2011

Nurse practitioner preparation: is it time to move beyond masters level entry in Australia?

Lea-Anne Tuaoi
Southern Cross University

Andrew Cashin
Southern Cross University

Marie Hutchinson
Southern Cross University

Iain W. Graham
Southern Cross University

Publication details

Postprint of: Tuaoi, L-A, Cashin, A, Hutchinson, M & Graham, IW 2011, 'Nurse practitioner preparation: is it time to move beyond masters level entry in Australia?', *Nurse Education Today,* vol. 31, no. 8, pp. 738-742.
Published article available from:
http://dx.doi.org/10.1016/j.nedt.2010.12.013

Nurse Practitioner preparation: Is it time to move beyond masters level entry in Australia?

Lea-Anne Tuaoi [a], Andrew Cashin [b,*], Marie Hutchinson [b], Iain Graham [b]

[a] *Health and Well-being Research Cluster, School of Health and Human Service, Southern Cross University, Lismore Campus, PO Box 157, Lismore, NSW 2480, Australia*
[b] *Health and Well-being Research Cluster, School of Health and Human Service, Southern Cross University, Australia*

Summary: Nurse Practitioner education in Australia currently requires a post graduate qualification at masters level for endorsement by national registration bodies and entry into practice. This paper reviews the evidence and debate in America that saw the education of Nurse Practitioners advance to the doctoral level in 2004. Consideration will then be given to the similarities between the American and Australian context, in order to open the debate about whether it is timely for Australian universities to consider the need to advance Australia Nurse Practitioner education to the Doctor of Nursing Practice.

Introduction

As an advanced practice nursing role, Nurse Practitioners operate across a range of health care contexts to provide evidence based health care and clinical leadership. Historically the Doctor of Philosophy (PhD) has been seen as the appropriate qualification to prepare nurses for leadership, education and research roles. The advanced practice role of the Nurse Practitioner has drawn into question this assumption, as this group require preparation to take on leadership roles in evidence based clinical practice. Questions about the appropriate level of preparation for Nurse Practitioners have been influenced by factors such as changing population demographics, workforce needs, emerging disease patterns and new health care technology (American Association of Colleges of Nursing, 2004; Mundinger, 2005). Not only are patient demographics and epidemiology significant drivers of increased health service demand, there is a predicted health workforce shortage. In Australia it is envisaged that there will be insufficient medical practitioners to provide primary and complex care to the emerging population (Australian Government Productivity Commission, 2005). Although it is clear that Nurse Practitioners are not medical practitioner substitutes, these changes bring sharply into focus the need to do health work differently.

Preparing Nurse Practitioners to meet the demands of changing demographics and the epidemiology of emerging populations is not solely about workforce re-allocation or doctor substitution. What is required are Nurse Practitioners who are recognised as credible leaders and strategic thinkers in all health care settings, who can serve as advocates for health care reform, and create and manage systems of care that will be responsive to the evolving health care needs of populations (Bartels, 2005; Burman et al., 2009). Nurse Practitioner education should aspire to produce nurses that are well-prepared to mange not only chronic diseases, but also well versed in strategies for health promotion and disease prevention, while also able to provide leadership and advance the profession's body of knowledge.

Historically Nurse Practitioner tracks started as certificate programs (Hooker, 2006), with most now at master's degree level. In the United Kingdom, Nurse Practitioner education ranges from a post graduate certificate to a masters degree (Royal College of Nursing, 2008) while in Australia, New Zealand and Canada the role requires a masters degree (Nursing and Midwifery Board of Australia, 2010b). In America, the decision to move Nurse Practitioner education from the masters level to a doctoral degree occurred in 2004 (American Association of Colleges of Nursing, 2004) with the transition expected to be complete by 2015. Rather than increasing the content of current Nurse Practitioner masters programs, this move to doctorate level preparation recognises the education required for clinical expertise and leadership while strengthening the place of Nurse Practitioners within the health care system (Brar et al., 2010). Accordingly, the debate in the United States no longer questions whether Nurse Practitioners require doctoral level preparation, but instead is about determining which doctorate is most appropriate for the advanced clinical role of the Nurse Practitioner.

This position calls into question whether other countries should develop suitable doctorates and whether such doctorates are the entry point to practice as a Nurse Practitioner. In order to further this debate, in what follows we review the history of Nurse Practitioner education in America and Australia. In canvassing this history, we outline the discussions that have occurred around higher degree preparation for Nurse Practitioners. In particular we explore the debate as to whether masters or doctoral level preparation is adequate, and the distinction

between practice-focused as compared to research-focused doctoral preparation. In discussing the drivers behind the American decision to elevate Nurse Practitioner entry to practice to the doctoral level we seek to raise discussion as to whether Australian universities should be considering a similar move.

Nurse Practitioner preparation in America and Australia

Over the years various doctoral qualifications emerged in America, including the research based Doctor of Philosophy (PhD) and three practice focused doctorates; the Nursing Doctorate , Doctor of Nursing Science, and the Doctor of Science Nursing (American Association of Colleges of Nursing, 2005; Waldspurger, 2005). In 2004 the American Association of Colleges of Nursing issued a position statement that there would no longer be an array of nursing doctorates, but rather two terminal degrees in nursing – a research focused Doctor of Philosophy (PhD) and a practice focused Doctor of Nursing Practice (DNP). Nurse Practitioner education would advance to the new DNP as an entry point into practice by the year 2015 (American Association of Colleges of Nursing, 2004). Affording parity with other professions such as medicine, audiology, psychology, dentistry and pharmacy that had a doctorate entry point into practice (Brown-Benedict, 2008).

Australian universities have been providing Nurse Practitioner education at the master's level for over a decade. An on-line search of the 39 Australian university websites and the Australian Nursing and Midwifery Board Approved Programs of Study (Nursing and Midwifery Board of Australia, 2010a) revealed 18 universities either individually or in partnerships, that currently offer Nurse Practitioner courses. While these programs are approved by the Nursing and Midwifery Board of Australia (Nursing and Midwifery Board of Australia, 2010b) there is significant variation in the curriculum of MNP programs. The on-line review confirmed significant variations in MNPs curricula, ranging from 4 units to as many as 16 units in order to achieve the degree.

Doctoral education in the form of a PhD has been available to Australian nurses since 1987 (Malfoy, 2004) and in 1989 the Australian National Board of Employment, Education and Training called for greater responsiveness on the part of higher education institutions to the needs of industry and the economy, and invited universities to develop professional doctorates in five professions including nursing (National Board of Employment Education and Training, 1989). Subsequently the Professional Doctoral degree emerged on the higher education landscape in the 1990s. A search of Australian University websites revealed seven out of thirty-nine universities offer a Doctor of Nursing or Doctor of Health Science as a professional doctorate for nurses (Australian Education Network, 2010). These practice focused doctorates are seen as an alternative to a research intense PhD, in reality they continue to have a substantial research component as part of the award (Malfoy, 2004).

MNP, DNP or PhD: the debate on which track

There has naturally been a significant amount of debate around which level of preparation is appropriate for Nurse Practitioners and whether the DNP is the appropriate degree for the profession at this place in time. In what follows we summarise main issues raised in the debate and surface drivers for change in the current Australian context.

The adequacy of the MNP

In preparing Nurse Practitioners for an increasingly complex and challenging health care environment, concern has been raised about the adequacy of master's level education, with these programs noted to be already over laden in order to achieve requirements for endorsement for clinical practice (American Association of Colleges of Nursing, 2004; Clinton and Sperhac, 2006). Apold (2008) concluded that sufficient evidence exists within nursing and other disciplines to support the need for specific focused and intentional doctoral education in both these aspects of nursing.

The inadequacy of master's level preparation was highlighted in two national surveys of Nurse Practitioners in America. In (2002) respondents in a study by Lenz et al. identified a need for additional training in practice management, evaluation of evidence, advanced diagnosis and information technology (n=2303, response rate 35%). A later survey by Hart and MacNee (2007) of 592 Nurse Practitioners conducted in 2004 at a National Organisation of Nurse Practitioner Faculty meeting (n =121, response rate 21%) and a Nurse Practitioner Symposium (n=441, response rate 49%) reported that respondents perceived masters level preparation was inadequate for practice. To what degree current (MNPs) prepare Australian Nurse Practitioners to face the forecasted challenges of practice remains largely undetermined due to an absence of published evaluation. To date, a small number of studies have examined the practice of Nurse Practitioners in Australia (Cashin et al., 2010; Dunn et al., 2010; Gardner et al., 2009; Gardner et al., 2010) and there has been one small interpretive study of 64 Australian and 11 New Zealand Nurse Practitioners self reports on their perceived levels of competency (Gardner et al., 2008). In 2009 a report to the New South Wales (NSW) Chief Nursing and Midwifery Officer noted Nurse Practitioners wanted curriculum with more clinical focus and with additional education in anatomy, physiology, diagnostics and clinical decision making (Della and Zhou, 2009).

Erosion of the PhD

Prior to the change over from MNS to a DNP American schools of nursing graduated fewer than 450 doctoral graduates nationally per year (American Association of Colleges of Nursing, 2010a). There was therefore significant concern from some Schools of Nursing that the DNP program would siphon off the already small number of students who would have otherwise pursued the PhD (Dracup et al., 2005). A number of authors argued that there were already insufficient numbers of adequately prepared research faculty and if a high number of faculty members have a DNP rather than a PhD then the generation of nursing science will be significantly impaired (Dracup, et al., 2005; Marecki, 2007; Webber, 2008). There were also concerns voiced that the DNP would decrease the number of faculty educated in pedagogy, evaluation and education theory. A challenge to this view was raised with the suggestion that neither the PhD, nor the DNP adequately prepares Nurse Practitioners for conducting tertiary level education and both these types of practitioners are also required to discretely develop teaching expertise (Edwardson, 2010).

Erosion of nursing knowledge

However the argument about PhD verse DNP was not only about the number of graduates, but also about the quality of graduates. The purpose of the DNP was to prepare Nurse Practitioners to consume evidence and implement it into practice to achieve better health outcomes, whether that is on an individual, population or systems basis. The intent of the PhD was to generate nursing research and advance the profession (Edwardson, 2010). Dracup et al. (2005) argued that very little research training was offered in the DNP program and voiced concerns that it would, "undermine what the profession has achieved in doctoral education and diminish nursing's value to science and to universities over time." However a number of authors were of the opinion that due to Nurse Practitioner's access to special at risk populations they are in the perfect position to conduct research and provide evidence-based research specific to nursing practice (Kenkre and Foxcroft, 2001; Lenz, 2005; Loomis et al., 2007; Pearson et al., 1997).

While it may appear that the argument around the benefit of the DNP program is somewhat polarized the tentative outcomes have demonstrated reality may occupy the middle ground. A survey study

involving DNP graduates (n= 31, response rate 70%) from one American School of Nursing one year after graduation, reported aside from an increased knowledge base for expert clinical practice, all reported they were more involved in their professional groups and were starting to conduct and publish clinical research (Graff et al., 2007). The question of doing is separate to preparation and whether gradates of the DNP are prepared to conduct quality research, given becoming an expert researcher is not a graduate attribute of the DNP, remains unaddressed.

Perhaps it could be considered that a clinically practicing faculty member with a DNP is the embodiment of Boyer's expanded model of what is to be considered scholarship. Boyer (1997, p. 27) when proposing a new paradigm for scholarship, also suggested that a faculty should be a 'mosaic of talent' to be 'celebrated, not restricted.' With Boyer's statement in mind then, perhaps the argument was redundant and the only aspect worth Schools of Nursing pondering was how to get the balance of PhD and DNP faculty member's right.

Ensuring faculty and resources

The average age of a PhD academic in America is over the age of 50 with the average age of retirement being 62 (National Center for Health Statistics, 2003). It has been estimated by the American National Center for Health Statistics that between 2003 and 2012, two to three hundred nursing faculty will be ready for retirement annually (National Center for Health Statistics, 2003). Data collected by the American Association of Colleges of Nursing from between 2002 and 2009 demonstrated that within the last 5 years in excess of 30,000 eligible undergraduate nursing students are turned away annually. In their annual survey of 640 schools representing 87.7% of America Schools of Nursing, 71% of schools advised this was by in large due to shortage of nursing faculty (American Association of Colleges of Nursing, 2010c). The reality is that in America there will be insufficient doctorally prepared academic staff to educate the predicted extra half a million nurses required by 2012 to meet the health care needs of an aging population and retiring nursing workforce (Berlin and Sechrist, 2002; Horrigan, 2004). Apold anticipated that offering an alternative stream to doctoral level education would actually encourage more Nurse Practitioners into education to address not only the nursing faculty shortage but the nursing shortage in healthcare generally (Apold, 2008).

Australian Schools of Nursing faculty find themselves faced with similar nursing faculty shortages to their American counterparts. A report by Hugo (2008) to the Council for Humanities, Arts and Social Sciences stated that as at 2006, 51.3% of nursing academic staff were over the age of 50. Hugo predicted that Australian universities in general over the next decade would be faced with their largest recruitment task for three decades (Australian Government, 2008; Hugo, 2008). Halcomb et al. (2010) stated in their discussion on the casualisation of the Australian nursing workforce, that due to the current shortage of doctorally prepared nurses it is estimated that up to 50% of teaching is conducted by sessional academics. A study by Jackson et al. (2010) of academics within one large Australian School of Nursing; interviewed 24 academics (n=12 tenured and n=12 sessional) and found that obtaining a PhD was still seen as a major barrier to obtaining tenure, and that factor has in part contributed to the current workforce casualisation and shortage of nursing academics.

Faculty preparation

Entering the debate is the significant issue of who would teach such a clinically focused doctorate. Concerns were raised that many universities were not credentialed to offer a doctoral program and lacked the adequate teaching expertise and infrastructure needed to teach the DNP (Apold, 2008; Cartwright and Reed, 2005; Clinton and Sperhac, 2006; Dracup, et al., 2005). It is a condition laid out by the Australian Nursing and Midwifery Council (2009) that in Nurse Practitioner programs academic staff must hold a higher or equivalent qualification to the students they are teaching. It is also a determinant of the International Network for Doctoral Education (2004), that the number of faculty is appropriate for the number of doctoral students. It was perceived that the potential decrease in Schools of Nursing offering Nurse Practitioner education would limit access to education for Nurse Practitioners, subsequently affecting the number of Nurse Practitioners entering practice. This seemed a reasonable concern at the time as American Schools of Nursing were described by the National League for Nursing as facing a nursing faculty shortage of 'historic proportions' (National League for Nursing, 2007). However it was a barrier that did not prove to be insurmountable. Upon reviewing the American Association of Colleges of Nursing website for approved DNP courses, there are now well over 100 American universities offering a DNP program (American Association of Colleges of Nursing, 2010a).

Jackson et al. (2010) were not at the time entertaining the idea of doctorally prepared Nurse Practitioners when they recommended that faculty rethink the mix of tenured academics. However advancing Nurse Practitioner education to the doctoral level may well assist with producing a greater number of doctorally prepared Nurse Practitioners who consider the prospect of entering academe and in doing so address the projected workforce needs of the academy (Jackson, et al., 2010). Rather than adding to the problem of the nursing faculty shortage, DNP prepared Nurse Practitioners may prove to be the solution to the problem.

Career relevance

Edwardson (2004) hypothesised that there may well be more successful doctoral students making it to completion, as nurses choose a doctoral program that held more relevance to their career aspirations. This hypothesis may well have been proven correct as by 2009 American Schools of Nursing nationally graduated 567 nurses from PhD programs and 660 nurses from the DNP programs (American Association of Colleges of Nursing, 2010b). An internet exploratory survey study undertaken to determine the motivation of student's (n=69, response rate 18%) choice of the DNP rather than the PhD found that DNP students articulated a desire to focus careers on nursing education and clinical practice (Loomis, et al., 2007). A further online self selecting sample survey study, conducted by a Boston School of Nursing, explored the thoughts of 396 advanced practice nurses in Massachusetts, regarding doctoral preparation. The survey found that 55% of nurses responding preferred the concept and curriculum structure of the DNP over the PhD (DeMarco et al., 2009).

Entry to practice

The recommendation for Nurse Practitioner education to transition to the practice doctorate by 2015 in America has raised debate about the level of qualification for entry to practice. In Australia, due to the continuing small number of Professional Doctorate programs, the majority of doctorally prepared nurses continue to be graduates of PhD programs (Wilkes and Mohan, 2008). This distribution is driven in part by the fact that degrees that are two thirds research or greater in Australia are exempt from attracting fees of the Higher Education Contribution Scheme. Alternatively a degree that is not two thirds research burdens the student with a full fee paying commitment, the exception is a qualification leading to registration to practice. In response to the national reports highlighting the challenges to the Australian health care system the Australian government has made Nurse Practitioner education one of its priorities. Subsequently unlike other masters degrees in nursing, the Nurse Practitioner degree is currently subsidised by the Australian government via the Commonwealth Grants Scheme (Department of Education Employment and Workplace Relations, 2008; Dow, 2009). In Australia, to attract students a DNP may well be best placed as the authorisation qualification for Nurse Practitioners.

Additionally in the Australian context, it can be envisaged that with the recent changes in the health care legislation that affords Nurse Practitioners access to the Medical Benefits Scheme (MBS) and Pharmaceutical Benefits Scheme (PBS), Nurse Practitioners may be seeking more entrepreneurial endeavours and require units of study in business and practice management , in line with the requests of their American colleges ("Health Legislation Amendment (Midwives and Nurse Practitioners) Bill", 2010). These legislative changes are predicated on the need for a collaborative arrangement with medical practitioners ("National Health (Collaborative arrangements for nurse practitioners) Determination 2010,"). Utility of application is however, not hampered as several types of collaborative arrangements are included and these allow scope for varied Nurse Practitioner practice that are not a means of permission granting by medical practitioners. These new funding arrangements are a key element that has been until now missing in allowing the growth of the Nurse Practitioner role in Australia (Cashin, 2007).

Conclusion

Both research and advanced practice are vital parts of the nursing profession. Nurse Practitioners prepared at the doctoral level are required to fully implement nursing science into the practice and health care policy arena, while nursing research is required to advance the science of the profession (Mundinger et al., 2009; Stanley, 2005). In light of the recent changes in the Australian health care legislation, and the identification of health care drivers similar to those observed in America, it is timely to consider expanding Nurse Practitioner education in Australia to the doctoral level. Given the disparity in the credit load of the current Nurse Practitioner masters programs, the prospect of a further expanding this credit load is questionable.

It is clear from the preceding discussion that it is timely to raise the debate in Australia as to whether Nurse Practitioner education not only warrants a doctoral education, but warrants a doctoral education of a different kind to the doctoral programs currently on offer. As Albert Einstein once stated:

> "The significant problems we have cannot be solved at the same level of thinking at which we created them." (Moncur, 2007)

The author's reflection upon this paper suggests that the real agenda for Nursing is to radically reconsider the career structure and education preparation for nurses. The authors will forward another debate which will address these ideas however, we ask the reader to consider the Einstein quote and be prepared to think totally out of the box and put the next evolution of the Nursing profession and discipline into a different level of thinking. Whilst operating within the current plane of thinking we do not propose simply an equation of if x is good 2x must be better. We merely propose that if x is no longer tenable, until we have moved our thinking altogether as needed, we must rethink x.

References

American Association of Colleges of Nursing. (2004). AACN position statement on the practice doctorate.

American Association of Colleges of Nursing. (2005). Comparison of DNP/PhD/DNSc/DNS programs.

American Association of Colleges of Nursing. (2010a). Doctor of Nursing Programs. Retrieved 30/6/2010, from http://www.aacn.nche.edu/DNP/dnpprogramlist.htm.

American Association of Colleges of Nursing. (2010b). Press release: final data from AACN 2009 survey. Retrieved 12/7/2010, from http://www.aacn.nche.edu/media/newsreleases/2010/enrollchanges.html.

American Association of Colleges of Nursing. (2010c). Qualified applications turned away from entry-level baccalaureate nursing programs 2002-2009. Retrieved 12/7/2010, from http://www.aacn.nche.edu/Media/pdf/TurnedAway.pdf.

Apold, S., 2008. The doctor of Nursing Practice: looking back, moving forward. Journal for Nurse Practitioners 4 (2), 101-107.

Australian Education Network. (2010). Australian-Universities.com: list of Australian Universities. Retrieved 10/8/2010, from http://www.australian-universities.com/list/.

Australian Government. (2008). Review of Australian Higher Education: discussion paper June 2008. Canberra: ACT: Department of Education, Employment and Workplace Relations.

Australian Government Productivity Commission. (2005). Australia's Health Workforce: Research Report. Canberra.

Australian Nursing and Midwifery Council, 2009. Nurse Practitioner: standards and criteria for the accreditation of nursing and midwifery courses leading to registration, enrolment, endorsement and authorisation in Australia – with evidence guide. ACT: ANMC.

Bartels, J.E., 2005. Educating nurses for the 21st century. Nursing & Health Sciences 7 (4), 221-225.

Berlin, L.E., Sechrist, K.R., 2002. The shortage of doctorally prepared nursing faculty: a dire situation. Nursing Outlook 50 (2), 50-56.

Boyer, E.L., 1997. Scholarship Reconsidered: Priorities of the Professoriate. Jossey-Bass, San Francisco.

Brar, K., Boschma, G., McCauaig, F., 2010. The development of nurse practioner preparation beyond the master's level: what is the debate about? International Journal of Nursing Education Scholarship 7 (1).

Brown-Benedict, D.J., 2008. The Doctor of Nursing Practice degree: lessons from the history of the professional doctorate in other health disciplines. The Journal of Nursing Education 47 (10), 448-457.

Burman, M.E., Hart, A.M., Conley, V., Brown, J., Sherard, P., Clarke, P.N., 2009. Reconceptualizing the core of nurse practitioner education and practice. Journal of the American Academy of Nurse Practitioners 21 (1), 11-17.

Cartwright, C.A., Reed, C.K., 2005. Policy and planing perspectives for the Doctorate in Nursing Practice: an educational perspective. Online Journal of Issues in Nursing 10 (3), 1-7.

Cashin, A., 2007. Issues and challenges in advancing the nurse practitioner role. Collegian 14 (4), 4-6.

Cashin, A., Buckley, T., Newman, C., Dunn, S., 2010. Nurse practitioner provision of patient education related to medicine. The Australian Journal of Advanced Nursing 27 (2), 12-18.

Clinton, P., Sperhac, A.M., 2006. National agenda for advanced practice nursing: the practice doctorate. Journal of Professional Nursing 22 (1), 7-14.

Della, P., & Zhou, H. (2009). Report on the Evaluation of the NP Role in NSW: Curtin University of Technology.

DeMarco, R., Pulcini, J., Haggerty, L., Tang, T., 2009. Doctorate in nursing practice: a survey of Massachusetts nurses. Journal of Professional Nursing 25 (2), 75-80.

Department of Education Employment and Workplace Relations. (2008). Administrative information for providers: Commonwealth Grants Scheme. Version 2. Retrieved from http://www.deewr.gov.au/HigherEducation/Programs/Funding/CommonwealthGrantScheme/Documents/AIP.pdf.

Dow, C. (2009). Bills Digest: Higher Education Support Amendment (2009) Budget Measures) Bill.

Dracup, K., Cronenwett, L., Meleis, A., Benner, P., 2005. Reflections on the doctorate of nursing practice. Nursing Outlook 53 (4), 177-182.

Dunn, S.V., Cashin, A., Buckley, T., Newman, C., 2010. Nurse practitioner prescribing practice in Australia. Journal of the American Academy of Nurse Practitioners 22 (3), 150-155.

Edwardson, S., 2004. Matching standards and needs in doctoral education in nursing. Journal of Professional Nursing 20 (1), 40-46.

Edwardson, S., 2010. Doctor of Philosophy and Doctor of Nursing Practice as Complementary Degrees. Journal of Professional Nursing 26 (3), 137-140.

Gardner, A., Hase, S., Gardner, G., Dunn, S., Carryer, J., 2008. From competence to capability: a study of nurse practitioners in clinical practice. Journal of Clinical Nursing 17 (2), 250-258.

Gardner, A., Gardner, G., Middleton, S., Della, P., 2009. The status of Australian nurse practitioners: the first national census. Australian Health Review 33 (4), 679.

Gardner, G., Gardner, A., Middleton, A., Gibb, M., Della, P., Duffield, C., 2010. Development and validation of a novel approach to work sampling. A study of nurse practitioner work pattern. The Australian Journal of Advanced Nursing 27 (4), 4-12.

Graff, J., Russell, C., Stegbauer, C., 2007. Formative and summative evaluation of a practice doctorate program. Nurse Educator 32 (4), 173-177 July/August.

Halcomb, E.J., Andrew, S., Peters, K., Salamonson, Y., Jackson, D., 2010. Casualisation of the teaching workforce: implications for nursing education. Nurse Education Today 30 (6), 528-532.

Hart, A.M., MacNee, C.L., 2007. How well are nurse practitioners prepared for practice: results of a 2004 questionnaire study. Journal of the American Academy of Nurse Practitioners 19 (1), 35-42.

Health Legislation Amendment (Midwives and Nurse Practitioners) Bill (2010).

Hooker, R.S., 2006. Physician assistants and nurse practitioners: the United States experience. The Medical Journal of Australia 185 (1), 4-7.

Horrigan, M. (2004). Employment projerctions to 2012: concepts and context. Monthly Labor Review Online, 127(2), 1-20. Retrieved from http://stats.bls.gov/opub/mlr/2004/02/art1full.pdf.

Hugo, G. (2008). The demographic outlook for Australian universities' academic staff: Occassional paper. No. 6. Council for Humanities, Arts and Social Sciences: http://www.chass.org.au/papers/pdf/PAP20081101GH.pdf.

International Network for Doctoral Education in Nursing. (2004). Quality criteria, standards and indicators (QCSI) for doctoral programs in nursing. from http://www.umich.edu/inden/quality/qsci1204.pdf.

Jackson, D., Peters, K., Andrew, S., Salamonson, Y., & Halcomb, E. J. (2010). "If you haven't got a PhD, you're not going to get a job": The PhD as a hurdle to continuing academic employment in nursing. Nurse Education Today, In Press, Corrected Proof.

Kenkre, J., Foxcroft, D., 2001. Career opathways in research: support and management. Nursing Standard 16 (6), 33-35.

Lenz, E., 2005. The pracitice doctorate in nursing: an idea whose time has come. Online Journal of Issues in Nursing 10 (3), 1-11.

Loomis, J.A., Willard, B., Cohen, J., 2007. Difficult professional choices: deciding between the PhD and the DNP in nursing. Online Journal of Issues in Nursing 12 (1).

Malfoy, J., 2004. Conceptualisation of a professional doctorarte program: focusing on practice and change. Australian Educational Researcher 31, 63.

Marecki, M., 2007. Is the doctor of nursing practice (DNP) the appropriate doctoral degree for nurses? Maternal Child Nursing 32, 139.

Moncur, M. (2007). Quotations by Author: Albert Einstein. Retrieved 7/8/2010, from http://www.quotationspage.com/quotes/Albert_Einstein/31.

Mundinger, M., 2005. Who's who in nursing: bringing clarity to the doctor of nursing practice. Nursing Outlook 53 (4), 173-176.

Mundinger, M., Starck, P., Hathaway, D., Shaver, J., Woods, N., 2009. The ABCs of the Doctor of Nursing Practice: assessing resources, building a culture of clinical scholarship. cirricular midels. Journal of Professional Nursing 25 (2), 69-74.

National Board of Employment Education and Training. (1989). National Board of Employment Education and Training Annual Report 1988-1989. Australian Government Publishing Service: Canberra. Retrieved from http://www.dest.gov.au/NR/rdonlyres/8FDBD0F7-2319-43E8-99C9-0BCCEB23155E/3789/89_19.pdf.

National Center for Health Statistics. (2003). Online Health, United States.

National Health (Collaborative arrangements for nurse practitioners) Determination 2010.

National League for Nursing. (2007). Docto of Nursing Practice: reflections and dialogue. Retrieved 21/7/2010, 2010, from http://www.nln.org/aboutnln/reflection_dialogue/refl_dial_1.htm.

Nursing and Midwifery Board of Australia. (2010a). Approved programs of study. Retrieved 22/7/2010, from http://www.nursingmidwiferyboard.gov.au/en/Accreditation.aspx.

Nursing and Midwifery Board of Australia. (2010b). Registration standard for endorsement of nurse practitioners. Retrieved 22/7/2010, from http://www.nursingmidwiferyboard.gov.au/en/Registration-Standards.aspx.

Pearson, A., Borbasi, S., Gott, M., 1997. Doctoral education in nursing for practitioner knowledge and for academic knowledge: The University of Adelaide Austalia. Journal of Nursing Scholarship 29 (4), 365-368.

Royal College of Nursing, 2008. Advanced Nurse Practitioners: A RCN Guide to the Advanced Nurse Practitioner Role, Competencies and Programme Accreditation. Royal College of Nursing, London.

Stanley, J., 2005. Evalutaing the doctorate of nursing practice. Journal for Nurse Practitioners 202–212.

Waldspurger, W., 2005. PhD. DNSc, ND: the ABCs of nursing doctoral degrees. Dimensions of Critical Care Nursing 24 (2), 89-96.

Webber, P.B., 2008. The Doctor of Nursing Practice degree and research: are we making an epistemological mistake? The Journal of Nursing Education 47 (10), 466-472.

Wilkes, L.M., Mohan, S., 2008. Nurses in the clinical area: relevance of a PhD. Collegian: Journal of the Royal College of Nursing Australia 15 (4), 135-141.