewer: It might be attributes. I think, but it's like a thing that they're kind of, I would say that assessed against, but its things that they look for in graduates.

Participant 3: Is that from …?

Interviewer: To get registered, or anyone who …

Participant 3: Upper?

Interviewer: Yes.

Participant 3: Okay, I have to look at that myself. That's really interesting.

Interviewer: Do you think that would maybe spur people on to click it?

Participant 3: Yeah. Well, you will need to make accounts for what matters. So if you say, "Look this is recognised as an area that needs to be addressed, and we're doing something to address it," people are more likely to engage in it. If there is something there from [Indiscernible 31:05], but that's interesting to me because we're doing curriculum development right now, and nobody has mentioned that. So I'll go and have a look. I think that's a good idea to do that.

Interviewer: Okay. Well thank you very much. Do you have anything else to add or any other comments?

Participant 3: No, good luck.

Interviewer: Beautiful. I will stop …

Participant 4

Interviewer: So how did you find the questionnaire?

Participant 4: I found the questionnaire reasonable.

Interviewer: Okay.

Participant 4: One question I had an issue with…

Interviewer: Yeah - with 20 E?

Participant 4: Yes, "Healing is not possible when a disease is incurable," but I guess we are talking about if you think of the holistic approach, in light of the disease - like diabetes.

Interviewer: Yeah.

Participant 4: But they may also have psychological issues, so healing in terms of their psychological issues could be possible, but you may never get rid of that diabetes.

Interviewer: Yeah.

Participant 4: So healing is not possible when disease is incurable. I just disagree with that, I suppose.

Interviewer: Sure, yeah.

Participant 4: Because they might have more than one condition.

Interviewer: Absolutely, yeah.

Participant 4: But otherwise, I answered that. I didn't answer this, because we do have Chinese medicine at this University.

Interviewer: Okay, do you have it as part of your midwifery department?

Participant 4: No.

Interviewer: Okay.

Participant 4: Should that be no, so?

Interviewer: No, what we…

Participant 4: It says your institution.

Interviewer: Yes, department or institution. So it is taught at your institution? Excellent.

Participant 4: But it's part of the science faculty.

Interviewer: Interesting, okay. Okay, well I might just go back to the beginning.

Participant 4: Was I meant to put the faculty in, right at the beginning there?

Interviewer: Yes.

Participant 4: Do you want me to do that?

Interviewer: Sure we could do that.

Participant 4: Okay so UTS Faculty of Health, human faculty.

Interviewer: Sure, awesome. So we could go back to the front page, the title was that clear to you the tittle of the questionnaire?

Participant 4: Yes.

Interviewer: Yes?

Participant 4: Yes.

Interviewer: And what about the instructions on how to complete the questionnaire?

Participant 4: Yes…

Interviewer: Yes?

Participant 4: That was clear. If I was to make a comment I would prefer nursing and midwifery to be in capital letters and course to be in small letters.

Interviewer: Okay.

Participant 4: Because they are the names.

Interviewer: Okay.

Participant 4: But that's just something small.

Interviewer: Alrighty and what about the definitions were those clear to you?

Participant 4: Yes, yes, very clear.

Interviewer: Yes. Okay.

Participant 4: Yep.

Interviewer: So you wouldn't change any of that in any way?

Participant 4: Apart from those, yes.

Interviewer: So that was the tittle capitalization? Okay, alrighty so in the general course characteristics section question one was that clear to you?

Participant 4: Yes very clear.

Interviewer: yeah?

Participant 4: Yes.

Interviewer: Would you change it in any way?

Participant 4: No.

Interviewer: No?

Participant 4: No.

Interviewer: What about question two?

Participant 4: That's clear.

Interviewer: Are the options appropriate to the question, do you think?

Participant 4: Yes, yes.

Interviewer: Yeah?

Participant 4: Yes.

Interviewer: And question three?

Participant 4: Yes, very appropriate.

Interviewer: Okay, and question four, what did you think of that?

Participant 4: Well there is no electives in our course.

Interviewer: So you said…

Participant 4: Nil to 5%.

Interviewer: Okay, wonderful and do you think those options are appropriate to the question? For question four?

Participant 4: I probably would question that one, I don't think there will ever be 21% of any course will have that many electives.

Interviewer: Okay.

Participant 4: I question that. I think I'd prefer to see zero, I think it would be clearer, maybe.

Interviewer: As in as its own value?

Participant 4: Yes.

Interviewer: Sure.

Participant 4: Then maybe 1-5%.

Interviewer: Alright.

Participant 4: There aren't any on our program at all.

Interviewer: Okay. No electives that contain care?

Participant 4: Or any elective of any description.

Interviewer: Okay, so it's an entirely set course structure sort of thing?

Participant 4: That's right, yes.

Interviewer: Okay, alrighty and question five?

Participant 4: Yes.

Interviewer: That was clear for you?

Participant 4: Yeah, it's not a separate subject it's within a subject. I don't know …

Interviewer: Right.

Participant 4: If you want that to be clear.

Interviewer: Interesting okay, so do you think the word "degree" was confusing?

Participant 4: No.

Interviewer: No?

Participant 4: No, but in terms of if you want to break down data.

Interviewer: Yes.

Participant 4: I don't know how clear that will be.

Interviewer: Yeah, it wouldn't give the full picture as it is.

Participant 4: Yes, because maybe you might interpret that, that it's an actual subject within the degree or course. Are you calling it a course?

Interviewer: A course is what it is refereed to currently, yes, yeah. So it's within it doesn't have something on its own.

Participant 4: That's correct, yes.

Interviewer: Right.

Participant 4: So that's up to you whether you want to peg that a little bit more I don't know.

Interviewer: Okay, number 19 so these were pre-validated questionnaires.

Participant 4: Okay.

Interviewer: They had already been validated, now did you have any comments in general about those statements?

Participant 4: Most of them were pretty clear, but one or two towards the end I might question.

Interviewer: Okay. Is that because you disagreed with them?

Participant 4: Yes. I disagreed…

Interviewer: Okay, so were the options appropriate for these statements?

Participant 4: Yes.

Interviewer: Yes?

Participant 4: For the majority of them, yes.

Interviewer: Okay, and number 20 again, this is another validated tool. Did you have any comments in general about those statements?

Participant 4: On that number E.

Interviewer: 20 E, you disagree?

Participant 4: I disagreed with that, but I had the option to absolutely disagree.

Interviewer: Yeah.

Participant 4: Not to say why, I guess.

Interviewer: Yeah, sure.

Participant 4: I would like to say why. Yeah, the questions about understanding yourself, that's probably the next section.

Interviewer: Okay, so we will have a look at question 21, which is more validated statements. Were those statements okay?

Participant 4: So health, profession described in the sense of - yeah, so A and F I guess are a bit similar. I don't really know the exact answer to A, but I would think that if you understand yourself better, you will have a better chance for your values and beliefs. So as a professional, you have an obligation to understand your values and beliefs so that you don't apply those necessarily to everybody.

Interviewer: Right.

Participant 4: So yes agree with that one, but if you don't do that though, would you provide better care or not? Yeah, I don't, it's a little bit…

Interviewer: Unclear?

Participant 4: It takes a bit of thought.

Interviewer: It takes thought.

Participant 4: It's clear but it takes a bit of thought.

Interviewer: Okay and are the options available are they pretty good?

Participant 4: There's plenty of options, yes, that's good.

Interviewer: Alrighty and question 22, how was that question was that clear to you?

Participant 4: Fine, yeah, very clear.

Interviewer: Would you change anything about that question?

Participant 4: No they are much, they are very clear those, yeah.

Interviewer: Is it missing anything in your experience?

Participant 4: "Have you received [inaudible 7:30]." I mean, I guess there's different levels of education. If you wanted to peg that out, you could have just called for a certificate or a degree maybe.

Interviewer: Right, okay.

Participant 4: I mean, come to think of it now, I have done a course on mindfulness, base stress reduction, but that's just a course, an eight-week course. But I haven't received any training.

Interviewer: But has that made its way into the education you provide students at your institution, that course?

Participant 4: Not yet, but I would like it to.

Interviewer: Yeah, right.

Participant 4: But that was just a workshop, a two-hour workshop online for this.

Interviewer: Okay. And question 23, was that clear or unclear?

Participant 4: It was clear yes.

Interviewer: It was clear? Okay great.

Participant 4: It's not within my faculty.

Interviewer: Faculty, okay so if you would reword that, how would you reword it?

Participant 4: I interpreted department as faculty, and institution as the University itself.

Interviewer: Right.

Participant 4: So it's okay, if that's what you meant.

Interviewer: Okay, wonderful.

Participant 4: Also then, this is not applicable, so maybe put something here if you've answered no to the above please answer the following.

Interviewer: Okay question 24.

Participant 4: Because otherwise I can skip question 24 because I have ticked "Yes," but…

Interviewer: Sure can, okay.

Participant 4: It's not a very long question but I did need to read through it just in case I did need to answer it.

Interviewer: Okay, alright, thank you.

Participant 4: Okay.

Interviewer: Now, have some other questions about how to get engagement with this questionnaire so what do you think the best time of year is to try and recruit midwife educators like yourself to complete this questionnaire?

Participant 4: So academics?

Interviewer: Academics yes.

Participant 4: Okay, so preferably educators working the clinic in the area?

Interviewer: Right.

Participant 4: So you are talking about lecturers, this is probably a good time in the year, prior to Christmas, not too close to Christmas. Early December.

Interviewer: Early December?

Participant 4: Yes, all our marking has been done; our students have finished for the year. For me, this would be the ideal time.

Interviewer: Okay.

Participant 4: I tend to take annual leave in January.

Interviewer: Okay.

Participant 4: Then when I come back in January and February very busy doing subject outlines and …

Interviewer: Yeah, okay.

Participant 4: And anything like that, and then you're right into teaching, so middle of the year might be another option.

Interviewer: Okay.

Participant 4: July time.

Interviewer: Okay, and what do you think the best avenue is for getting midwifery academics to engage with this? Do you think it would be better online, or calling them up over the phone and doing it, or a mail-out? What do you think, in your experience?

Participant 4: How to capture them? They mostly are very busy individuals.

Interviewer: That's fair enough.

Participant 4: How did you get Athena for this, I suppose?

Interviewer: I just - I ran into her at my stage one assessment.

Participant 4: Okay. To be honest, I guess I don't tend to answer emails. I do get, from time to time, emails asking me to complete surveys, because I coordinate a course as well.

Interviewer: Yeah.

Participant 4: So I am a busy person.

Interviewer: Of course.

Participant 4: So I think the direct contact would definitely be better, yes.

Interviewer: Okay.

Participant 4: Rather than an anonymous email from somebody random that I don't know.

Interviewer: Okay. Do you think in the explanation, or blurb, or invitation in whatever form it might take, making reference to the nursing, national nursing or midwifery guidelines would help garner interest or spoke people on to complete the survey?

Participant 4: Yes, definitely. It would give a weighting, certainly, to the quality of the survey, yes, yes.

Interviewer: Okay.

Participant 4: Because they are really important to us.

Interviewer: Yes.

Participant 4: Competency standards, yes.

Interviewer: Okay. And the last thing I wanted to ask was, do you think this is appropriate for nursing and midwifery as it stands?

Participant 4: What exactly now?

Interviewer: This particular - [this NQ 12:10]?

Participant 4: Yes I do because - well, particularly for midwifery, primary healthcare is an important focus.

Interviewer: Yes.

Participant 4: Trying to keep people well, and giving them options, yes and looking at the holistic person.

Interviewer: Okay, do you think nurses would be able to answer these questions easily?

Participant 4: Yes, yes.

Interviewer: What about other conventional healthcare professional groups?

Participant 4: Like?

Interviewer: Like doctors or pharmacists?

Participant 4: Pharmacists, probably yes. I really think it would depend on the doctor. Some would be very into complementary medicines.

Interviewer: Okay.

Participant 4: But others aren't.

Interviewer: Right.

Participant 4: Physiotherapists, yes.

Interviewer: Sure.

Participant 4: They would be certainly, yes.

Interviewer: Okay, did you have anything else you wanted to add about the questionnaire or any other questions?

Participant 4: The questionnaire? I like the idea where you highlighted there, so think maybe of putting it in color, and maybe making the font slightly bigger, because I was a bit slow reading it.

Interviewer: Okay, sure.

Participant 4: I don't know. They may not fit in with your layout.

Interviewer: It will depend of the format it goes in, in the end.

Participant 4: Sure.

Interviewer: But that is great feedback.

Participant 4: Yeah, the font is just a little bit crowded looking, but it doesn't look too big, so it didn't put me off in the beginning, which was good.

Interviewer: That's good, did you get put off towards the end?

Participant 4: No, no I didn't at all.

Interviewer: Okay.

Participant 4: I didn't look like it was going to go on forever, so that's good you don't want to have to scroll over too many pages.

Interviewer: Okay.

Participant 4: Yeah.

Participant 5

Interviewer: Okay, so how did you find the questionnaire?

Participant 5: Good. I mean, I've said a couple of things where, I guess, there was some uncertainty for me, and that might reflect maybe just my view of things - I don't know, or whether other people shared the same things. Did you want to go through?

Interviewer: Yes, we'll go through one at a time. I just wanted a general impression. But so we'll go through each item at a time, and then we'll go through the validated parts as a whole, because this can't really be altered too much, because they're already pre-validated tools. But we definitely want your thoughts on that. So the title of the questionnaire - did that make sense to you, was that clear?

Participant 5: Yes.

Interviewer: How about the instructions?

Participant 5: I guess the only thing that shook me a bit was about, there was a title here - obviously of the name of the question, that's the name of the pre-validated questionnaire - was that your…

Interviewer: No, that's the name of this questionnaire.

Participant 5: This one, okay.

Interviewer: The one currently designed. Okay.

Participant 5: I guess having the name there thinking, are these different things or the same.

Interviewer: What about the definitions that were provided, did those make sense to you?

Participant 5: Yes, the only thing for me was, I guess the heading Complementary Alternative Medicine then goes into complementary medicine, here -

which obviously is a quoted definition, so you can't alter that unless you put it in brackets. So for me as we're looking at complimentary or alternative or hands within that. I mean certainly the title says Complementary Medicine and the definition says CM, so whether alternative is supposed to be in there or not, I don't know.

Interviewer: We canvassed the more widely recognised term by most nurses and midwives even though complementary medicine is supposed to be used throughout. So what about the modalit provided, did that make sense to you in combination with the definition or as to what was being referred to throughout the survey?

Participant 5: Yes. Although I guess for me, I guess Chinese Herbal Medicine is probably the term that's generally used rather than Eastern Herbal Medicine. That's probably a personal bias of mine but I don't see iridology as being a therapy as such, it's more of a diagnostic tool and often gets thrown in conversations around complementary medicine as being the reason why CAM should be trusted or why it's not legitimate. Because it's not really therapy itself it's just…

Interviewer: A way to diagnose.

Participant 5: Yes.

Interviewer: And these TEQSA definitions were they clear for you?

Participant 5: They are. I mean certainly for our university we have very different terminology around that. So it was nice having that upfront because for me if you were talking about courses for us a course for subject, so it's nice to have that upfront.

Interviewer: Would you change anything about this first page at all?

Participant 5: I suppose being clear about the terminology just so that's consistent within there and maybe Chinese Herbal Medicine which I guess is a term that's generally used internationally. And iridology is kind of hard because some places do provide that, that's considered under CAM and some don't so it's whatever you find is justified. And that's it.

Interviewer: So on the first page we have the title of the first section, did that make sense?

Participant 5: Yes.

Interviewer: And for question one was that question clear to you at all?

Participant 5: I suppose for me we don't use the term 'faculty' and so maybe for us, and certainly for a lot of South Australian institutions they use the term 'school' and some use department, you don't have all options there. So we sit under a Faculty of Health Sciences but nursing's a separate school, or nursing and midwifery are a separate school.

Interviewer: So maybe they could be added into the definitions at the beginning?

Participant 5: Yes, could be Faculty/School or something like that.

Interviewer: So how would you re-word this question if you could?

Participant 5: So when you say circling you mean either nursing or midwifery, I guess in our school it's integrated, so the two actually are part of the same school.

Interviewer: Do they study the same degree together as well in all the courses together?

Participant 5: Separate degree but some of the courses overlap, and that's what I was thinking because the courses that I teach in research there is some overlap there. I mean generally they're nursing students but occasionally mid students will come in. So I guess for me it'd be, even if we can say predominantly if you work in - or whether you have it nursing/midwifery/nursing/and, and write that other option there, maybe faculty and school. Then, I wasn't quite clear whether it was a one only box or tick multiple boxes in that one, because I do do some post-graduate stuff as well. Not sure - mostly undergraduate.

Interviewer: As well? Okay. So when it said tick the one that has the most enrolments you weren't sure which one to tick? Was that unclear?

Participant 5: Yes, I was kind of mixing between this bit and this bit, where it's referring to. Yeah.

Interviewer: All right. So the instructions for referring to this one that you have ticked the degree, undergraduate degree that you've ticked, throughout this entire survey, was that clear?

Participant 5: Yes.

Interviewer: Now for question 2. What did you think of the question and the options?

Participant 5: That was fine for me, I couldn't really think of anything else that would - I suppose 'other' would cover. I mean, coordinator and lecturer are probably the two main things I could think of, and it fits my role and then I think program directors and stuff that would fit in

there as well, but whether they're a large number that should have a separate category or not - I know I did get lost ticking the other. But yes, I mean, that's one fine.

Interviewer: Question three, the questions and the options - were they clear and appropriate for you?

Participant 5: Yes. That's fine.

Interviewer: And question four?

Participant 5: Yes, that's right.

Interviewer: Were the options appropriate to the question do you think?

Participant 5: Yes, certainly for nursing, most programs are three years, that's fine.

Interviewer: And question five was that clear for what percentage of FT in your course?

Participant 5: It is, I mean I don't have good knowledge of the whole program so I only teach the side of that. I'm pretty sure that they don't have electives [indecipherable 07:22]

Interviewer: So it's all completely prescriptive?

Participant 5: And if they did they definitely don't have any CAM components in there because if there was then I would be involved in that. But the question itself is civil, makes sense.

Interviewer: And question six, is that question clear for you?

Participant 5: I suppose for this if I had a zero it wouldn't be relevant to me to answer that question. So I guess when there was 'if applicable' if that was not applicable then go to … almost seem like a logic question there so if that zero then go to question seven or whatever it might be.

Interviewer: Yes, insert question logic to skip that?

Participant 5: Yes, because I mean for me it was like would I… for saying no, it was as if...

Interviewer: So even if there were no electives is there any chance that it could be integrated throughout the courses without it actually been given a stand-alone thing?

Participant 5: As far as I'm aware of it's not at all because I've talked to quite a few course coordinators and they know my expertise was and perhaps the only person in the school that has expertise so I'm fairly aware there's

nothing. Because there is a lot of people discussion or we need to have more nutrition, we need to have nutrition in there at least or more lifestyle and they're just absent as well. So they're kind of more mainstream concepts or therapeutic.

Interviewer: So was the options then suitable to the question, the fact that there was no option or?

Participant 5: Again I guess if I said … for me it's the logic there so that's fine, which is what you're driving at here wasn't it in terms of it's not a stand-alone subject its integrated somewhere in the curriculum.

Interviewer: Yes, well, what we seem to have been finding is that it seems to be embedded on a lecture by lecture basis or even a series of lectures and it's kind of up to the lecturer and the course coordinators really have no idea about the hours or this or the that, it's very informal and it's just here and there and it depends on the lecturer's interest or expertise. So we wanted to give them an opportunity to be able to say, like, "No, there's no electives, but CAM contents sort of might be part." If it's not, try and get - if it really, really isn't, then is it informally in there at all in any kind of way -which in your case was, "No, no, no," all the way through.

Participant 5: Yes. I suppose, for this one in terms of, is it part of another subject, it probably would be nice to tease that out in terms of magnitude; is it a major part of it or just maybe one or two lectures or even a micro component, like just a throwaway comment. 'Anything about CAM, anyway let's go back to the topic,' and that's about it. That'd be nice to tease out, to get a sense of that.

Interviewer: Yes. It definitely would. So we've done question six, question seven you skipped. Question eight - was that clear and suitable, do you think? That's the one you were talking about wanting to tease out more. Do you think more options would be appropriate, or a comment box?

Participant 5: It'd be nice to unpack that a little bit, and find out how they define the content in another subject. I guess that could be easily misinterpreted, in terms of, if they just say, 'Yes, it's part of a subject,' there's an assumption then that it's a reasonable component. It might just be not part of the curriculum but more a flavour that the lecturer gives within that. Certainly, you would find that it'd be a standard curriculum that lecturers will follow, but they'll bring in their own experiences within that.

I notice that, when I teach, I bring CAM into the discussions around that. But it's not part of the curriculum. The curriculum's about nursing. A comment box would probably do that but might need some kind of guidance in terms of what you're looking for in that comment box about can you provide an example of how that is delivered, for example, is it a lecture or a series of lectures or discussion of a tutorial group or something like that.

Interviewer: So you answered no to question eight so you went straight to 18, which was between there. It was here. So this is the beginning of the pre-validated questions.

Participant 5: Which we can't change is that alright?

Interviewer: Not drastically but if any clarification is needed we've tried to incorporate it in the instructions above. So for question 18 you had comments A through J. What did you think of those?

Participant 5: I suppose for me it was one of those cases where it applies in some cases but not always and so I struggled with where do I put that, so in some context it would be 'strongly agree,' some others it wouldn't, wouldn't agree with that . So I'm assuming there are some examples of where it says if 'generally' or 'usually' where you can kind of create that's looking at most situations that have to fit there but when it didn't have it in there I was thinking I'm not sure how to answer that. So the truth is not just tested and certainly not recognised manner should be discouraged.

Interviewer: So this is G?

Participant 5: Yes. In that example so 'generally' I'd agree with that but there are some…

Interviewer: Cases where…

Participant 5: Some caveats to that. In certain circumstances for certain individuals, certain conditions where there might not, might be a new condition, a lack of evidence in the field where you don't have much of an option to provide something. So I guess if it was qualified with some kind of in general…

Interviewer: Frequency statement, generally or infrequently?

Participant 5: Or even up here.

Interviewer: Yes, if these are true for you most of the time.

Participant 5: Yes, on most occasions.

Interviewer: And question 19 were the instructions and question clear?

Participant 5: Yes, the instructions were clear.

Interviewer: And the statements what did you think of them?

Participant 5: It's the same thing in terms of… it all depends on the context, the meaning, so depending on whether I was…

Interviewer: Which is a sign of high moral reasoning but it doesn't really fit in likewise scale quite well.

Participant 5: And that's a challenge like [indecipherable 14:13] isn't it? Recently when you put a [indecipherable 14:16] too many [indecipherable 14:18] this one, but there is a risk that people will sit [indecipherable 14:23] or you'll get all the Yay Sayers and Nay Sayers.

Interviewer: Yes, really extremes.

Participant 5: But I noticed there's quite a few questions that were very similar whether that's intended to try and test, that's why I was going through that.

Interviewer: Yes, and they've done a whole bunch of … these are all …they had all the statistical things to get rid of response bias and they were using [indecipherable 14:42] and lots of different things so that's probably why they did that.

Participant 5: [indecipherable 14:48]

Interviewer: Yes, and we've got that a few times, oh, this asks the same thing twice, look. Did you answer the same thing twice the same way?

Participant 5: Certainly because they asked the same thing twice but there's a slight difference in the way it's asked, and so there might be a different interpretation of what you're getting from that.

Interviewer: Sure. So this one is measuring attitudes and perceptions.

Participant 5: Yeah, and for me, I guess one of the things that stood out was the term 'heal'. I wasn't quite sure what was meant by that. I mean, because there's different interpretations of healing; it might a process of improvement or it might be implicators meaning treatment or cure. I wasn't quite sure what the implication was, in that terminology. I mean, I guess some people might have a different interpretation of that, I don't know. But for me, I find it being a very vague term. Because when you said - even the plural like healing sounds like a process rather than an end point.

Interviewer: Yes, I see. Okay. So it was J you were just pointing to. Okay, interesting. Question 20, were the instructions and question clear?

Participant 5: Instructions were good, yes. The question - I don't think I had any problems.

Interviewer: No, those ones were okay?

Participant 5: They were good.

Interviewer: Question 21, would you re-word that question at all if you could or is it all right the way it was?

Participant 5: No, that sounds good to me because it relates to experiences and the response is appropriate.

Interviewer: Would you add anything if you could or do you think everything was in there?

Participant 5: Probably think so. It covers their own personal experience and also their use outside of any professional environments. For me that covers all of these, those bases.

Interviewer: And question 22, was that question clearly worded in your opinion?

Participant 5: Without the example it's comprehensive talking institution that sounded fine but then to put in talking about specific awards which tried to get me thinking are we looking at whole separate degree because with that in there it threw me because I thought if I did I could seriously say yes, it can, what was the subject in nursing then yes, I would say yes, but then if it says throw away that it's relating to higher education award, or its chiropractic and you think well, we don't really teach those in our institution, so wasn't quite sure what it was about just CAM in general or are they also about an award, so a course versus an award or subject, what's your term, subject?

Interviewer: Yes. Okay, great. And question 23, for what reason is CAM not included in the course you're involved in?

Participant 5: [indecipherable 18:04] for me when I wrote political support I interpreted that as also meaning management support as well.

Interviewer: Like political will?

Participant 5: Like Head of School, PBC type of things, so they're involved and they're biases as well, which I found at another institution there was some biases at those managerial level that impacts on what's taught. And of course there are things like Friends of Science which has a big

impact. I know that from other previous PBCs they would contact them irregularly and say are you teaching any CAM courses, there wasn't any there, if you are we need to know about them, we need to find out all about them that's actually is from pulling apart [indecipherable 18:55] one of the chiropractic courses, that was their intention, they faxed something there that was about [indecipherable 19:06] that was about … might come under political.

Interviewer: External pressures or … Yes, it's political. I mean they know, they have no teeth, they have no regulatory body, they're clearly just bullying universities, it's the Old Boys' Club, white brow bashing.

Participant 5: That's right. That can probably come under that if that's how it's interpreted.

Interviewer: Great. Now did you have any other comments overall about the questionnaire that you would like to share?

Participant 5: I suppose the only thing for me if I was writing a question would be having a … which will probably get a separate cover sheet, but almost a couple of sentences at the top to say what the intention or the direction or the aim of the questionnaire is. So you've got that head set in mind before you doing the questions. The title indicates what it is but it'd be nice to expand on that; 'The purpose of this survey is to look at these things' and then you're kind of prepared for that as you go through. But otherwise, it's good.

Interviewer: Okay, all right. Well, the next set of questions I wanted to ask you are about ways to deploy the survey, so to speak. So, what do you think the best time of year would be to get the best response rate from people like yourself?

Participant 5: From academics?

Interviewer: Yes, in nursing and midwifery and…

Participant 5: Well, generally the end of year will be a bad time. I'm doing a survey at the moment, and that's a bad time. You speak to most people and they all say, 'This is a really bad time to do anything,' because they're really busy; trying to set up interviews at the moment, and no, most people say - and I think a lot of December is a really bad time for many people. For most people, the start of an academic year is not too bad - not the start of teaching, which is generally around March, February/March.

But generally, often a good time. February/March, if you've started teaching, you've got to start research grant applications around there as well. Mid-year is probably not too bad, in-between, like semester break, June/July - that's generally good. So January and June/July are probably the best time, but most academics are fairly busy. I guess if they see the value in it, they will find time to do it.

Interviewer: Sure. So do you foresee outside of the time aspect any barriers to nurses or midwife academics completing the survey or engaging with the survey?

Participant 5: I guess for them, because CAM is an integral part of nursing they probably want to see a purpose to this and why it's important for nursing. So for me obviously I think it's valuable but for other nurses who don't have any perhaps maybe biased against CAM it's probably not too bad if you phrase the cover letter in a way that says looking at varying opinions of the value of putting CAM into nursing curricula, that didn't kind of pre-empt a positive or negative bias within that. They might have said for those who are strongly supportive and strongly against it they both might think well, good opinions about whether it should or should not be included within that. And that's just provides some kind of being eloquent about how that initial cover letter is structured.

Interviewer: So what do you think the best channels of contacting academics to complete this would be?

Participant 5: I think for academics the best way is electronic, because a number of reasons, one is that it's not always easy to get a paper based instrument to an academic because internal mail systems can be quite slow, they might not check their internal mail very regularly. In our institution they always send out reminders saying please can you get your mail it's been here for weeks and weeks and weeks, you've got that issue there.

A lot of academics actually work offsite as well so if you do a paper based one it might sit in their office for weeks and then get forgotten under another pile of stuff, so paper based I've generally found is, sorry, electronic like Survey Monkey, Survey Gizmo is good because they open an email and they can quickly action it there and then and then move on. Because often like most people get inundated with a whole pile of emails, gets lost in that whole … basically gets buried in their in-box and I've done that a few times in surveys where you can

do a number of reminders, sorry, actually forgot about this or it just got buried.

Interviewer: Now, in terms of talking about the motivation and explanation of why this is being done, do you think reference to the National Competency Standards would help galvanise people to maybe click on the link or do it?

Participant 5: Absolutely. We use that a lot in our final year because in nursing it's very practice based, many people in the final year where they say what do you have to do about research, what's the value, I want to be a clinician, research isn't valuable to me and that's when we bring in competencies to say these are why you, you need to demonstrate these abilities and that's what this course actually does or split it and it does. And so if you draw attention to that which is the language that nursing academics will use, it also reflects back on them why they need to consider this very issue.

Interviewer: Sure. Well, we don't want - we want to try and avoid leading them on down a certain direction, and I'm almost wondering if the way you worded it before would be better than instigating some kind of panic or worry about…

Participant 5: Like 'I need to be'.

Interviewer: Yes, like 'I need to be putting CAM in'. Even though there are a lot of indirect references to being able to work in the health care setting and all that, and CAM in the National Competency Standards. So, you think that might work as a cover letter?

Participant 5: I think it would, but then, like you mentioned, it could potentially [buy us/bias 0:25:32] as well. They might think, 'Now I come to think about it, maybe we should be doing it after reading those competencies,' and that might just change their view. You want it to be an accurate representation of this.

Interviewer: Because it's not really - I mean, it's trying to just gather what is out there currently. It's not really trying to get people to do it or convince them to do it. We just want to find out, what is out there currently and what are their attitudes and perceptions towards CAM in general. So, maybe the way you worded it first would be good.

Participant 5: So, things like what's currently being delivered - I don't think that would affect, because that's just basically a statement, yes or no. Their opinions; it could potentially change them, if they think,

'Actually I can now see the value of CAM, I'll give a five instead of a four'.

Interviewer: Yes, sure. Right, great. Well, that's all I wanted to ask you, do you have anything else to say or add?

Participant 5: No. I was going to say, the project itself is part of your Masters?

Interviewer: Yes, yes.

8.0 REFERENCES

ABUL-FADL, A. M., SHAWKY, M., EL-TAWEEL, A., CADWELL, K. & TURNER-MAFFEI, C. 2012. Evaluation of mothers' knowledge, attitudes, and practice towards the ten steps to successful breastfeeding in Egypt. *Breastfeed Med,* 7**,** 173-8.

ADAMS, J. 2006. An exploratory study of complementary and alternative medicine in hospital midwifery: models of care and professional struggle. *Complement Ther Clin Pract,* 12**,** 40-7.

ADAMS, J. (ed.) 2007a. *Researching complementary and alternative medicine,* Abingdon: Routledge.

ADAMS, J. 2007b. Restricting CAM consumption research: Denying insights for practice and policy. *Complementary Therapies in Medicine,* 15**,** 75-76.

ADAMS, J. 2011. Growing popularity of complementary and alternative medicine during pregnancy and implications for healthcare providers. *Expert Review of Obstetrics and Gynecology,* 6**,** 365-366.

ADAMS, J., ANDREWS, G., BARNES, J., BROOM, A. & MAGIN, P. (eds.) 2012. *Traditional, complementary and integrative medicine: an international reader,* London: Palgrave.

ADAMS, J., LUI, C.-W. & MCLAUGHLIN, D. 2009a. The use of complementary and alternative medicine in later life. *Reviews in Clinical Gerontology,* 19**,** 227-236.

ADAMS, J., LUI, C.-W., SIBBRITT, D., BROOM, A., WARDLE, J. & HOMER, C. 2011a. Attitudes and referral practices of maternity care professionals with regard to complementary and alternative medicine: an integrative review. *Journal of Advanced Nursing,* 67**,** 472-483.

ADAMS, J., LUI, C. W., SIBBRITT, D., BROOM, A., WARDLE, J. & HOMER, C. 2011b. Attitudes and referral practices of maternity care professionals with regard to complementary and alternative medicine: an integrative review. *Journal of Advanced Nursing,* 67**,** 472-483.

ADAMS, J., SIBBRITT, D., BROOM, A., LOXTON, D., PIROTTA, M., HUMPHREYS, J. & LUI, C. W. 2011c. A comparison of complementary and alternative medicine users and use across geographical areas: a national survey of 1,427 women. *BMC Complement Altern Med,* 11**,** 85.

ADAMS, J., SIBBRITT, D. & YOUNG, A. F. 2009b. A longitudinal analysis of older Australian women's consultations with complementary and alternative medicine (CAM) practitioners, 1996–2005. *Age and ageing,* 38**,** 93-99.

ADAMS, J. & TOVEY, P. (eds.) 2008. *Complementary and Alternative Medicine in Nursing and Midwifery: Towards a Critical Social Science,* London: Routledge.

ADAMS, J. & WARDLE, J. 2009. Engaging practitioners in research. *Journal of Complementary Medicine,* 8**,** 5.

ADIB-HAJBAGHERY, M. & HOSEINIAN, M. 2014. Knowledge, attitude and practice toward complementary and traditional medicine among Kashan health care staff, 2012. *Complement Ther Med,* 22**,** 126-32.

ADIBE, M. O. 2010. Assessment of attitude and behavior of health professionals towards provision of drug information services in Enugu state. *International Journal of Drug Development and Research,* 2**,** 555-564.

AGENCY FOR HEALTHCARE RESEARCH AND QUALITY. 2014. *Health Services Research: A Definition* [Online]. Rockville, MD. Available: http://www.ahrq.gov/funding/training-grants/hsrguide/hsrguide.html [Accessed 2016].

AL-RUKBAN, M. O., ALBEDAH, A. M., KHALIL, M. K., EL-OLEMY, A. T., KHALIL, A. A. & ALRASHEID, M. H. 2012. Status of complementary and alternative medicine in the curricula of health colleges in Saudi Arabia. *Complement Ther Med,* 20**,** 334-9.

ANTONOVSKY, A. 1996. The salutogenic model as a theory to guide health promotion. *Health Promotion INternational,* 11**,** 11-18.

ASSOCIATION, A. M. 2012. Position Statement. *Policy.* Australia: Australian Medical Association.

AUSTRALIAN COUNCIL ON HEALTHCARE STANDARDS. 2012. *The National Safety and Quality Health Service Standards* [Online]. http://www.achs.org.au/programs-services/other-accreditation-programs/the-national-safety-and-quality-health-service-standards-(nsqhss)/. [Accessed 06/02/13].

AUSTRALIAN HEALTH MINISTERS' ADVISORY COUNCIL 2008. Primary Maternity Services in Australia. Australia: NSW Department of Health.

AVINO, K. 2011. Knowledge, attitudes, and practices of nursing faculty and students related to complementary and alternative medicine: a statewide look. *Holist Nurs Pract,* 25**,** 280-8.

AVINO, K. M. 2008. *Integrating holistic nursing at the University of Delaware.* Ed.D., University of Delaware.

BALAKAS, K., SPARKS, L., STEURER, L. & BRYANT, T. 2013. An Outcome of Evidence-Based Practice Education: Sustained Clinical Decision-Making Among Bedside Nurses. *Journal of Pediatric Nursing,* 28**,** 479-485.

BALNEAVES, L., TRUANT, T., VERHOEF, M., ROSS, B., PORCINO, A. & WONG, M. 2010. Assessing the complementary medicine (CAM) information and decision support needs of patients and health professionals at a Canadian cancer agency. *Psycho-Oncology,* 19**,** S163.

BARBERIS, L., DE TONI, E., SCHIAVONE, M., ZICCA, A. & GHIO, R. 2001. Unconventional Medicine Teaching at the Universities of the European Union. *The Journal of Alternative and Complementary Medicine,* 7**,** 337-343.

BARROS, N. F. & TOVEY, P. 2007. Complementary and alternative therapeutics teaching in nursing schools. [Portuguese]

O ensino das terapias alternativas e complementares em escolas de enfermagem. *Revista gaucha de enfermagem / EENFUFRGS,* 28**,** 207-214.

BELL, I. R., CASPI, O., SCHWARTZ, G. E., GRANT, K., GAUDET, T., RYCHENER, D., MAIZE, V. & WEIL, A. 2002. Intgrative Medicine and Systematic Outcomes Research: Issues in the Emergence of a New Model for Primary Health Care. *JAMA Internal Medicine,* 162**,** 133-140.

BEN-ARYE, E., FRENKEL, M., BAR-SELA, G., MARGALIT, R. S., HERMONI, D. & KUTEN, A. 2008. Teaching complementary medicine at an academic oncology department. *J Cancer Educ,* 23**,** 46-50.

BENOIT, C., ZADOROZNYJ, M., HALLGRIMSDOTTIR, H., TRELOAR, A. & TAYLOR, K. 2010. Medical dominance and neoliberalisation in maternal care provision: The evidence from Canada and Australia. *Social Science & Medicine,* 71**,** 475-481.

BERTRAND, S. W. 2010. Inroads to integrative health care: Registered nurses' personal use of traditional Chinese medicine affects professional identity and nursing practice. *Complementary Health Practice Review,* 15**,** 14-30.

BJERSA, K., FORSBERG, A. & FAGEVIK OLSEN, M. 2011. Perceptions of complementary therapies among Swedish registered professions in surgical care. *Complement Ther Clin Pract,* 17**,** 44-9.

BJERSA, K., STENER VICTORIN, E. & FAGEVIK OLSEN, M. 2012. Knowledge about complementary, alternative and integrative medicine (CAM) among registered health care providers in

Swedish surgical care: a national survey among university hospitals. *BMC Complement Altern Med,* 12**,** 42.
BLAIR, J., ACKERMANN, A., PICCININO, L. & LEVENSTEIN, R. 2007. Using Behavior Coding to Validate Cognitive Interview Findings. *Proceedings of the American Statstical Associaiton: Section on Survey Research Methods*.
BLAIR, J. & CONRAD, F. 2011. Sample Size for Cognitive Interview Pretesting. *Public Opnion Quarterley,* 75**,** 636-658.
BLESS, H. & SCHWARZ, N. 2010. Chapter 6 - Mental Construal and the Emergence of Assimilation and Contrast Effects: The Inclusion/Exclusion Model. *In:* MARK, P. Z. (ed.) *Advances in Experimental Social Psychology.* Academic Press.
BOON, H., VERHOEF, M., O'HARA, D. & BARB, F. 2004. From parallel practice to integrative health care: a conceptual framework. . *BMC Health Services Research,* 4**,** 1-5.
BOOTH-LA, F. C., SCOTT, C., HEITKEMPER, M., CORNMAN, B., LAN, M., BOND, E. & SWANSON, K. 2010. Complementary and alternative medicine (CAM) attitudes and competencies of nursing students and faculty: Results of integrating CAM into the nursing curriculum. *Journal of Professional Nursing,* 26**,** 293-300.
BOOTH-LAFORCE, C., SCOTT, C. S., HEITKEMPER, M. M., CORNMAN, B. J., LAN, M.-C., BOND, E. F. & SWANSON, K. M. 2010. Complementary and Alternative Medicine (CAM) Attitudes and Competencies of Nursing Students and Faculty: Results of Integrating CAM Into the Nursing Curriculum. *Journal of Professional Nursing,* 26**,** 293-300.
CAM integration in inter-professional context: nursing, midwifery and medicine in Canada, 2008. Directed by BOURGEAULT, I. & HIRSCHKORN, K. United Kingdom: Routledge.
BOWLING, A. 2005. Mode of questionnaire administration can have serious effects on data quality. *Journal of Public Health,* 27**,** 281-291.
BROOM, A. & ADAMS, J. 2007. Current issues and future directions in complementary and alternative medicine (CAM) research. *Complementary therapies in medicine,* 15**,** 217-220.
BROOM, A. & ADAMS, J. 2009. Oncology clinicians' accounts of discussing complementary and alternative medicine with their patients. *Health (London),* 13**,** 317-36.
BROOM, A., WIJEWARDENA, K., SIBBRITT, D., ADAMS, J. & NAYAR, K. 2010. The use of traditional, complementary and alternative medicine in Sri Lankan cancer care: Results from a survey of 500 cancer patients. *Public Health,* 124**,** 232-237.
BROWN, J., COOPER, E., FRANKTON, L., STEEVES-WALL, M., GILLIS-RING, J., BARTER, W., MCCABE, A. & FERNANDEZ, C. 2007. Complementary and alternative therapies: survey of knowledge and attitudes of health professionals at a tertiary pediatric/women's care facility. *Complement Ther Clin Pract,* 13**,** 194-200.
BRUGUIER, E. 2008. Allied health and nursing academic programs at New Jersey county colleges: holistic health and complementary and alternative medicine content. *Complementary Health Practice Review,* 13**,** 155-170.
BRYKCZYNSKI, K. 2012. Clarifying, affirming, and preserving the nurse in nurse practitioner education and practice. *Journal of the American Academy of Nurse Practitioners,* 24**,** 554-564.
BUCKEL, J. 2007. Literature review: should nursing take aromatherapy more seriously? *British Journal of Nursing,* 16**,** 116-120.
BURMAN, M. 2003. Complementary and Alternative Medicine: Core Competencies for Family Nurse Practitioners. *Journal of Nursing Education,* 42**,** 28-34.
CANT, S., WATTS, P. & RUSTON, A. 2011. Negotiating competency, professionalism and risk: the integration of complementary and alternative medicine by nurses and midwives in NHS hospitals. *Soc Sci Med,* 72**,** 529-36.
CASPI, O. 2015. Do's and don'ts in the establishment of an integrative medicine service in the public health care system--challenges and insights. *Harefuah,* 154**,** 187-191.

CHANG, M., LIN, H. & TSAI, C. 2004. Student nurses' knowledge, attitude, and behavior toward Chinese medicine and related factors. *Journal of Nursing Research (Taiwan Nurses Association),* 12**,** 103-118.

CHLAN, L., HALCON, L., KREITZER, M. & LEONARD, B. 2005. Influence of an Experiential Education Session on Nursing Students Confidence Levels in Performing Selected Complementary Therapy Skills. *Complementary Health Practice Review,* 10**,** 189-201.

COHEN-MANSFIELD, J. & JENSEN, B. 2008. Nursing Home Physicians' Knowledge Of and Attitudes Toward Nonpharmacological Interventions for Treatment of Behavioral Disturbances Associated With Dementia. *Journal of the American Medical Directors Association,* 9**,** 491-498.

COOK, C., HEATH, F. & THOMPSON, R. 2000. A Meta-Analysis of Response Rates in Web- or Internet-Based Surveys. *Educaitonal and Psycological Measurement,* 60.

COOK, J., DICKINSON, H. & ECCLES, M. 2009. Response rates in postal surveys of healthcare professionals between 1996 and 2005: An observational study. *BMC Health Services Research,* 9.

COOKE, M., MITCHELL, M., TIRALONGO, E. & MURFIELD, J. 2012. Complementary and alternative medicine and critical care nurses: a survey of knowledge and practices in Australia. *Aust Crit Care,* 25**,** 213-23.

COULTER, I. D., SINGH, B. B., RILEY, D. & DER-MARTIROSIAN, C. 2005. Interprofessional Referral Patterns in an Integrated Medical System. *Journal of manipulative and physiological therapeutics,* 28**,** 170-174.

CUTSHALL, S., DERSCHEID, D., MIERS, A. G., RUEGG, S., SCHROEDER, B. J., TUCKER, S. & WENTWORTH, L. 2010. Knowledge, attitudes, and use of complementary and alternative therapies among clinical nurse specialists in an academic medical center. *Clin Nurse Spec,* 24**,** 125-31.

DAYHEW, M., WILKINSON, J. M. & SIMPSON, M. D. 2009. Complementary and alternative medicine and the search for knowledge by conventional health care practitioners. *Contemp Nurse,* 33**,** 41-9.

DE MIGUEL MARTIN, M. N., LOSA IGLESIAS, M., SILVA DO ROSARIO, T., SALVADORES FUENTES, P., GOMEZ-ARNAU Y DIAZ-CANABATE, J. I., CASAS MARTINEZ, F., GARCIA MARTINEZ, R. & ALTIERI, P. 2012. Level of knowledge and attitudes about pain in state CAM (Spain) in nursing: Degree in nursing and professionals. [Spanish]

Grado de conocimientos y actitudes de la enfermeria de la Comunidad Autonoma de Madrid (CAM) ante el dolor: Diplomados en enfermeria y profesionales. *Revista de la Sociedad Espanola del Dolor,* 19**,** 293-300.

DE VAUS, D. 2002. Constructing Questionnaires. *In:* DE VAUS, D. (ed.) *Surveys in Social Research.* Crows Nest, NSW: Allen & Unwin.

DENNER, S. S. 2007. The advanced practice nurse and integration of complementary and alternative medicine: emerging policy issues. *Holistic Nursing Practice,* 21**,** 152-159.

DIEZEL, H., STEEL, A., WARDLE, J. & JOHNSTONE, K. 2013. Patterns and influences of interprofessional communication between midwives and CAM practitioners: a preliminary examination of the perceptions of midwives. *Australian Journal of Herbal Medicine,* 25**,** 4-10.

DOWNEY, M. 2007. An investigation on the education and use of complementary and alternative therapies by nurses in personal and professional practice. *Dissertation Abstracts International Section A: Humanities and Social Sciences* 68**,** 1767.

DRENNAN, J. 2003. Cognitive interviewing: verbal data in the design and pretesting of questionnaires. *Journal of Advanced Nursing,* 42**,** 57-63.

DYKEMA, J., JONES, N., PICHÉ, T. & STEVENSON, J. 2013. Surveying Clinicians by Web Current Issues in Design and Administration. *Evaluation & the Health Professions,* 36**,** 352-381.

EISENBERG, D., DAVIS, R. B., ETTNER, S., APPEL, S., WILKEY, S., VAN ROMPAY, M. & KESSLER, R. 1997. Trends in Alternative Medicine Use in the United States, 1990-1997: Results of a Follow-up National Survey. *JAMA - Journal of the American Medical Association,* 280.

ELDER, W., RAKEL, D., HEITKEMPER, M., HUSTEDDE, C., HARAZDUK, N., GERIK, S. & HARAMATI, A. 2007. Using complementary and alternative medicine curricular elements to foster medical student self-awareness. *Academic Medicine,* 82**,** 951-955.

FALKENBERG, T. 2010. From alternative medicine towards integrative care - Health care providers and patients need for control? *Human Reproduction,* 25**,** i98.

FENWICK, J., HAMMOND, A., RAYMOND, J., SMITH, R., GRAY, J., FOUREUR, M., HOMER, C. & SYMON, A. 2012. Surviving, not thriving: a qualitative study of newly qualified midwives' experience of their transition to practice. *Journal of Clinical Nursing,* 21**,** 2054-2063.

FEWELL, F. & MACKRODT, K. 2005. Awareness and practice of complementary therapies in hospital and community settings within Essex in the United Kingdom. *Complement Ther Clin Pract,* 11**,** 130-6.

FODDY, W. 1996. The in-depth testing of survey questions: A critical appraisal of methods. *Quality and Quantity,* 30**,** 361-370.

FORJUOH, S., RASCO, T., BARBALEE, S. & EDWARDS, J. 2003. Teaching Medical Students Complementary and Alternative Medicine Using Evidence-Based Medicine. *Journal of Alternative & Complementary medicine,* 9**,** 429-439.

FOWLER, F. 1991. Getting beyond pretesting an cognitive interview: the case for more experimental pilot studies. *In:* PRESSER, S., ROTHGEB, J., COUPER, M. & LESLLER, J. (eds.) *Questionnaire development evaluation and testing* 177-188.

FOWLER, F. 2014. Survey Error in Perspective. *Survey Research Methods.* United States: SAGE.

GABOURY, I., APRIL, K. & VERHOEF, M. 2012. A qualitative study on the term CAM: is there a need to reinvent the wheel? *BMC Complementary and Alternative Medicine,* 12**,** 1-7.

GABOURY, I., LAPIERRE, L. M., BOON, H. & MOHER, D. 2011. Interprofessional collaboration within integrative healthcare clinics through the lens of the relationship-centered care model. *Journal of Interprofessional Care,* 25**,** 124-130.

GAFFNEY, L. & SMITH, C. 2004. Use of complementary therapies in pregnancy: The perceptions of obstetricians and midwives in South Australia. *Australian and New Zealand Journal of Obstetrics and Gynaecology,* 44**,** 24-29.

GAYDOS, H. 2001. Complementary and alternative therapies in nursing education: trends and issues. *Online Journal of Issues in Nursing,* 6**,** 14.

GELLER, S. E., STUDEE, L. & CHANDRA, G. 2005. Knowledge, attitudes, and behaviors of healthcare providers for botanical and dietary supplement use for postmenopausal health. *Menopause,* 12**,** 49-55.

GIRGIS, A., ADAMS, J. & SIBBRITT, D. 2005. The use of complementary and alternative therapies by patients with cancer. *Oncology Research Featuring Preclinical and Clinical Cancer Therapeutics,* 15**,** 281-289.

GREEN, S. B., LISSITZ, R. W. & MULAIK, S. A. 1977. Limitations of Coefficient Alpha as an Index of Test Unidimensionality1. *Educational and Psychological Measurement,* 37**,** 827-838.

GROFT, J. N. & KALISCHUK, R. G. 2005. Nursing Students Learn About Complementary and Alternative Health Care Practices. *Complementary Health Practice Review,* 10**,** 133-146.

GROVES, R., FOWLER, F., COUER, M., LEPKOWSKI, J., SINGER, E. & TOURANGEAU, R. 2009. *Survey Methodology,* New Jersey, John Wiley & Sons.

HALCON, L., LEONARD, B., SNYDER, M., GARWICK, A. & KREITZER, M. 2001. Incorporating Alternative and Complementary Health Practices Within University-Based Nursing Education. *Complementary Health Practice Review,* 6**,** 135.

HALL, H. G., MCKENNA, L. G. & GRIFFITHS, D. L. 2012. Midwives' support for Complementary and Alternative Medicine: a literature review. *Women Birth,* 25**,** 4-12.
HARRIS, G. A. 1995. Complementary therapies: their role and place within undergraduate medical education. *Complementary Therapies in Medicine,* 3**,** 167-170.
HE, H. G., JAHJA, R., LEE, T. L., ANG, E. N., SINNAPPAN, R., VEHVILAINEN-JULKUNEN, K. & CHAN, M. F. 2010. Nurses' use of non-pharmacological methods in children's postoperative pain management: educational intervention study. *J Adv Nurs,* 66**,** 2398-409.
HELMS, J. E. 2006. Complementary and alternative therapies: a new frontier for nursing education? *J Nurs Educ,* 45**,** 117-23.
HESSIG, R. E., ARCAND, L. L. & FROST, M. H. 2004. The Effects of an Educational Intervention on Oncology Nurses' Attitude, Perceived Knowledge,and Self-Reported Application of Complementary Therapies. *Oncology Nursing Forum,* 31**,** 71-78.
HOLROYD, E., ZHANG, A. L., SUEN, L. K. & XUE, C. C. 2008. Beliefs and attitudes towards complementary medicine among registered nurses in Hong Kong. *Int J Nurs Stud,* 45**,** 1660-6.
HOMER, C., PASSANT, L., BRODIE, P., KILDEA, S., LEAP, N., PINCOMBE, J. & THOROGOOD, C. 2009. The role of the midwife in Australia: views of women and midwives. . *Midwifery,* 25**,** 673-681.
HOPE-ALLAN, N., ADAMS, J., SIBBRITT, D. & TRACY, S. 2004. The use of acupuncture in maternity care: A pilot study evaluating the acupuncture service in an Australian hospital antenatal clinic. *Complementary Therapies in Nursing and Midwifery,* 10**,** 229-232.
HOUGHTON, P. & BARNES, J. 2004. Pharmacognosy in the curriculum: A critical need that still needs to be met. *Pharmaceutical Journal,* 273**,** 325-326.
HUGHES, K. 2008. CAM, nursing and the meanings of care. *In:* ADAMS, J. & TOVEY, P. (eds.) *Complementary Alternative Medicine in Nursing and Midwifery.* United Kingdom: Routledge.
JAKOVLJEVIC, M. B., DJORDJEVIC, V., MARKOVIC, V., MILOVANOVIC, O., RANCIC, N. K. & CUPARA, S. M. 2013. Cross-sectional survey on complementary and alternative medicine awareness among health care professionals and students using CHBQ questionnaire in a Balkan country. *Chin J Integr Med,* 19**,** 650-5.
JOHANNESSEN, B. 2011. Realization and development of self in CAM nurses and CAM treatment: A qualitative study. *International Journal for Human Caring,* 15**,** 14-20.
JOHNSON, P., KNUTSON, L., SENDELBACH, S. & WARD, A. 2012. Personal use of complementary and alternative medicine (CAM) by U.S. health care workers. *Health Services Research,* 47.
JOUDREY, R., MCKAY, S. & GOUGH, J. 2004. Student nurses' perceptions of alternative and allopathic medicine. *West J Nurs Res,* 26**,** 356-66.
KEIMIG, T. J. & BRAUN, C. A. 2004. Student nurses' knowledge and perceptions of alternative and complementary therapies. *Journal of Undergraduate Nursing Scholarship,* 6**,** 7p.
KELLY, M., MORGAN, A., ELLIS, S., YOUNGER, T., HUNTLEY, J. & SWANN, C. 2010. Evidence based public health: A review of the experience of the National Institute of Health and Clinical Excellence (NICE) of developing public health guidance in England. *Soc Sci Med,* 71**,** 1056-62.
KENYON, C. 2009. Risk management standards in midwifery are no substitute for personal knowledge and accountability. *Complementary Therapies in Clinical Practice,* 15**,** 209-211.
KLABUNDE, C., WILLIS, G., MCLEOD, C., DILLMAN, D., JOHNSON, T., GREENE, S. & BROWN, M. 2012. Improving the Quality of Surveys of Physicians and Medical Groups A Research Agenda. *Evaluation & the Health Professions,* 35**,** .
KREITZER, M. J. & SIERPINA, V. 2006. Innovations in Integrative Healthcare Education: Massage, Medical, and Social Work Student Initiatives. *Explore: The Journal of Science and Healing,* 2**,** 75-76.
KRUSKE, S. & GRANT, J. 2012. Educational preparation for maternal, child and family health nurses in Australia. *International Nursing Review,* 59**,** 200-207.

LAEKEMAN, G. 2010. Herbals and botanicals in the grey area between medicines and nutrition: Scientific and regulatory challenges. *Toxicology Letters,* 196**,** S16.
LANE, K. 2002. The plasticity of professional boundaries: A case study of collaborative care in maternity services. *Health Sociology Review,* 15.
LANE, K. & REIGER, K. 2013. Regime change in Australian maternity hospitals. *Social Theory & Health,* 11**,** 407-427.
LAURENSON, M., MACDONALD, J., MCCREADY, T. & STIMPSON, A. 2006. Student nurses' knowledge and attitudes toward CAM therapies. *British journal of nursing (Mark Allen Publishing),* 15**,** 612-615.
LAWS, P. J., LIM, C., TRACY, S. & SULLIVAN, E. A. 2009. Characteristics and practices of birth centres in Australia. *Australian and New Zealand Journal of Obstetrics and Gynaecology,* 49**,** 290-295.
LEAP, N. 1999. The introduction of 'direct entry' midwifery courses in Australian universities: Issues, myths and a need for collaboration. *Australian College of Midwives Incorporated.,* 12**,** 11-16.
LEE, M. S., LIM, H., LEE, M. & JANG, H. 2005. Perceptions, knowledge and misuse of an oriental herbal drug: a survey of 608 Korean female nursing college students. *Complementary Therapies in Clinical Practice,* 11**,** 200-204.
LEE, V. W. Y., HU, M. & TOMLINSON, B. 2012. Integrating pharmacogenetics for assessment of herb-drug interactions: Has the time come? *Current Pharmacogenomics and Personalized Medicine,* 10**,** 247-253.
LIE, D. & BOKER, J. 2004. Development and validation of the CAM Health Belief Questionnaire (CHBQ) and CAM use and attitudes amongst medical students. *BMC Medical education,* 4**,** 1-9.
LLOYD, L., SIMON, B., DUNN, L. & ISBERNER, F. 2007. The Status of Complementary and Alternative Medicine Education in U.S. Physician Assistant Programs. *Teaching and Learning in Medicine: An International Journal,* 19**,** 174-179.
MARTENSSON, L., KVIST, L. J. & HERMANSSON, E. 2011. A national survey of how acupuncture is currently used in midwifery care at Swedish maternity units. *Midwifery,* 27**,** 87-92.
MCDOWELL, J. E. & BURMAN, M. E. 2004. Complementary and alternative medicine: a qualitative study of beliefs of a small sample of Rocky Mountain area nurses. *Medsurg Nurs,* 13**,** 383-90.
MCFARLIN, B., GIBSON, M., O'REAR, J. & HARMAN, P. 1999. A national survey of herbal preparation use by nurse-midwives for labor stimulation. Review of the literature and recommendations for practice. *Journal of Nurse-Midwifery* 44**,** 205–216.
MCKENNA, L. & ROLLS, C. 2007. Bachelor of Midwifery: Reflections on the first 5 years from two Victorian universities. *Women and Birth,* 20**,** 81-84.
MCLEOD, C., KLABUNDE, C., WILLIS, G. & STARK, D. 2013. Health Care Provider Surveys in the United States, 2000–2010A Review. *Evaluation & the Health Professions,* 36**,** 106-126.
MEI-YING, C., HUEY-SHYAN, L. & CHIN-FAN, T. 2004. Student nurses' knowledge, attitude, and behavior toward chinese medicine and related factors. *J Nurs Res,* 12**,** 103-18.
MINICHIELLO, V., SULLIVAN, G., GREENWOOD, K. & AXFORD, R. 2004. *Research Methods for Nursing and Health Science,* New South Wales, Pearson Education.
MITCHELL, M. 2010. Risk, pregnancy and complementary and alternative medicine. *Complement Ther Clin Pract,* 16**,** 109-13.
MITCHELL, M. & DOYLE, M. 2002. Complementary therapies in the midwifery curriculum. *Practising Midwife,* 5**,** 40-41.
MITCHELL, M., WILLIAMS, J., HOBBS, E. & POLLARD, K. 2006. The use of complementary therapies in maternity services: A survey. (cover story). *British Journal of Midwifery,* 14**,** 576-582.
MOLLART, L. 2004. Implementing reflexology into midwifery practice. *Aust J Holist Nurs,* 11**,** 37-44.

MOORE, K. 2010. Rationale for complementary and alternative medicine in nursing school curriculum. *J Altern Complement Med,* 16**,** 611-2.
MORGAN, D., GLANVILLE, H., MARIS, S. & NATHANSON, V. 1998. Education and training in complementary and alternative medicine: a postal survey of UK universities, medical schools and faculties of nurse education. *Complementary Therapies in Medicine,* 6**,** 64-70.
MUNOZ-SELLES, E., VALLES-SEGALES, A. & GOBERNA-TRICAS, J. 2013. Use of alternative and complementary therapies in labor and delivery care: a cross-sectional study of midwives' training in Catalan hospitals accredited as centers for normal birth. *BMC Complement Altern Med,* 13**,** 318.
NÁPOLES-SPRINGER, A., SANTOYO-OLSSON, J., O'BRIEN, H. & STEWART, A. 2006. Using Cognitive Interviews to Develop Surveys in Diverse Populations. *Medical Care,* 44**,** S21-S30.
NATIONAL HEALTH & MEDICAL RESEARCH COUNCIL 2014. Complementary medicines. Australia: Australian Government.
NATIONAL HEALTH AND MEDICAL RESEARCH COUNCIL 2014. Complementary Medicines. *Talking with you patients about Complementary Medicine - a Resource for Clinicians.* Australia: Australian Government.
NEUERTA, C. & LENZNERA, T. 2015. Incorporating eye tracking into cognitive interviewing to pretest survey questions. *International Journal of Social Research Methodology,* 18**,** 1-19.
NICOLAO, M., TÄUBER, M., MARIANA, F. & HEUSSERC, P. 2010. Complementary medicine courses in Swiss medical schools: actual status and students' experiences. *Swiss Med Weekly,* 140**,** 44-51.
NISSEN, N. & MANDERSON, L. 2013. Researching Alternative and Complementary Therapies: Mapping the Field. *Medical Anthropology: Cross Cultural Studies in Health and Illness,* 32**,** 1-7.
NURSING & MIDWIFERY BOARD OF AUSTRALIA 2006. National competency standards for the registered nurse and the midwife. Australia: Australian Board of Nursing and Midwifery.
NURSING & MIDWIFERY BOARD OF AUSTRALIA. 2014a. *Approved Programs of Study* [Online]. Available: http://www.nursingmidwiferyboard.gov.au/Accreditation/Approved-programs-of-study.aspx [Accessed August 25th 2014].
NURSING & MIDWIFERY BOARD OF AUSTRALIA. 2014b. *Registration & Endorsement* [Online]. Available: http://www.nursingmidwiferyboard.gov.au/Registration-and-Endorsement.aspx [Accessed 25th August 2014].
NURSING AND MIDWIFERY BOARD OF AUSTRALIA 2006. National competency standards for the midwife. *Domains.* Australia.
NURSING AND MIDWIFERY BOARD OF AUSTRALIA 2014. Nurse practitioner standards for practice. *Nurse practitioner standards.* Australia.
O'CONNOR, B., CALABRESE, C., CARDENA, E., EISENBERG, D., FINCHER, J., HUFFORD, D., JONAS, W., KAPTCHUCK, T., MARTIN, S. & SCOTT, A. 1997. Defining and describing complementary and alternative medicine. Panel on Definition and Description, CAM Research Methodology Conference, April 1995. *Altern Ther Health Med,* 3**,** 49-57.
OLSEN, C. 1999. Alternative therapy: to teach or not to teach *Perspective on Physician Assistant Education,* 10**,** 25-27.
OSBORN, C., BAXTER, G. D., BARLAS, P. & BARLOW, J. 2004. Complementary and alternative medicine and rheumatology nurses: A survey of current use and perceptions. *Journal of Research in Nursing,* 9**,** 110-119.
OZTEKIN, D. S., UCUZAL, M., OZTEKIN, I. & ISSEVER, H. 2007. Nursing students' willingness to use complementary and alternative therapies for cancer patients: Istanbul survey. *Tohoku J Exp Med,* 211**,** 49-61.

PARVATHY, M., SIBBRITT, D. W. & ADAMS, J. 2004. The use of herbal medicines for the treatment of menopausal symptoms. A pilot study of women attending general practice. *Australian family physician,* 33**,** 955.

PERRIN, K. 2008. Complementary and Alternative Medicine and the Role of Health Education: A Reaction to Johnson et al. and Nowak and Dorman. *American Jounral of Health education,* 39**,** 126.

PETTERSEN, S. & OLSEN, R. V. 2007. Exploring predictors of health sciences students' attitudes towards complementary-alternative medicine. *Adv Health Sci Educ Theory Pract,* 12**,** 35-53.

PIRKIS, J. E., BURGESS, P. M., KIRK, P. K., DODSON, S., COOMBS, T. J. & WILLIAMSON, M. K. 2005. A review of the psychometric properties of the Health of the Nation Outcome Scales (HoNOS) family of measures. *Health Qual Life Outcomes,* 3**,** 76.

POKLADNIKOVA, J. & LIE, D. 2008. Comparison of attitudes, beliefs, and resource-seeking behavior for CAM among first- and third-year Czech pharmacy students. *Am J Pharm Educ,* 72**,** 24.

PRESSER, S. & BLAIR, J. 1994. Survey Pretesting: Do Different Methods Produce Different Results? *Sociological Methodology,* 24**,** 73-104.

PRESSER, S., COUPER, M., LESSLER, J., MARTIN, E., MARTIN, J., ROTHGEB, J. & SINGER, E. 2004. Methods for tesing and evaluating survey questions. *The Public Opinion Quarterly,,* 68**,** 109-130.

QUIMBY, E. L. 2007a. The use of herbal therapies in pediatric oncology patients: treating symptoms of cancer and side effects of standard therapies. *J Pediatr Oncol Nurs,* 24**,** 35-40.

QUIMBY, E. L. 2007b. The Use of Herbal Therapies in Pediatric Oncology Patients: Treating Symptoms of Cancer and Side Effects of Standard Therapies. *Journal of Pediatric Oncology Nursing,* 24**,** 35-40.

RANKIN-BOX, D. 2002. Ethics and quality in complementary therapy education. *Nursing Times,* 98**,** 40-42.

RAWLINGS, F. & MEERABEAU, L. 2003. Implementing aromatherapy in nursing and midwifery practice. *Journal of Clinical Nursing,* 12**,** 405-411.

REID, R., STEEL, A., WARDLE, J., TRUBODY, A. & ADAMS, J. 2016. Complementary medicine use by the Australian population: a critical mixed studies systematic review of utilisation, perceptions and factors associated with use. *BMC Complementary and Alternative Medicine,* 16**,** 1.

REIGER, K. & LANE, K. 2013. 'How can we go on caring when nobody here cares about us?' Australian public maternity units as contested care sites. *Women and Birth,* 26**,** 133-137.

ROJAS-COOLEY, M. T. & GRANT, M. 2006. Complementary and alternative medicine: oncology nurses' experiences, educational interests, and resources. *Oncol Nurs Forum,* 33**,** 581-8.

ROJAS-COOLEY, M. T. & GRANT, M. 2009. Complementary and alternative medicine: oncology nurses' knowledge and attitudes. *Oncol Nurs Forum,* 36**,** 217-24.

RUFFIN, P. 2011a. A history of massage in nurse training school curricula (1860-1945). *Journal of Holistic Nursing,* 29**,** 61-7.

RUFFIN, P. T. 2011b. *Massage in Nursing: From Routine Care to Complementary Therapy, 1873-2011.* Ph.D., University of Virginia.

SCHMIDT, K., REES, C., GREENFIELD, S., WEARN, A., DENNIS, I., PATIL, N., AMRI, H. & BOON, H. 2005. Multischool, International Survey of Medical Students' Attitudes toward "Holism". *Academic Medicine,* 80.

SCHMIDT, K., REES, C., GREENFIELD, S., WEARN, A. M., DENNIS, I., PATIL, N. G., AMRI, H. & BOON, H. 2006. Multischool, international survey of medical students' attitudes toward 'holism.': Erratum. *Academic Medicine,* 81.

SCHNEIDER, D., MEEK, P. & BELL, I. R. 2003. Development and validation of IMAQ: Integrative Medicine Attitude Questionnaire. *BMC Medical education,* 3**,** 1-7.

SCHWARZ, N. 2007. Cognitive aspects of survey methodology. *Applied Cognitive Psychology,* 21**,** 277-287.
SCHWARZ, N. & STRACK, F. 1991. Context Effects in Attitude Surveys: Applying Cognitive Theory to Social Research. *European Review of Social Psychology,* 2**,** 31-50.
SCHWARZ, N., STRACK, F. & MAI, P. 1990. Assimilation and contrast effects in part-whole question sequences: a conversational logic analysis. *Public Opinon Quarterly,* 55**,** 2-23.
SCHWARZ, N. & SUDMAN, S. 1996. *Answering questions: methodology for determining cognitive and comunicative processes in survey research,* San Fransisco, Jossey-Bass Publishers.
SENA, J., SOARES, M. C. F., CEZAR-VAZ, M. R., SENA, Â. & MUCCILLO-BAISCH, A. L. 2006. Including herbal medicine in the health curriculum -- a necessary reality [Portuguese]. *Revista Mineira de Enfermagem,* 10**,** 280-286.
SEWITCH, M., CEPOIU, M., RIGILLO, N. & SPROULE, D. 2008. A literature review of health care professional attitudes toward complementary and alternative medicine. *Complementary Health Practice Review,* 13**,** 139-54.
SHOROFI, S. A. & ARBON, P. 2010. Nurses' knowledge, attitudes, and professional use of complementary and alternative medicine (CAM): a survey at five metropolitan hospitals in Adelaide. *Complement Ther Clin Pract,* 16**,** 229-34.
SIBBRITT, D., VAN DER RIET, P., DEDKHARD, S. & SRITHONG, K. 2012. Rehabilitation of stroke patients using traditional Thai massage, herbal treatments and physical therapies. *Zhong xi yi jie he xue bao= Journal of Chinese integrative medicine,* 10**,** 743.
SIEGENTHALER, M. & ADLER, R. H. 2006. [The signifiance of alternative medicine at a university hospital]. *Praxis (Bern 1994),* 95**,** 219-25.
SINGER, J. & ADAMS, J. 2012. Integrating complementary and alternative medicine into mainstream health care: An empirical study of seven health care services in Australia. *International Research Congress on Integrative Medicine and Health.* Portland, Oregan. United States.
SMITH, G. D. 2009. The need for complementary and alternative medicine familiarisation in undergraduate nurse education. *J Clin Nurs,* 18**,** 2113-5.
SMITH, G. D. & WU, S. C. 2012. Nurses' beliefs, experiences and practice regarding complementary and alternative medicine in Taiwan. *J Clin Nurs,* 21**,** 2659-67.
SOK, S. R., ERLEN, J. A. & KIM, K. B. 2004. Complementary and alternative therapies in nursing curricula: a new direction for nurse educators. *The Journal of nursing education,* 43**,** 401-405.
SOMANI, S., ALI, F., ALI, T. S. & LALANI, N. S. 2014. Complementary and alternative medicine in oncology nursing. *British Journal of Nursing,* 23**,** 40-46.
STEEL, A. & ADAMS, J. 2012. Developing midwifery and complementary medicine collaboration: The potential of interprofessional education? *Complimentery Therapies in Clinical Practice,* 18**,** 261-264.
STEEL, A., ADAMS, J., SIBBRITT, D., BROOM, A., GALLOIS, C. & FRAWLEY, J. 2012. Utilisation of complementary and alternative medicine (CAM) practitioners within maternity care provision: results from a nationally representative cohort study of 1,835 pregnant women. *BMC Pregnancy Childbirth,* 12**,** 146.
STEWART, D. & ODLE, B. 2013. Perception of natural therapies following student-led education. *Currents in Pharmacy Teaching and Learning,* 5**,** 150-154.
STEWART, D., PALLIVALAPPILA, A., SHETTY, A., PANDE, B. & MCLAY, J. 2014. Healthcare professional views and experiences of complementary and alternative therapies in obstetric practice in North East Scotland: a prospective questionnaire survey. *Bjog*.
SWANSON, B., ZELLER, J., KEITHLEY, J., FUNG, S., JOHNSON, A., SUHAYDA, R., PHILLIPS, M. & DOWNIE, P. 2012. Case-based online modules to teach graduate-level nursing students

about complementary and alternative medical therapies. *Journal of Professional Nursing,* 28**,** 125-9.
TAVAKOL, M. & DENNICK, R. 2011. Making sense of Cronbach's alpha. *Int J Med Educ,* 2**,** 53-55.
TEMPLE, M. D., FAGERLUND, K. & SAEWYC, E. 2005. A national survey of certified registered nurse anesthetists' knowledge, beliefs, and assessment of herbal supplements in the anesthesia setting. *Aana j,* 73**,** 368-77.
THERAPEUTIC GOODS ADMINISTRATION 2013. Compementary Medicines. *An overview of the regulation of complementary medicines in Australia.* Australia: Australian Government.
THRASHER, J., QUA, A., DOMINICK, G., BORLAND, R., DRIEZEN, P., AWANG, R., OMAR, M., HOSKIN, W., SIRIRASSAMEE, B. & BOADO, M. 2011. Using Cognitive Interviewing and Behavioral Coding to Determine Measurement Equivalence across Linguistic and Cultural Groups: An Example from the International Tobacco Control Policy Evaluation Project. *Field methods,* 23**,** 439-460.
TOPUZ, S., UYSAL, G., AKMAN, A. & BÜYÜKGÖNENC, L. 2010. Nursing students' knowledge and opinions towards Complementary and Alternative Medicine (CAM) in cancer patients... 7th EONS Spring Convention in partnership with V&VN, 15-16 April 2010, The Hague, The Netherlands. *European Journal of Oncology Nursing,* 14**,** S28-9.
TORBECK, L., JOYCE, J. & FLANNERY, M. 2004. Integrating experiential learning in complementary and alternative medicine. *Medical education,* 38**,** 1181-1202.
TRACY, M. F., LINDQUIST, R., SAVIK, K., WATANUKI, S., SENDELBACH, S., KREITZER, M. J. & BERMAN, B. 2005. Use of complementary and alternative therapies: A national survey of critical care nurses. *American Journal of Critical Care,* 14**,** 404-416.
TRAIL-MAHAN, T., MAO, C. L. & BAWEL-BRINKLEY, K. 2013. Complementary and alternative medicine: nurses' attitudes and knowledge. *Pain Manag Nurs,* 14**,** 277-86.
TURKER, T., KILIC, S., KOCAK, N., ACIKE, C., TURK, Y. Z. & KIR, T. 2011. Knowledge and attitudes toward Complementary and Alternative Medicine amongst Turkish Nursing students. *Pakistan Journal of Medical Sciences,* 27**,** 379-383.
TURNER, P. 2008. The emerging role of alternative midwifery within the wider socio-political sphere: a focus upon alternative birth care providers and their relationship with conventional medicine. *In:* ADAMS, J. & TOVEY, P. (eds.) *Complementary Alternative Medicine in Nursing and Midwifery.* United Kindom: Routledge.
UZUN, O. & TAN, M. 2004. Nursing students' opinions and knowledge about complementary and alternative medicine therapies. *Complement Ther Nurs Midwifery,* 10**,** 239-44.
VAN DER SCHEE, E. & GROENEWEGEN, P. 2010a. Determinants of public trust in complementary and alternative medicine. *BMC Public Health,* 10.
VAN DER SCHEE, E. & GROENEWEGEN, P. P. 2010b. Determinants of public trust in complementary and alternative medicine. *BMC Public Health,* 10**,** 128.
VAN HASELEN, R. A., REIBER, U., NICKEL, I., JAKOB, A. & FISHER, P. A. 2004. Providing Complementary and Alternative Medicine in primary care: the primary care workers' perspective. *Complement Ther Med,* 12**,** 6-16.
VANGEEST, J. & JOHNSON, T. 2011. Surveying Nurses: Identifying Strategies to Improve Participation. *Evaluation & the Health Professions,* 34**,** 487-511.
VINJAMURY, S., THOMPSON, G., NAGARE, M. & ROSE, K. 2012. Assessment of student learning at a CAM institution-why and how? *BMC Complementary and Alternative Medicine,* 12.
WALTER, M. 2006. Surveys and Sampling. *In:* WALTER, M. (ed.) *Social Research Methods.* Melbourne, VIC: Oxford University Press.
WANDERSMAN, A. 2003. Community Science: Bridging the Gap Between Science and Practice With Community-Centered Models. *American Journal of Community Psychology,* 31.

WANG, C. & YATES, P. 2006. Nurses' responses to people with cancer who use complementary and alternative medicine. *Int J Nurs Pract,* 12**,** 288-94.
WARDLE, J., LUI, C. W. & ADAMS, J. 2012. Complementary and alternative medicine in rural communities: current research and future directions. *The Journal of Rural Health,* 28**,** 101-112.
WARDLE, J. & SEELY, D. 2007. The challenges of traditional, complementary and integrative medicine research: A practitioner perspective. *In:* ADAMS, J. (ed.) *Traditional, Complementary and Integrative Medicine: An International Reader.* New York: Palgrave MacMillan.
WEEKS, J. 2015. In Name and Concept: The Global Uptake of the Movement for Integrative Medicine and Health. *Global Advances in Health and Medicine,* 4.
WETZEL, M., KAPTCHUK, T., HARAMATI, A. & EISENBERG, D. 2003. Complmenetary and Alternative Medical Therapies: Implications for Medical Education. *Annals of Internal Medicine,* 138**,** 191-196.
WIEBELITZ, K. R., GOECKE, T. W., BRACH, J. & BEER, A. 2009. Use of complementary and alternative medicine in obstetrics. *British Journal of Midwifery,* 17**,** 169-175.
WILLIAMS, J. & MITCHELL, M. 2007. Midwifery managers' views about the use of complementary therapies in the maternity services. *Complement Ther Clin Pract,* 13**,** 129-35.
WILLIS, G. 2002. *Cognitive Interviewing: A Tool for Improving Questionnaire Design*.
WORLD HEALTH ORGANIZATION 2013. WHO traditional medicine strategy: 2014-2023. *In:* WORKFORCE, H. S. P. A. (ed.). Geneva: Who Press.
WYATT, G. & POST-WHITE, J. 2005. Future direction of complementary and alternative medicine (CAM) education and research. *Semin Oncol Nurs,* 21**,** 215-24.
YOM, Y. & LEE, K. E. 2008. A comparison of the knowledge of, experience with and attitudes towards complementary and alternative medicine between nurses and patients in Korea. *Journal of Clinical Nursing,* 17**,** 2565-2572.
ZANINI, A., QUATTRIN, R., GOI, D., FRASSINELLI, B., PANARITI, M., CARPANELLI, I. & BRUSAFERRO, S. 2008. Italian oncology nurses' knowledge of complementary and alternative therapies: National survey. *Journal of Advanced Nursing,* 62**,** 451-456.
ZOE, R., CHARALAMBOUS, C., POPI, S., MARIA, R., ARIS, V., AGORITSA, K. & EVANGELIA, K. 2014. Cypriot nurses' knowledge and attitudes towards alternative medicine. *Complement Ther Clin Pract,* 20**,** 89-92.