Role boundaries and scopes of practice: The interdisciplinary diabetes educator role

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Role Boundaries and Scopes of Practice: The Interdisciplinary Diabetes Educator Role

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Thesis submitted in fulfilment of the award:

Doctor of Philosophy

School of Health and Human Sciences

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2018
Thesis Declaration
I certify that the work presented in this thesis is, to the best of my knowledge and belief, original, except as acknowledged in the text, and that the material has not been submitted, either in whole or in part, for a degree at this or any other university.

I acknowledge that I have read and understood the University's rules, requirements, procedures and policy relating to my higher degree research award and to my thesis. I certify that I have complied with the rules, requirements, procedures and policy of the University (as they may be from time to time).

Olivia King
Date 13/11/2017
Abstract
Diabetes is considered the epidemic of the twenty-first century. Diabetes educators are health professionals with post-graduate qualifications in diabetes education and work with people to optimise their self-management skills. Registered nurses, podiatrists, dietitians and several other types of professionals are able to train and practise as diabetes educators. Historically nurses have provided diabetes education services and anecdotally, diabetes educators of nursing background are perceived to have a wider scope of practice than those from an allied health background.

Set in the context of the sociology of the professions, this thesis determines the nature of the role boundaries between diabetes educators of nurse and allied health background in this interdisciplinary area of clinical practice. Three qualitative research methods were employed: systematic review of the literature; documentary analysis and interviews with key stakeholders in the field of diabetes education. Neo-Weberian theory provided the analytical framework for emerging data. A constant comparative method was used throughout the data collection and analysis processes.

This study highlights the use of strategies of occupational closure by the nursing profession to exclude the allied health professions and preserve its pre-eminence in the field of diabetes education. Previous studies have explored role boundary disputes and profession-based dominance between professions with power differences, however this thesis explores the role boundaries between hierarchically equivalent professions.

Credentialist, legalistic and discursive strategies of closure were observed. The nursing profession has placed significant emphasis on the legislation relating to medication management practices as a point of differentiation from allied health and over which it claims greater knowledge. The legislation pertaining to medication management was unclear, however the strategies of occupational closure implemented by the nursing profession at the macro, meso and most effectively at the micro level, have contributed to near exclusivity of access to employment opportunities in this field.

With health policy oriented toward role flexibility and interprofessional practice, this thesis illustrates that diabetes education, an area which lends itself to interprofessional practice, is limited by ongoing efforts to reinforce traditional role boundaries. It is anticipated that the findings of this thesis will be considered by stakeholders in the diabetes education field at the macro, meso and micro levels and will influence policy and practice in this area of health care. Findings may also be applicable to other health disciplines.
Acknowledgements
I am tremendously proud of this thesis and simply could not have completed it without the unfailing support of numerous individuals. First and foremost, I would like to sincerely thank my primary PhD supervisors Professor Susan Nancarrow and Associate Professor Sandra Grace of Southern Cross University for their expert guidance, wisdom, support and encouragement. These women consistently challenged and inspired me throughout my PhD journey. Although we only met in person on one occasion, they have both had a significant impact on me and on my life. Throughout the course of my PhD, I have also had the wonderful fortune of embarking on the journey of motherhood. Aside from their impeccable academic mentoring and guidance, Susan and Sandra have always shown support and consideration of my family life. They have been very flexible and accommodating as my personal circumstances continued to evolve. I will forever be grateful to Susan and Sandra and will aspire to be as professional, knowledgeable and passionate about my work as they are.

I would like to sincerely thank my external supervisor, Professor Alan Borthwick (OBE) of University of Southampton. Despite Alan’s distinguished career achievements and large workload, he generously provided prompt and extremely valuable feedback on countless drafts and queries throughout the course of my PhD. I feel extremely privileged to have had the opportunity to work with Alan over the last four years.

I would like to acknowledge and thank the examiners, Professor Michael Dent and Professor Mike Saks for their feedback which was incorporated into and in turn strengthened this thesis.

I have had two papers published in the Journal of Foot and Ankle Research (JFAR), the details of which are provided in Chapter 1. I wish to thank Professor Susan Nancarrow, Associate Professor Sandra Grace and Professor Alan Borthwick, as well as the editors and reviewers from JFAR, who provided guidance and comments which culminated in the successful publication of these papers.

I am very grateful for the scholarship I received from Services for Rural and Remote Allied Health (SARRAH) via the Nursing and Allied Health Scholarships Support Scheme. Without this generous scholarship, I simply would not have been able to dedicate my time to complete this thesis. Thank you to the SARRAH scholarships team.

Studying online has numerous challenges, all of which were made manageable with the support and assistance of the Graduate School at Southern Cross University, the hard working team of librarians (especially the inter-library loans team) and the Student Services and Amenities Fund.
I was very fortunate to have secured funds to attend and present at several conferences via the Graduate School.

I wish to thank my employer, Bellarine Community Health, for the support I received throughout the course of my study. As special thank you to Liz, who approved conference leave on several occasions and supported this endeavour.

I wish to express my sincere thanks and appreciation to the members of my professional network that assisted me in the months and years leading up to the commencement of this thesis (you know who you are). I would also like to thank those who assisting with tracking down documents and recruiting interview participants. With special thanks to those who participated in an interview. Thank you to the ADEA employees who responded to queries and provided documents to assist at various stages of my research.

Sincerest thanks to my wonderful family and friends who supported me throughout the course of my PhD, assisting with childcare and providing endless moral support. In particular, I would like to thank Diane, Alaina, Ray, Jenny and the Boorai Centre for their help with childcare. A special thank you to my mother, Anne, who still doesn’t exactly know what it is I have been working on, but has always listened eagerly while I embellished her with the details of my latest finding, chapter or concept.

Finally, I would like to thank, from the bottom of my heart, my husband Paulie and our daughters Georgia and Bridget. These three beautiful people inspire me every single day. The last four years have been a journey for the four of us. The juggle was quite challenging at times but if my commitments - both time and emotional - to my PhD were in any way an inconvenience to Paulie, he never let on. I cannot thank him enough for his unfailing support. I look forward to the next “chapter” of our lives together.
# Table of Contents

Thesis Declaration .................................................................................................................. 2
Abstract ................................................................................................................................. 3
Acknowledgements ............................................................................................................... 4
List of Tables ......................................................................................................................... 10
List of Figures ....................................................................................................................... 10
List of Abbreviations .......................................................................................................... 10
Definition of Terms ............................................................................................................. 11

Chapter 1 Background ......................................................................................................... 13
  1.1 Introduction ................................................................................................................... 13
  1.2 Personal orientation to this study ................................................................................ 16
  1.3 Justification for this thesis ........................................................................................... 17
  1.4 Contributions to the literature and implications for practice ................................... 18
  1.5 List of publications and presentations ...................................................................... 18
    1.5.1 Statement of contribution of authors .................................................................. 19
    1.5.2 List of oral presentations ....................................................................................... 20
  1.6 Thesis Outline ............................................................................................................. 21

Chapter 2 Context ................................................................................................................. 23
  2.1 Sociology of the professions ......................................................................................... 23
    2.1.1 Taxonomic approach ............................................................................................. 24
    2.1.2 Marxian approach .................................................................................................. 25
    2.1.3 Bourdieu’s social world ......................................................................................... 26
    2.1.4 Foucault ................................................................................................................ 29
    2.1.5 Boundary work ...................................................................................................... 31
    2.1.6 Neo-Weberian approach ...................................................................................... 33
    2.1.7 Conclusion ............................................................................................................ 41
  2.2 Socio-historical context: The professional projects of nursing and podiatry ........... 41
    2.2.1 The nursing profession ......................................................................................... 43
    Nurse education ................................................................................................................ 44
    State registration for nurses ............................................................................................ 45
    Specialisation .................................................................................................................... 46
    Conclusion ....................................................................................................................... 46
  2.2.2 The podiatry profession .......................................................................................... 47
<table>
<thead>
<tr>
<th>Chapter 4</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.1</td>
<td>Introduction</td>
<td></td>
</tr>
<tr>
<td>4.2</td>
<td>Methods</td>
<td></td>
</tr>
<tr>
<td>4.2.1</td>
<td>Literature search</td>
<td></td>
</tr>
<tr>
<td>4.2.2</td>
<td>Synthesis and analysis</td>
<td></td>
</tr>
<tr>
<td>4.3</td>
<td>Results</td>
<td></td>
</tr>
<tr>
<td>4.3.1</td>
<td>Quality indicators</td>
<td></td>
</tr>
<tr>
<td>4.3.2</td>
<td>Template analysis</td>
<td></td>
</tr>
<tr>
<td>4.4</td>
<td>Discussion</td>
<td></td>
</tr>
<tr>
<td>4.5</td>
<td>Methodological limitations of the literature review</td>
<td></td>
</tr>
<tr>
<td>4.6</td>
<td>Conclusion</td>
<td></td>
</tr>
<tr>
<td>Chapter 5</td>
<td>Diabetes educator role boundaries in Australia: A documentary analysis</td>
<td></td>
</tr>
<tr>
<td>5.1</td>
<td>Introduction</td>
<td></td>
</tr>
<tr>
<td>5.2</td>
<td>Search methods</td>
<td></td>
</tr>
<tr>
<td>5.3</td>
<td>Synthesis and analysis</td>
<td></td>
</tr>
<tr>
<td>5.4</td>
<td>Search results</td>
<td></td>
</tr>
<tr>
<td>5.4.1</td>
<td>Quality indicators</td>
<td></td>
</tr>
<tr>
<td>5.5</td>
<td>Results</td>
<td></td>
</tr>
<tr>
<td>5.5.1</td>
<td>The evolution of the diabetes workforce: moving towards interprofessional roles</td>
<td></td>
</tr>
<tr>
<td>5.5.2</td>
<td>The non-medical prescribing era</td>
<td></td>
</tr>
<tr>
<td>5.5.3</td>
<td>Expansion of the Medicare Benefits Schedule era</td>
<td></td>
</tr>
<tr>
<td>5.5.4</td>
<td>The competency movement</td>
<td></td>
</tr>
<tr>
<td>5.5.5</td>
<td>Governance and organisational culture</td>
<td></td>
</tr>
<tr>
<td>5.5.6</td>
<td>Employment opportunities for diabetes educators</td>
<td></td>
</tr>
<tr>
<td>5.6</td>
<td>Discussion</td>
<td></td>
</tr>
<tr>
<td>5.7</td>
<td>Limitations</td>
<td></td>
</tr>
<tr>
<td>5.8</td>
<td>Conclusion</td>
<td></td>
</tr>
<tr>
<td>Chapter 6</td>
<td>Interviews with stakeholders: Reinforcement of interprofessional role boundaries in diabetes education</td>
<td></td>
</tr>
<tr>
<td>6.1</td>
<td>Occupational closure: the interdisciplinary diabetes educator field</td>
<td></td>
</tr>
<tr>
<td>6.1.1</td>
<td>Nursing and its professional project</td>
<td></td>
</tr>
<tr>
<td>6.1.2</td>
<td>Credentialist strategies</td>
<td></td>
</tr>
<tr>
<td>6.1.3</td>
<td>Legalistic strategies</td>
<td></td>
</tr>
<tr>
<td>6.1.4</td>
<td>Discursive strategies</td>
<td></td>
</tr>
<tr>
<td>6.2</td>
<td>Role flexibility and substitution in diabetes education</td>
<td></td>
</tr>
<tr>
<td>6.3</td>
<td>Conclusion</td>
<td></td>
</tr>
<tr>
<td>Chapter 7</td>
<td>Discussion</td>
<td></td>
</tr>
<tr>
<td>7.1</td>
<td>Strategies of occupational closure: Level of influence and relative success</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
List of Tables
Table 4.1 STARLITE framework guiding retrieval of literature for systematic review 79
Table 4.2 Quality indicators to assess literature 83
Table 4.3 Main characteristics of included studies 83
Table 4.4 Features of role boundary disputes 85
Table 4.5 Template analysis 86
Table 5.1 STARLITE framework guiding retrieval of documentary data from ADEA website 92
Table 5.2 STARLITE framework guiding retrieval of documentary data via database search1 92
Table 5.3 STARLITE framework guiding retrieval of documentary data relating to employment opportunities for diabetes educators 93

List of Figures
Figure 3.1 Diagram illustrating the research methods and their sequence 57
Figure 4.1 PRISMA diagram showing the decision-making process for the inclusion and exclusion of literature in the systematic review 82
Figure 5.1 PRISMA diagram showing decision-making process for the inclusion and exclusion of documents retrieved via the ADEA website search 95
Figure 5.2 PRISMA diagram showing the decision-making process for the inclusion and exclusion of documents retrieved via the database search 96
Figure 5.3 PRISMA diagram showing the decision-making process for the inclusion and exclusion of documents retrieved via the targeted search for diabetes educator employment opportunities 96

List of Abbreviations
AADE American Association of Diabetes Educators
ADEA Australian Diabetes Educators Association
AHPRA Australian Health Practitioner Regulation Agency
APD Accredited Practising Dietitian
Definition of Terms
As appropriate, ambiguous or discipline-specific terms used within this thesis are defined. There are several terms used throughout this thesis which may have different meanings and connotations depending on the context or discipline within which they are used. These will be defined in this section for the purpose of orientating the reader to this thesis.

Credentialled Diabetes Educator
The Australian Diabetes Educators Association’s (ADEA) term Credentialled Diabetes Educator (CDE) is a registered certification trademark. The term is used with specific authorisation to identify eligible health professionals who meet the criteria as set out by the ADEA. CDE is the nationally recognised credential associated with the provision of quality assured diabetes education and support services (Australian Diabetes Educators Association, 2015a). The ADEA’s spelling convention is employed throughout this thesis (ie. credentialled, credentialling).

Interdisciplinary approach to the delivery of health care
There has been significant interest in this concept of which there are a number of variations in the definition. For the purpose of this thesis the terms interdisciplinary approach; interdisciplinary practice and interdisciplinary care will denote an approach to the delivery of health care services which facilitates collaboration between two or more health professionals of different backgrounds, shared decision-making and a focus on client or patient needs. Interdisciplinary approaches to health care provision maximise the use of the health provider’s skills and call for greater flexibility and adaptability within the workforce and at times challenge
Interprofessional role boundaries
This term refers to the perceived or actual boundaries between two or more professions. Interprofessional role boundaries are the lines which delineate the task domain of one profession and that of another.

Neo-Weberian analysis
Weber’s social closure concept first emerged in the 1960s and has since been used to explore and define professions. Social closure is a process whereby social collectives seek to limit access to benefits such as status, income and power by manipulating the conditions of the marketplace to their own advantage. Neo-Weberian analyses situate professions in a dynamic and competitive social world, whereby the establishment of legally recognised professional boundaries is a key objective. The achievement of legally enshrined professional role boundaries are associated with benefits for members such as higher social status, income and levels of power (Saks, 2012).

Role flexibility
This concept refers to measures which seek to break down the boundaries that reduce the capacity of the workforce to respond to population health needs (Nancarrow, 2015).

Workforce flexibility
This term refers to innovative changes to the workforce which engenders greater organisational efficiency, allowing for improved accessibility of health services to better meet population health needs. A flexible workforce prioritises the service user rather than profession-based ambitions and exclusivity over task domains and areas of practice (Nancarrow, 2015).
Chapter 1 Background

The first part of this thesis introduces the thesis topic and provides some background information, factors contributing to the commencement of this study, including the personal orientation to and justification of this study. The implications on practice and a list of journal publications and conference presentations which have been outputs of this thesis are also presented.

The subsequent section sets the context of this thesis by first providing a summary of the sociology of the professions literature. It then establishes the socio-historical context within which it is set. The final section describes the most relevant features of Australia’s complex health care system.

1.1 Introduction

Diabetes is considered the epidemic of the twenty-first century and presents an extraordinary challenge to the Australian health care system (Diabetes Australia, 2015). Individuals living with diabetes are at risk of both acute and chronic diabetes-related complications. These complications have the potential to limit the quality of life and life expectancy of individuals, while placing significant pressure on an already strained health care system (Diabetes Australia, 2015). For people living with diabetes, timely access to services is vital for implementing self-management strategies proven to reduce the risk of short and long-term diabetes-related complications (Deloitte Access Economics Pty. Ltd., 2014; Kent et al., 2013).

Diabetes educators are among the range of health care providers available to help support people living with diabetes. They are health professionals with post-graduate qualifications in diabetes education. The national leading organisation for diabetes educators is the Australian Diabetes Educators Association (ADEA). The term Credentialled Diabetes Educator (CDE) is used in Australia to distinguish the diabetes educators who have completed an accredited diabetes qualification, and who have also fulfilled a range of criteria defined by the ADEA. The ADEA defines the diabetes educator role as ‘a specialist and expanded interdisciplinary area of practice’ (Australian Diabetes Educators Association, 2007a, p.7). Diabetes educators, like most health professionals in Australia, work in publicly-funded health services, such as public hospitals, community health and outreach services, and also in the private setting such as general practice clinics. Diabetes educators promote optimal health for people living with diabetes by enhancing their diabetes and health self-management skills. They provide a range of services including lifestyle education, teaching self-management skills, taking basic physiological measurements, providing education related to diabetes medication and the management of acute complications, cursory assessments of psychological and emotional
wellbeing, referral to and liaising with other health professionals and many other key duties as determined by their particular clinical work environment (Australian Diabetes Educators Association, 2015a).

Registered nurses (RNs), midwives, medical practitioners and several allied health professions have been deemed eligible by the ADEA to achieve CDE status. The ADEA-eligible allied health professions are accredited practising dietitians, registered pharmacists, podiatrists, physiotherapists and accredited exercise physiologists. According to the ADEA, these professions have the foundation clinical knowledge and competence, as well as sufficient primary professional governance to undertake the various requirements of the credentialling process (Australian Diabetes Educators Association, 2015a, 2015e). Although the diabetes educator role is defined as interdisciplinary, there are perceived profession-specific scopes of practices.

The ADEA was established by a group of nurses in 1981 and the provision of diabetes education was considered an extension of the hospital nurse’s role (Cusworth, 1984; Dunning & Manias, 2009). The ADEA then opened its member-based association up to the medical profession and a range of allied health professions. Historically the vast majority of the diabetes educator workforce has been of nursing background and anecdotally diabetes educators of nursing background are perceived to have a wider scope of practice than those of allied health background. Gradually, there has been an increase in the number of allied health professions recognised as CDE eligible, however the historical practices and traditions relating to the provision of diabetes education by nurses have persisted.

Diabetes prevalence is increasing more rapidly than that of any other chronic health condition in Australia. Given the range and severity of the complications associated with the condition, diabetes currently presents one of the greatest challenges to health care systems (Diabetes Australia, 2015). Diabetes educators play a key role in preventing diabetes-related complications by providing support and education to the people they work with. Research has shown that at present the CDE workforce has the capacity to provide services to only 57% of people living with diabetes (Deloitte Access Economics Pty. Ltd., 2014). Based on current demographic trends and disease patterns (Diabetes Australia, 2015), the diabetes educator workforce will be under more pressure to meet population health needs.

An important measure proposed to improve the efficiency of health services includes shifting the emphasis from traditional role boundaries to increasing the flexibility of the health care workforce. Increased role flexibility has the capacity to address workforce shortages and
enhance the accessibility of health care services in order to meet increasing demand (Bach, Kessler, & Heron, 2008; Coombs & Ersser, 2004; Currie, Finn, & Martin, 2009; Dierick-van Daele, Spreeuwenberg, Derckx, Metsemakers, & Vrijoe, 2008; Martin, 2014; Nancarrow, 2015; Nancarrow et al., 2013; Nancarrow & Borthwick, 2005; Productivity Commission, 2005). The benefits of role flexibility and boundary blurring have been challenged to a degree by perceptions held by some professions that this approach may threaten, even erode their established role boundaries (Kilpatrick, Lavoie-Tremblay, Ritchie, Lamothe, & Doran, 2012; MacNaughton, Chreim, & Bourgeault, 2013).

Diabetes education, by virtue of the number of professions involved in this clinical area and deemed eligible for ADEA credentialling, lends itself to role flexibility. Moreover, current workforce shortages in the field of diabetes education are clearly evident with rates of diabetes continuing to rise exponentially. However, there are perceived interprofessional role boundaries within the diabetes educator workforce. Employment opportunities for diabetes educators of allied health background remain limited. Anecdotal diabetes educators working in positions with diabetes educator titles are almost always of nursing background, particularly in the hospital setting. It is unclear why this is the case. There are no specific guidelines which clarify precisely which tasks diabetes educators of nursing background can undertake that those of allied health background cannot. This thesis seeks to explore the origin and nature of the profession specific role boundaries between diabetes educators of nursing and podiatry background, with a view to apply the findings to the other CDE eligible allied health profession.

The occurrence of role boundary contestation among the health care professions is well documented (Abbott, 1988; Bach, Kessler, & Heron, 2012; Borthwick, 2001; Currie et al., 2009; Fournier, 2000; Martin, 2014; Nancarrow & Borthwick, 2005; Salhani & Coulter, 2009; Sanders & Harrison, 2008; Timmons & Tanner, 2004). There is an established hierarchal system among the health professions (Boyce, 2006; Parkin, 1979; Saks, 2010, 2013) and most studies of the professions focus on role boundary negotiations between those occupying different positions on the hierarchy (Timmons & Tanner, 2004). The boundaries between the medical and nursing professions, where the former is considered hierarchically superior to the latter, have been explored by a number of authors (Allen, 1997, 2000; Coombs, 2003; Coombs & Ersser, 2004; Svensson, 1996). This thesis differs from previous studies of interprofessional role boundary disputes in that the nursing and allied health professions are considered equal on the hierarchy. Whereas previous studies have analysed professional dominance and exclusion in cases where there are differences in the level of power held by the professions involved; this thesis explores the exertion strategies of dominance in a horizontal direction.
This thesis initially focuses on the profession specific scopes of practice of nurse and podiatrist diabetes educators. In Australia nurses and podiatrists are university qualified, with both education programs comprising comprehensive units on pharmacology and diabetes pathophysiology. Clinical podiatry practice demands an exemplary working knowledge of diabetes pathophysiology and also pharmacology, given podiatrists in most states of Australia are able to prescribe some Schedule 4 medications, with appropriate endorsement. Nursing practice requires a broad knowledge of health, disease and pharmacology. The similarities in preparatory education and some aspects of clinical practice suggest that these factors are not the most important factors distinguishing the work of nurses from that of podiatrists when undertaking a diabetes educator role.

It is acknowledged that when working in the capacity of their respective primary professions, nurses and podiatrists fulfil distinct and clear roles where the boundaries are relatively self-evident. That is not to say that boundary issues do not arise. For instance, there may be ambiguity around the roles of nurses and podiatrists in the management of lower limb wounds or protection of other podiatry task domains such diabetes foot health assessment. This thesis however, seeks to determine the nature of the interprofessional role boundaries between nurses and podiatrists when working in the post-registration interdisciplinary diabetes educator role. Set in the context of sociology of the professions literature, this thesis employs three qualitative research methods: a systematic review of the literature; documentary analysis and interviews with key stakeholders in the diabetes educator field.

1.2 Personal orientation to this study

I am a podiatrist and a credentialled diabetes educator. I have worked as a clinical podiatrist, a diabetes care coordinator and as a diabetes educator. I have experienced the reinforcement of the role boundaries between nurse and podiatrist diabetes educators as a post-graduate student in the education setting (university) and while on clinical placement in the hospital setting. I have also experienced role boundary reinforcement in the workplace and at professional association meetings and conferences. I was prevented from working to the full scope of practice as a diabetes educator when my capacity to provide the same level of medication management support was questioned by nurse colleagues. I wanted to understand whether those boundaries were real or artificial which led to this PhD exploration.

Prior to commencing this study, I consulted guidelines, statements and submissions relating to the diabetes educator’s role, which provided no further clarity to my scope of practice. I had attempted to determine the nature of the role boundaries between diabetes educators of nursing and podiatry backgrounds by contacting the relevant professional associations: the ADEA and
the Australian Podiatry Council, with no success. There were significant ambiguities and inconsistencies encountered during my attempts to ascertain knowledge of which tasks I could and could not undertake as a part of my clinical role. This impacted my ability to confidently carry out my clinical role as a diabetes educator.

At this point, I turned to the peer-reviewed literature exploring the ambiguities of professional role boundaries in podiatry and soon discovered a very prolific writer in this field - Professor Susan Nancarrow. I contacted Susan and within several weeks, progress towards my own study of the interprofessional role boundaries in diabetes education was made.

I bring a unique and personal perspective to this study and inevitably some biases. I address researcher reflexivity and strategies to ensure these biases do not bias this thesis, in the methods chapter (see Chapter 3).

1.3 Justification for this thesis
Health policy makers and health care services are under increasing pressure to ensure that the organisation and delivery of health services is supported by policies and systems which maximise efficiency and accessibility. Many of the recent modernising changes in health care have focused on increasing the flexibility of the workforce (Davies, Bennett, Nancarrow, & Cuesta-Vargas, 2015; MacNaughton et al., 2013; Martin, Currie, & Finn, 2009; Nancarrow, 2015; Productivity Commission, 2005). For example, physiotherapists and occupational therapists have demonstrated that they can enhance their skills in hand therapy and work in extended scope of practice roles (Ellis & Kersten, 2001). General practitioners with special interests are working in more specialised roles providing services traditionally undertaken by medical specialists, for instance in the case of clinical genetics (Currie et al., 2009).

Diabetes represents one of the most significant challenges to the Australian health care system, due to its soaring prevalence and the all-encompassing impacts of diabetes on the individual (Diabetes Australia, 2015). Therefore, a focus on increasing the efficiency and accessibility of diabetes services is imperative. This thesis explores the nature of the interprofessional role boundaries in diabetes education. It seeks to determine whether the role boundaries are due to actual scope of practice differences reinforced by regulatory boundaries, or rather the result of perceived professional closure of boundaries, reinforced by social norms without a legislative framework. If barriers to the flexibility of the diabetes educator workforce are in fact due to social processes resulting in imagined role boundaries, modernising changes to improve the capacity of this faction of the workforce should be a priority for diabetes health services in Australia.
1.4 Contributions to the literature and implications for practice

This thesis is contextualised and informed by sociology of the professions literature. This thesis constitutes a neo-Weberian analysis of the interprofessional role boundaries in diabetes education and, in turn, seeks to support and inform this approach by demonstrating its utility in contemporary studies of the professions. This thesis determines whether the role boundaries apparent between nurses and podiatrists when working as diabetes educators are real or merely perceived to be real. It also determines the social and political contexts that create the boundaries. Unlike previous studies of the professions, where more formal strategies at the macro level were used to influence professional role boundaries, other more localised professionalisation strategies are evident in this thesis.

Previous studies have explored cases of interprofessional role boundary disputes which have occurred in the context of an established professional hierarchy, such as the medical profession’s dominance over the nursing profession. This thesis provides a unique contribution to the sociology of the professions literature in that it explores an area of interdisciplinary practice in which a number of hierarchically-equivalent professions can work. That is, this particular role boundary dispute is independent of the established professional hierarchy.

The new knowledge generated by this thesis can be used by stakeholders in the field of diabetes education at all tiers: the macro, meso and micro, to inform policies and support practice. This thesis explores an area of clinical practice for which the qualifications are obtained at a postgraduate level. That is, (credentialled) diabetes educators are health professionals with a base qualification and then additional post-graduate qualifications. As such, this thesis could have relevance to other areas such as post-professional disciplines (eg. mental health care professionals) and to other cases of horizontal professional dominance.

This thesis aims to stimulate interest in applying some of the modernising changes to the organisation and delivery of diabetes education in line with current health care policy direction. It may also be of relevance to the interprofessional role boundaries evident in other areas of clinical practice, such as mental health. The application of the findings of this thesis will be discussed further in section 3.6.3.

1.5 List of publications and presentations

I, Olivia King, state that modified versions of the manuscripts appearing in Chapters 4 and 5 of this thesis have been peer-reviewed prior to publication in an international academic journal.
I warrant that I have obtained, where necessary, permission from the copyright owners to use any third-party copyright material reproduced in the thesis (e.g. figures and tables), or to use any of my own published work (e.g. journal articles) in which the copyright is held by another party (e.g. publisher, co-author).

The systematic review (Chapter 4) has been published in a peer-reviewed journal:


The paper is included as Appendix 1 and can also be accessed via this link: [https://jfootankleres.biomedcentral.com/articles/10.1186/s13047-015-0061-1](https://jfootankleres.biomedcentral.com/articles/10.1186/s13047-015-0061-1)

The documentary analysis (Chapter 5) has been published in a peer-reviewed journal:


The paper is included as Appendix 2 and can also be accessed via this link: [https://link.springer.com/article/10.1186/s13047-017-0210-9](https://link.springer.com/article/10.1186/s13047-017-0210-9)

**1.5.1 Statement of contribution of authors**

The published papers were co-authored by my PhD supervisors, Professor Susan Nancarrow, Associate Professor Sandra Grace and Professor Alan Borthwick.


Author contributions: Olivia King participated during all stages of the development of this paper and provided an overall contribution greater than that of any co-author. Olivia King undertook the systematic review, conducted the analysis and wrote the initial draft manuscript. Susan Nancarrow and Sandra Grace guided the initial ideas and supervised the design and conduct of
the research. Alan Borthwick revised the manuscript prior to submission and re-wrote the revisions following initial review. All authors read and approved the final manuscript.


Author contributions: Olivia King participated during all stages of the development of this paper and provided an overall contribution greater than that of any co-author. Olivia King collected the data, conducted the analysis and wrote the initial draft manuscript. Susan Nancarrow and Sandra Grace guided the initial ideas, supervised the design and conduct of the research and provided feedback on the draft manuscript. Alan Borthwick reviewed the manuscript prior to submission for publication. Olivia King re-wrote the revisions following initial review.

Signed:

Olivia King

Susan Nancarrow

A statement signed by each of the co-authors outlining the contributions made to these papers is contained within Appendix 3.

1.5.2 List of oral presentations

Oral presentations based on elements of this thesis have been made at the following conferences:

Emerging Health Policy Research Conference at the University of Sydney on 2nd October 2014, *The interdisciplinary diabetes educator role: boundaries and scopes of practice*

The Australian Sociological Association National Conference at the Australian Catholic University on 30th November 2016, *Role Boundaries and Scopes of Practice: The Interdisciplinary Diabetes Educator Role*

12th National Allied Health Conference 27th August 2017 at the International at the International Convention Centre (Darling Harbour), *Role Boundaries and Scopes of Practice: The Interdisciplinary Diabetes Educator Role*
1.6 Thesis Outline

This thesis has eight chapters and is presented as follows:

**Chapter 1** is the introduction to the thesis, establishing the research topic, providing justification for the study, the key contributions and implications.

**Chapter 2** provides the contextual framework within which this study is situated. The first part of the chapter explores the contemporaneously relevant sociology of the professions literature. The second part summarises the key historical events throughout the professionalisation of nursing, thus provides the socio-historical context for this thesis. The third part provides a brief overview of Australia’s health care system.

**Chapter 3** is the methods chapter. There were three qualitative research methods employed in this research: systematic review of the literature; documentary analysis and stakeholder interviews. The systematic review was published in a peer-reviewed journal and is presented in a stand-alone chapter (Chapter 4). The documentary analysis was also published in a peer-reviewed journal and is presented in a standalone chapter (Chapter 5). Due to word limitations, Chapter 3 presents an overview of the systematic review of the literature and the documentary analysis methods, with more detail relating to the execution of these research methods included in the respective standalone chapters (4 and 5). The full details of the methods relating to the interviews are presented in Chapter 3.

**Chapter 4** contains the systematic review of the literature including the methods, results, discussion, limitations and conclusion. This chapter was published as a paper in a peer-reviewed journal.

**Chapter 5** presents the documentary analysis including the finer details relating to the methods. It presents the results and conclusions of this research method. A truncated version of this chapter was published as a paper in a peer-reviewed journal.

**Chapter 6** presents the most pertinent raw interview data with reference to the key themes emerging.

**Chapter 7** presents the discussion, synthesising the systematic review of the literature, documentary evidence and the interview data. It synthesises the key themes and situates these in
the contemporary sociology of the professions literature. Limitations and recommendations for future research in this area.

Chapter 8 presents the conclusions of this thesis.

Reference list contains the full references cited throughout the thesis.

Appendices are presented at the end of the thesis.
Chapter 2 Context

This chapter provides the context of this thesis. The contextual background will be discussed with respect to three aspects: the sociology of the professions literature, the history of the nursing profession and the Australian health care context.

To develop a framework within these professional role boundaries that can be objectively explored, an appreciation of how professional role boundaries come to be defined must first be sought. There is a large body of sociological literature pertaining to the emergence, development and survival of professions. The establishment of nursing as a profession in the UK and in Australia is well-documented. An exploration of how the nursing profession has worked to become recognised as a profession will contribute to the development of a contextual framework for this thesis. The final aspect of the contextual background is an overview of Australia’s unique and complex health care system.

2.1 Sociology of the professions

Every profession is essentially an occupation and yet not every occupation is considered to be a profession (Saks, 2012). There are a number of perspectives on what it is that distinguishes the professions from otherwise lay occupational groups, with the topic having attracted debate for more than 100 years (Brante, 2010; Freidson, 1986; Saks, 2010). It has been suggested that understanding the circumstances in which an occupation seeks to transform into a profession is more important than trying to determine what it is that constitutes a profession (Larkin, 1983).

The professions are broadly perceived to hold special, higher level knowledge (Brante, 2010; Currie et al., 2009; Freidson, 1986; Larson, 1990) which is associated with significant social and cultural value (Allsop & Saks, 2003; Martin, 2014). They tend to be autonomous, exert a degree of authority within their field (Fournier, 2000) and have access to more opportunities to achieve higher status and social recognition (Currie et al., 2009; Macdonald, 1995). It is natural, therefore, that occupational groups are ambitious to secure their professional identity (Currie et al., 2009).

It can be argued that the vast majority of occupational groups hold some degree of unique or special knowledge and yet only some of these occupations become professionalised. This is where the relevance of socio-political processes and influences come into play (Nancarrow & Borthwick, 2005) and the definition of the professions becomes a highly debated subject (Allsop & Saks, 2003).
For over six decades now, numerous sociological theorists have documented their perspectives on how the professions have come to be understood (Saks, 2012), often building on, or unashamedly deviating from, those posited by others. This chapter explores some of the more pertinent and contemporaneously relevant theories, perspectives or approaches to defining the professions. Although this thesis is concerned with the division of labour among the health care professions, these theories relate to understanding and explaining the professions and their role boundaries more broadly. It is important to take an historical perspective on this subject and consider the foundations laid down by earlier, albeit outdated, theories as well as more prominent ones related to the sociology of the professions.

Throughout the process of initial data analysis, one particular sociological theory resonated closely with the data which was collected via semi-structured interviews: neo-Weberian theory. This paradigm will be discussed in more depth than the others and will provide the analytical framework for this thesis. Similarly, the findings of this thesis will inform and strengthen the neo-Weberian paradigm.

2.1.1 Taxonomic approach
The taxonomic approach, which gained momentum in the 1950s and 1960s, is considered the earliest real attempt at defining professions. The approach has two divisions: the trait and the functionalist. The trait approach is founded on the attainment of a list of core traits and characteristics which distinguished professions from lay occupations (Carr-Saunders & Wilson, 1933). Under this definition progress toward the idealistic status of a profession was gradual and depended on the attainment of certain traits and qualities typical of professions. Core traits and qualities such as specialist knowledge, expertise, educational qualifications, altruism, rationality and autonomy of practice were considered to be inherent within the professions. Despite significant discussion, agreement on the ancillary traits and attributes which constituted a profession was never reached (Roach-Anleu, 1992).

Etzioni (1969) conceptualised a continuum upon which the occupations could be located and categorised, depending on their attainment of the various traits and attributes perceived to constitute the professions. This gave rise to the semi-professions; those that acquired some, but not all the traits and characteristics held by the professions (Etzioni, 1969). This concept, and indeed the trait approach, were widely criticized for lacking an empirical basis and a resonance with the public (Larkin, 1983).

The functionalist division placed greater emphasis on the social value of the professions (Macdonald, 1995). This division focused on the relationship between the profession and the
public and on the functional application of the knowledge and skills held by professionals. For instance, professions apply their complex knowledge and skills in an altruistic and ethical manner in exchange for remuneration and social rewards such as autonomy (Larkin, 1983; Parsons, 1968; Saks, 1983).

The taxonomic approach has been widely challenged for its lack of both historical significance and substance, with many critics claiming that the approach represents more of an ideology of the professions than reality (Saks, 1983, 2012). Interactionist writers, for example, were early to criticize the taxonomic approach for its attempt to legitimise the professions and their associated privileges based on an unfounded and self-fulfilling definition of a profession (Saks, 2013). The interactionist approach focused on relationships between the social world and the unique ways individuals perceive society and their place within it (Byrne & Heyman, 1997). It was, however, quickly dismissed as it seemed to focus on the parallels between the more revered professions (such as medicine and law) and the lay occupations (such as cleaners and garbage attendants), than the differences. It was also criticized for suggesting that professional status was negotiated purely in the social context, while knowledge and expertise were all but irrelevant (Allsop & Saks, 2003; Saks, 2012, 2013).

2.1.2 Marxian approach

Marxian perspectives of the professions are based on capitalist relations of production (Macdonald, 1995). Marxist writers draw strong links between the professions and their respective locations within the class structure of capitalism described by Marx. Marx delineated the proletariat or working class, the middle class, and the bourgeoisie (Allsop & Saks, 2003; Saks, 2013). Most Marxist writers claim that in one way or another, all professions and occupations within the class structure serve to perpetuate the existence of the class divide, to the benefit of the bourgeoisie (Saks, 1983, 2013). Perspectives vary slightly with respect to the influence of the capitalist class structure, with some emphasising the role of the middle class professions as serving the interests of the dominant bourgeoisie class by way of surveillance (Larson, 1977; Poulantzas & Fernbuch, 1975). Similarly, other Marxist writers claim that the middle class profession such as engineers, nurses and accountants are a hybrid of the bourgeoisie and the working class, bearing similarities to both. For these writers, the middle class work under and serve the interests of the dominant class in a progressively routinised fashion (Braverman, 1974; Johnson, 1977; Saks, 1983).

Some Marxist writers have been drawn into debate about the proletarianisation (Braverman, 1974; Oppenheimer, 1973) and the deprofessionalisation of the professions (Haug, 1973). These processes were perceived to erode the supreme authority and privileged status of particular
professions, medicine for instance. A decline in professional autonomy has been attributed to factors such as increased managerial control, the routinisation of work (Johnson, 1977), rising information technology, and changing expectations of more educated consumers (Haug, 1973). The Marxist approach, although praised for its attention to the macro structural or social context of the professions, has been criticized for its lack of empirical evidence (Saks, 1983, 2012).

2.1.3 Bourdieu’s social world

Bourdieu’s conceptualisation of the social world as a symbolic system made up of different lifestyles and status groups (Bourdieu, 1989) is useful in defining the professions. According to Macdonald (1995), Bourdieu’s theory of the professions blends aspects of Marxist (economic capital) and Weberian (socially-valued resources) theories to present a complex model of the social world in which various forms of capital are possessed and deployed by agents to gain advantage and power.

The social world is perceivably double-structured: (1) when viewed objectively, the world appears to be socially structured, with some agents and groups of agents in more advantageous positions than others, due to particular properties, traits or characteristics they exhibit; (2) from a subjective point of view, the construction of the world is based on the perceptions and appreciation of the relative power held by different agents. With these two forms of structure, the social world appears to be a natural, stable and common-sense space (Bourdieu, 1989).

Bourdieu described a social framework which refers to social collectives rather than classes. He asserted that classes on paper do not equate to tangible entities (Bourdieu, 1989; Flemmen, 2013). He objectifies the position of the agents relative to one another within the larger social space (Flemmen, 2013; Veenstra, 2007). The closer that two or more agents are geographically, the more similarities they are likely to share. The rationale for these similarities is cyclic: when living in close proximity to others under similar conditions, agents are invariably shaped and influenced in a very similar way by their shared environment. Agents generate their own conditions and systems which act to perpetuate the homogeneity of their defined area of the social space and the characteristics of those that exist within it (Bourdieu, 1989; Veenstra, 2007).

Although agents will likely have an awareness of the social world and their place within it, this perspective is constructed under the conditions imposed by the structure of their position within the social space. This means that one’s perspective of their environment is influenced by the environment itself. Agents, even those located in more disadvantaged positions in the social
space, will readily accept as natural the social world and their location within it (Bourdieu, 1989).

**Capital and habitus**

The term ‘capital’ represents resources of potential value or power, which when mobilised or converted, confer social advantage (Flemmen, 2013). Bourdieu (1989) described three species of capital – economic, cultural and social (Flemmen, 2013). Symbolic capital is economic, social or cultural capital when its value is established and recognised as legitimate by agents within the social space (Bourdieu, 1989). The distribution of capital among agents or groups of agents provides the framework for the social space (Bourdieu, 1989; Flemmen, 2013). Based on his empirical study in France in the 1960s, Bourdieu determined that social spaces were based on a three dimensional distribution of capital: the first and most important was the total volume of capital, the second dimension was the composition of economic and cultural capital, and the third was described as the trajectory or the changes in the volume and make-up of the capital held by different agents or institutions over time (Flemmen, 2013; Veenstra, 2007).

The means by which agents can use economic or financial capital to gain advantage over those who lack this type of capital is quite straightforward. Cultural capital, although a far less tangible asset than economic capital, is very real when utilised in a field in which its value has been established (Macdonald, 1995). One example of the use of cultural capital is in the educational setting, where students of higher class are viewed and treated more positively by their teachers due to their inherited cultural capital. Owing to this favourable treatment, these students are more likely to attain a higher level of educational capital which improves their chances of securing other types of capital, social opportunities and higher status (Flemmen, 2013).

Social capital is another form of non-material resource, encompassing skills, knowledge, information and influence which when accessed and deployed within social networks becomes useful. Relationships and networks are seen as vehicles of social capital with different kinds of relationships yielding different outcomes (Huby et al., 2014). Huby et al. (2014), in the context of healthcare modernisation, showed how professional boundaries were renegotiated among different groups of health professions with varying access to social capital. They found that those in more advantageous positions (medical doctors) were better able to access and utilise social capital through their relationships with other more powerful agents, as opposed to those in lower status positions (nurses), who had limited access and ability to deploy social capital. Like Bourdieu, Huby et al. (2014) found that the mobilisation of social capital tended to reproduce existing and new social inequalities.
The social space is shaped by the distribution of capital and the agents living within it are influenced and defined by their access to the various forms of capital (Bourdieu, 1989; Flemmen, 2013). One’s cultural tastes and practices tend to correspond with the type and volume of capital they possess, which outwardly highlights the inequalities between different social groups (Veenstra, 2007). For Bourdieu, habitus is what produces the outward characteristics, traits, cultural tastes and practices by which an agent’s position within the social space can be determined. For example, one might be classified on the basis of their accent, the clothes they wear, foods they eat, sports they play, occupation, workplace and so on. The production of a class of habitus or a particular lifestyle is the natural consequence of agents living in close proximity and sharing similar qualities and characteristics. Habitus also provides frames of reference for the perception and appreciation of practices constitutive of a habitus. It therefore acts in a cyclic manner to allow both self-classification and the classification of others and contributes to the making of a world which is self-evident, or as summarised by Bourdieu (1989) himself, ‘Habitus thus implies a “sense of one’s place” but also a “sense of the place of others” ’ (p. 19).

**Symbolic capital and symbolic power struggles**

The nature of the social world and the relativity of agents’ positions within it indicate that perspectives of the space depend entirely on the point from which the view is taken leaving no scope for an absolute or universal vision of the social world. The social world therefore is a continuous space with no clearly defined boundaries (Bourdieu, 1989). While the social world is considered somewhat natural and common-sense to the agents existing within it, the uncertainty arising from its infinite perspectives creates opportunity for struggles to redefine the space and alter the balance of power (Flemmen, 2013).

Symbolic power struggles occur when efforts are undertaken by agents or groups of agents to legitimise and impose upon others, particular perspectives of the social world, in which they are seen to hold more power or be of a higher status. These power struggles are considered symbolic because those engaged in them are armed with symbolic capital (economic, cultural or social capital in the form in which it is recognised within a particular social space). The symbolic capital an agent or groups of agents can access has been accumulated through previous power struggles and has dictated their current position within the social space. Power struggles therefore tend to reinforce the relations of power within the social world (Bourdieu, 1989).

Some forms of symbolic capital, especially cultural capital, are universally recognised. An educational qualification for instance, is a form of cultural capital that can confer a socially
recognised title such as ‘dentist’ or ‘school teacher’. These titles are considered to be true titles of symbolic capital and the threat of symbolic power struggles over them is minimal. Moreover, titles that have been legally sanctioned are perceived to be absolute or official and free from the relativity and indeterminacy typical of the social world (Bourdieu, 1989). Securing state regulation is an example of a means to externally legitimise social capital. It is argued however, that governments and other keepers of bureaucratic authority never hold absolute power and therefore cannot use legislation to impose determinate visions of the social world: ‘There are always, in any society, conflicts between symbolic powers that aim at imposing the vision of legitimate divisions, that is, at constructing groups’ (Bourdieu, 1989, p22).

Bourdieu’s conceptualisation of the social world has proven to be very influential and still widely applicable (Flemmen, 2013). For this thesis, symbolic capital and symbolic power struggles appear very relevant. It could be argued that the larger professions, with highly nationalised employment and professional structures (such as medicine and nursing) have access to more social capital than other occupational groups such as allied health professions. The structure of the health care system is such that those professions with access to ‘political elites’ have more capacity to mobilise this social capital and thus reproduce existing inequalities, as found by Huby et al. (2014). Bourdieu’s paradigm is still relevant to contemporary studies of the professions and will be drawn upon in the discussion section (Chapter 7) of this thesis.

2.1.4 Foucault

Michel Foucault has made broad and monumental contributions to many aspects of social theory. His work is considered diverse, complex and because of the many different readings and interpretations of Foucault has wide application (Fournier, 2000; Mackey, 2007). For the purpose of this thesis, Foucault’s work relating to discipline, disciplinary power and power-knowledge (Mackey, 2007) will be considered. For Foucault, discipline denotes a ‘specific technique of a power that regards individuals both as objects and instruments of its exercise’ (Foucault, 1977, p.170). Discipline also refers to a field of knowledge or profession (Fournier, 2000; Macdonald, 1995).

Foucault (1977) described three processes which constitute disciplinary power: hierarchical observation, normalising judgement and examination. Hierarchical observation refers to the systematic review of the object and normalising judgement is the recording of these observations against normal values. Examination is the procedure considered to be a combination of the observation and normalising judgements. These three processes all contribute to the development of what is to be considered scientific knowledge (Foucault, 1977).
or new knowledge (Nettleton, 1992). This knowledge confers disciplinary power which can be assumed and acted upon in its own right (Foucault, 1977; Fournier, 2000).

Foucault’s account of the conception of medicine is based in part on the medical gaze, which describes how medicine perceived the body by the way it looked or seemed. The gaze also refers to the technique by which medicine attained knowledge of the body, the internal organs and tissues, norms and variations (Armstrong, 1987). The systematic observation, normalising judgement and examination (i.e. discipline) of individual bodies led to the translation of the body into an object about which medicine professed to have extensive knowledge. This concentration of knowledge meant that individual bodies were viewed as medical cases upon which medicine could act autonomously (Fournier, 2000).

For Foucault, knowledge was an important technique of power as it provided a basis for the regimes of truth upon which the balance of power is based (Brante, 2010; Mackey, 2007). As knowledge changes over time, the balance of power alters and more power is generated. For Foucault, the concepts of power and knowledge were inextricable and expressed as a single entity: power-knowledge (Foucault, 1977; Manias & Street, 2000).

In Nettleton’s (1988, 1989, 1992) Foucauldian analyses of the development of the dental profession, an example of the generation of power-knowledge through the disciplinary techniques of surveillance and monitoring and the normalisation of the mouth and teeth is provided. The virtual separation of the mouth from the body facilitated the development of new and extensive knowledge of the mouth and teeth (Nettleton, 1988), an area which appears ‘naturally isolated and self-contained’ (Fournier, 2000, p.71). This isolation of the mouth and teeth enabled them to be viewed as an object upon which the dental discourse is based (Macdonald, 1995). It is purported that the combination of surveillance (dental examination) and discipline (tooth-brushing and other practices prescribed by dentists) leads to better individual dental health and contributes to better societal health (Macdonald, 1995; Nettleton, 1992). Through her examination of dentists, Nettleton (1988, 1989, 1992) demonstrated that it was dentistry itself which created the need for people to obtain dental care. The emergence of the dental profession provides an apt example of Foucault’s philosophy related to the nature of modern society; where individuals are subject to, and disciplined by, knowledge which arose in a manner which is historically unclear (Macdonald, 1995).

Foucault’s conceptualisations of disciplinary power, power techniques and power-knowledge are still significant to contemporary studies of the professions and will be drawn upon as in the discussion section (Chapter 7) of this thesis.
2.1.5 Boundary work

The term *boundary work* was coined by Gieryn (1983) when he explored the efforts undertaken by the scientists and scientific community to distinguish their intellectual work from that of others and to defend their professional autonomy (Bach et al., 2012). He described some of their strategies which included expanding their area of expertise into competitors’ territory, monopolising professional knowledge to exclude competitors, and ongoing work to maintain their professional autonomy (Timmons & Tanner, 2004). These strategies have been discussed in some detail in other sections of this chapter. While Gieryn’s work related to macro level strategies of boundary work, others like Allen (1997, 2000, 2001) and Timmons and Tanner (2004) have focused on micro-level discursive strategies in the negotiation of interprofessional role boundaries within the workplace.

Fournier’s (2000) paper on *boundary work* has been widely cited and, like Gieryn’s discussions, refers more broadly to macro level boundary work. In this context, boundary work refers to the efforts required to construct professional boundaries and the ongoing work that is required to maintain and expand these. Boundary work is described as a two-part process: first it is the constitution of a self-defined and independent knowledge base which provides the foundation upon which professions can claim expertise and therefore exercise authority and exclusivity. Fournier’s analysis of this part of boundary work draws on Foucauldian theory. The second part is the labour of division which is dedicated to constructing and maintaining the professional role boundaries. Fournier’s explanation of this sub-type of boundary work incorporated aspects of Weber’s concept of social closure, whereby the professions seek to differentiate themselves from lay people, the market and other professions, in an attempt to highlight their distinct *expertise* and therefore the value of their services (Fournier, 2000).

By delineating an independent and self-contained area of knowledge, professions are able to construct a field which appears to have a natural basis. This field or system of knowledge needs to be self-defined with evidence of clear boundaries that are expandable with time and ongoing effort (Fournier, 2000; Nancarrow & Borthwick, 2005). Fournier (2000) drew upon Foucault’s disciplinary knowledge and disciplinary power concepts to describe the process of ‘making up’ (p. 71) the professional field. For the medical profession it is the biological body that constitutes the field of expertise. This means that any malfunctioning of the biological body is unequivocally within the jurisdiction of medicine (Fournier, 2000). The process of establishing a field of expertise is in fact an act of creation and not revealing. In other words, the field does not reflect a naturally occurring phenomenon but rather one that is created by the profession itself. Owing to the fact that the professional field is created, it is a malleable and expandable entity (Fournier, 2000).
The second and equally important part of boundary work is the ongoing efforts to create and maintain professional boundaries. For this part Fournier (2000) drew upon Weber’s (1968) social closure concept. She described three types of boundaries that are constructed and maintained. The first are the boundaries between the different professions, which serve to distinguish and protect the jurisdictions of the various professions. The construction of the boundaries between the professions is a competitive and ongoing process, given that professional jurisdictions are malleable and expandable (Fournier, 2000). Social closure and the strategies as deployed by professions to achieve this are discussed at length in the next sub-section dedicated to neo-Weberian theory.

The second key location for the construction and maintenance of professional boundaries is between the profession and the client or lay person. These boundaries rely upon the profession creating a degree of dependence of the client on them or their service. One strategy professions can deploy to create client dependency is protecting professional knowledge by ensuring that only those with relevant educational credentials can access and decipher it (Fournier, 2000). In Jamous and Pelloïle’s (1970) analysis of the French medical profession, they proposed a definition of the professions based on the ratio of indeterminacy and technicality constituting their occupational knowledge and practices. Indeterminacy refers to the non-discrete qualities held by professionals, enabling them to competently utilise their professional judgement and tacit knowledge. Technicality refers to the concrete knowledge and skills constituting an occupational role which can be codified, communicated, taught and learned (Jamous & Pelloïle, 1970; Larson & Larson, 1979b; Traynor, 2009; Witz, 1992). A high indeterminacy-technicality ratio creates a sense of mystery and imprecision about the professional knowledge. It highlights the indispensability and of professional intuition and makes it inaccessible to the lay person (Fournier, 2000; Jamous & Pelloïle, 1970; Witz, 1992). In the following sub-section discussing neo-Weberian theory, the relevance of the indeterminacy-technicality ratio to this thesis will be revisited.

In Allen’s (2000) study of the boundary work undertaken by nurse managers in a hospital setting, she noted that nurses often referred to the nature of their work as holistic. Holism, of course, is an aspect of nursing practice that is abstract and indeterminate and therefore difficult to define and teach. Although this particular example relates to boundary work between professions, it nonetheless demonstrates the value of emphasising tacit knowledge and generalised qualities, rather than clear reducible and easily defined tasks, when constructing and maintaining professional boundaries.
The third type of boundary lies between the profession and the market. This boundary relies on the notion that the professions are concerned with contributing to public good, rather than self-interests, and that their services are provided rather than sold. Owing to their unique scientific knowledge, professions are accountable to internal standards, such as codes of ethics, rather than to the market or the government. This internal accountability contributes to the creation of boundaries that separate and effectively protect professions from the market (Fournier, 2000).

The concept of boundary work still appears relevant in the current socio-political climate and has applications for this thesis, particularly the concept of indeterminacy and technicality. This will be discussed in Chapter 6, Section 6.1.4.

2.1.6 Neo-Weberian approach

Neo-Weberian perspectives of the professions first emerged in the late-1960s and remain highly relevant to analysing the nature of the professions (Harrits, 2014; Nancarrow & Borthwick, 2005; Saks, 2010, 2013). Although Weberian theory is widely utilised in the sociology of the professions literature, there are differences in the perspectives and definitions of the professions, according to the particular aspect of Weber’s original theory being adopted by the author (Saks, 2010). For many authors and for this thesis, the definition of the professions will be based upon Weber’s (1968) social closure concept (Fournier, 2000; Parkin, 1979; Saks, 2010, 2013; Timmons & Tanner, 2004; Witz, 1992) and as such, the term neo-Weberian will denote an approach to defining and exploring the professions which is based on the social closure concept.

Through a neo-Weberian lens, the professions are highly motivated by benefits such as status, power and income and are competing with one another to secure these benefits in an ever-changing, interdependent social arena (Currie et al., 2009; Nancarrow & Borthwick, 2005; Saks, 2010, 2013; Timmons & Tanner, 2004). The concept of closure is employed to describe the means by which aspiring and established professions secure and protect their role boundaries and the benefits associated with their professional status by monitoring and limiting entry into their occupational group (Borthwick, 2001; Harrits, 2014; Nancarrow & Borthwick, 2005; Saks, 2010). This approach acknowledges socio-political influences at the macro level and the dynamic nature of the professions (Nancarrow & Borthwick, 2005; Saks, 2010, 2012).

There have been a number of proponents of Weber’s (1968) social closure theory. The neo-Weberian writers considered influential in the field of medical sociology are discussed in this chapter and include: Freidson, Parkin, Witz, Larson, Larkin, Abbott and Saks. These authors are widely cited by more contemporary neo-Weberian writers such as Martin and Borthwick. Freidson’s earlier work (1970a, 1970b, 1977) established the theory of medical dominance, that
is, the sovereign position held by the medicine health professional hierarchy. As Freidson (1977) explained, medicine’s enduring autonomy over its own work when applied more broadly to the division of health care labour enabled the medical profession to control the work and role boundaries of the other health care occupations. Parkin, arguably one of the most influential proponents of Weber’s social closure theory applied the concept to the professional context, renaming it occupational closure (Witz, 1992). Occupational closure is defined as the process by which ‘social collectives seek to maximise rewards by restricting access to resources and opportunities to a limited circle of eligibles’ (Parkin, 1979, p. 44). Parkin (1979) illuminated the two different strategies of closure: exclusionary and usurpationary. These strategies will be discussed further in the subsequent sub-section, *Forms of closure*.

Larson (1977, 1979a), emphasised Marxist concepts such as capitalism and the location of the occupations in terms of the structures of production, in her exploration of the strategies of social closure undertaken by aspiring professions. For Larson, the key to achieving professionalisation was forming a secure link between education and employment. With the requisite educational qualifications, an occupational group is able to monopolise an area of the market (Larson, 1979a; Witz, 1992). Larson also drew upon Jamous and Peloille’s (1970) indeterminacy-technicality ratio in her exploration of the ideology of professionalism. She explored the relevance of maintaining high levels of indeterminate professional qualities, relative to the skills and knowledge which can be codified, taught and learned in terms of rules. Indeterminate qualities, or those that ‘escape rules’ (Larson & Larson, 1979b, p. 41), cannot rationalised or defined in terms of a competency. Indeterminate qualities cannot be taught, learned and assessed and therefore are not transferrable. If not transferrable, professional qualities can be protected and professional closure is achievable (Nancarrow, 2015).

Larkin (1983) applied the professional dominance concept to his own model of *occupational imperialism* which refers to the inter-occupational dynamics evident as the occupations attempt to secure their status and ‘mould the division of labour to their own advantage’ (Larkin, 1983, p. 15). In the context of medical dominance, the professional projects of four non-medical health occupations were explored. He illustrated the strategies deployed by these groups in a bid to manipulate the division of medical labour, often by extending their role boundaries and securing higher income, status and power (Larkin, 1983). Larkin described the work of both dominant and subordinate occupations in the negotiation of their interprofessional role boundaries. His work illustrated how a degree of professional autonomy can be attained by deploying strategies of closure, developing and maintaining strategic relationships and by influencing various processes within the division of health.
Abbott (1988) emphasised the importance of securing an ‘occupational jurisdiction’ and the inevitability of disputes between professions to maintain control over their jurisdiction (Bach et al., 2008). According to Abbott (1988), ongoing interprofessional competition and contestation is a defining feature of the professions. It is these perpetual disputes as well as the ever-changing social climate and technological advances that render professional boundaries and jurisdictions fluid and dynamic (Bach et al., 2012; Nancarrow & Borthwick, 2005; Saks, 2012).

Witz (1992), in her exploration of nursing profession’s gendered professional project, expanded Parkin’s (1979) model of closure to include four types of strategies: exclusion, demarcation, inclusion and dual closure. These types of strategies will be described in the following sub-section, *Forms of closure*. Previously in this chapter, Fournier’s (2000) theory on boundary work, has been discussed. This theory describing the pursuit of the professional project consists of efforts to define the professional field followed by the ongoing division of labour required to construct and maintain professional role boundaries. Fournier’s discussion of the latter form of boundary work was based on Weber’s social closure.

There are numerous other influential authors, who have applied Weber’s social closure concept to their accounts of the professions, including Berlant, 1975; Collins, 1990; Johnson, 1972 and Murphy, 1984. It is beyond the scope of this thesis to discuss the contribution of each author, but rather provide an overview of the key features of a neo-Weberian approach to defining the profession. There are variations among the many neo-Weberian accounts of the professions in terms of their focus, however, central to this approach is the objective of both aspiring and established professions to secure and protect their role boundaries with legal under-writing (Martin, 2014; Nancarrow & Borthwick, 2005; Parkin, 1979; Saks, 2010, 2013). Another key feature evident in the majority of neo-Weberian accounts is the transitory nature of the outcomes of social closure and the requirement for ongoing strategies to maintain and renegotiate role boundaries (Martin, 2014; Nancarrow & Borthwick, 2005; Parkin, 1979; Timmons & Tanner, 2004). The aspects and elaborations of neo-theory which appear most relevant to this thesis will be discussed further.

*Forms of closure*

Parkin (1979) is renowned for his work elaborating on the concept of social closure and its application to the professions (Harrits, 2014). As Parkin explained, social closure is conducive to the monopolisation of particular areas of knowledge and resources by certain groups and, if successfully achieved, is associated with enhanced status, power and privilege (Larkin, 1983; Martin, 2014; Parkin, 1979; Saks, 2013). The occupations seek to monopolise their field of expertise by implementing strategies to demarcate their role boundaries and limit the number of
entrants into their occupation, enhancing its market value (Borthwick, 2001; Harrits, 2014; Martin, 2014; Nancarrow & Borthwick, 2005; Parkin, 1979; Saks, 1983; Timmons & Tanner, 2004; Witz, 1992).

Parkin (1979) described two forms of closure: exclusion and usurpation (Harrits, 2014; Saks, 1983; Witz, 1992). Exclusionary tactics seek to secure particular advantages by excluding and disempowering other groups. Strategies of exclusion invariably result in the delineation of a group of inferior ‘ineligibles or outsiders’ (Parkin, 1979, p. 45). Strategies of usurpation are deployed by social groups to counter the efforts of a dominant group to exclude them (Parkin, 1979). Usurpationary strategies are exercised in an upward direction by a subordinate group, in an attempt to improve their status by encroaching on the territory of a socially defined superior group (Larkin, 1983; Murphy, 1984; Nancarrow & Borthwick, 2005; Saks, 1983). Strategies of dual closure are implemented by a profession seeking to establish and expand its role boundaries by taking measures to both exclude outsiders from their territory and encroach on that of superior professions (Parkin, 1979; Saks, 2010, 2012). Parkin (1979) argued that strategies of dual closure are implemented in an attempt to secure a monopoly over the resources required to undertake a professional role and subsequently, the benefits associated with employment in a particular profession. Dual closure strategies have been demonstrated by ‘lower-ranking professions like nursing and teaching’ (Saks, 2010, p. 894).

In Witz’ (1992) analysis of the gendered politics of the health care division of labour, she explored the strategies implemented by the male-dominated medical profession and the female-dominant nursing/midwifery profession. Witz elaborated Parkin’s (1979) two part model of occupational closure, to include four distinct strategies: exclusionary; demarcationary; inclusionary; and dual closure. Exclusionary strategies are deployed by a dominant occupational group in a bid to create a monopoly over the knowledge and skills required for employment and control the number of entrants into the group. Demarcationary strategies are designed to control and monitor the role boundaries and affairs of separate but related professions, or those perceivably of equal hierarchal status. Demarcationary and exclusionary strategies are asserted in a downward direction by professions attempting to achieve dominance over others. Inclusionary strategies are those asserted by professions in response to exclusionary strategies, and are designed to gain access and inclusion into a superior group’s domain. For Witz (1992), dual closure strategies, when deployed by an occupational group, are designed to solidify their position in two ways: the first is by engaging in exclusionary strategies aimed at preventing the encroachment of subordinate professions; the second is by resisting the demarcationary strategies of dominant professions (Witz, 1992).
**Strategies of closure**

Strategies of occupational closure can be broadly categorised as credentialist and legalistic in nature (Larkin, 1983; Martin, 2014; Parkin, 1979; Witz, 1992). Several neo-Weberian authors have also described discursive strategies of closure (Currie et al., 2009; Martin, 2014; Sanders & Harrison, 2008; Timmons & Tanner, 2004; Witz, 1992). Credentialist strategies of occupational closure involve the use of educational certificates, formal qualifications and processes of accreditation as mechanisms to monitor a field of expertise and limit access to employment opportunities (Larson, 1979a; Parkin, 1979; Witz, 1992). Enduring control of professional jurisdiction has been achieved by professional groups who have implemented self-governed systems of education, training and accreditation (Martin, 2014). Credentialist strategies are aimed at controlling the supply of qualified individuals into a profession. Implementing and managing systems of education and credentialling constitutes a very powerful form of exclusionary closure, as it serves to restrict the admission of individuals into an occupation, thereby preserving and even enhancing the market value of the service (Parkin, 1979). There are two broad forms of credentialling: state-controlled systems of occupational licensing and self-regulated systems of credentialling (Freidson, 1986). In the case of self-regulated systems of credentialling, the attainment of credentialled status must confer significant advantages to credentialled individuals. For instance, the credentialled sector of the profession may benefit from the capacity to provide a service that the non-credentialled sector cannot, therefore enhancing the opportunities and income of the former and protecting them from competition by the latter (Freidson, 1986).

The professions are perceived to be the holders of specialised knowledge and expertise, achieved via the participation in programs of higher education and the attainment of further vocation-based education (Currie et al., 2009; Evetts, 2003; Fournier, 2000; Freidson, 1986; Larkin, 1983; Saks, 2012, 2013; Witz, 1992). The relevance of knowledge to the definition of the professions has been discussed by a number of neo-Weberian authors (see Abbott 1988; Fournier, 2000; Saks, 2012). A neo-Weberian approach to exploring and defining the professions does not emphasise the attainment of specialised knowledge as such, however this is implied in the higher education and credentialling processes (Saks, 2012). Notwithstanding, knowledge may feature in the strategies of exclusionary closure. For instance, as Jamous and Peloille (1970) explained, professional status may be achieved or preserved by maintaining a level of indeterminacy about professional knowledge to prevent its reduction or codification into course work accessible to an unrestricted number of individuals. Abbott (1988) elucidated the process of abstraction of professional knowledge and claimed that this is key to the construction and maintenance the boundaries between occupational groups, and to the endurance of the professions.
A number of neo-Weberian authors have focussed on the professions and the relevance of their educational preparation (see Freidson, 1986; Larson, 1979; Parkin, 1979). Freidson (1986) highlighted that the requirement to attain formal education in order to secure employment is a hallmark feature of a profession. Larson (1979a) noted the importance of establishing a clear link between education and vocation (Witz, 1992). As discussed already, Parkin (1979) described the strategies deployed by the aspiring and established professions to limit and control the type and number of individuals eligible to undertake educational courses which prepare individuals to provide professional services. The imposition of eligibility criteria for entry into educational courses serves as an effective exclusionary strategy (Martin, 2014; Parkin, 1979).

Strategies of exclusionary closure which are legalistic in nature, are considered the most powerful and visible (Larkin, 1983; Macdonald, 1995; Martin, 2014; Saks, 1983, 2010; Willis, 2006; Witz, 1992). By securing legislation which protects a part of a profession’s role such as their title, a particular skill, task or competency, the profession can legitimately claim an area of practice exclusively their own. Securing state support and legal reinforcement of professional boundaries enables professions to acquire a legal monopoly over their task domains and confers safety and security from the competitive marketplace (Freidson, 1970a, 1970b; Larkin, 1983; Parkin, 1979). Legal underwriting also affords a sense of autonomy and self-regulation for the profession, reducing its amenability to external interference and scrutiny (Parkin, 1979).

Legalistic strategies typically involve securing governmental support which adds strength to professional projects. The most common example is state licensure or registration (Saks, 2013; Willis, 2006; Witz, 1992). ‘The most visible method of establishing something like an occupational monopoly lies in occupational licensing, a process by which a government agency grants exclusive official permission, sustained by law, to eligible individuals to work in a particular occupation’ (Freidson, 1986, p. 65).

The medical profession provides an apt example of the successful implementation of legalistic strategies of occupational closure. Medical hegemony is a term used to describe the social authority held by the medical profession and its sovereign position on health care hierarchy (Bacon & Borthwick, 2013; Boyce, 2006; Freidson, 1970b; Larkin, 1983; Nancarrow & Borthwick, 2005; Willis, 2006). The medical profession has effectively controlled the health care division of labour, with a unique capacity to determine its own role boundaries as well as those of the health occupations lower on the hierarchy (Bacon & Borthwick, 2013; Larkin, 1983; Martin, 2014; Nancarrow & Borthwick, 2005; Saks, 2013; Willis, 2006). The passage of the Medical Registration Act of 1858 marked the birth of the modern medical profession in the
United Kingdom (UK) and the beginning of its exclusive relationship with the state, in which it benefited from a sense of unequivocal legitimacy (Saks, 2013; Willis, 2006; Witz, 1992). It was the *Medical Registration Act* which gave legal substance to the term, *qualified medical practitioner* (Witz, 1992, p. 74). Further legislation including the *National Insurance Act* in 1911 and the *National Health Service Act* in 1946, granted the medical profession a monopoly over government funding for the provision of health care services. These legal reinforcements also fuelled the alliance between the medical profession and the state (Saks, 2013).

The advent of medical hegemony is attributed to its successful implementation of state-endorsed registration (Freidson, 1970b). This has enabled the medical profession to achieve a strong sense of autonomy, authority and sovereignty. As such, for the emerging health professions, government-endorsed registration is still a key strategy of professionalisation (Willis, 2006). That is not to say that the relative security that comes with legally enshrined occupational closure is absolute or undisputable (Abbott, 1988; Fournier, 2000; Macdonald, 1995; Martin, 2014). A number of authors have discussed the dynamic socio-political influences which have altered the health professional arena, challenged interprofessional role boundaries and medical dominance (see Borthwick, Short, Nancarrow and Boyce, 2010; Boyce, 2006; Martin, 2014; Nancarrow and Borthwick, 2005 Willis, 2006).

Another key approach to achieving and maintaining occupational closure is the deployment of discursive strategies (Currie et al., 2009; Martin, 2014; Martin et al., 2009; Witz, 1992). Discursive strategies of closure involve the use of reasoning or argument to legitimate occupational role boundaries and professional status. Witz (1992) discussed the use of discursive strategies by male radiography technician and nurse radiographers in the 1920s and 1930s throughout their intra-professional feuding. Claims to superior technical capability by the male radiographers were countered by claims to a more caring and patient-centred approach to the role by nurses (Witz, 1992). Similarly, in Timmons and Tanner’s (2004) study of the occupational role boundary dispute between operating department practitioners (ODPs) and theatre nurses, the authors described the use of discursive strategies by each occupational group to legitimate their professional status. The nurses emphasised their holistic, caring and patient-centred qualities, whereas the ODPs sought to portray themselves as experts on the complex equipment and technology used in the theatre (Timmons & Tanner, 2004). Martin, Currie and Finn (2009) demonstrated the used of discursive strategies of closure by geneticists, in order to achieve professional boundary closure at the exclusion of general practitioners with a special interest (GPSIs) in genetics. The geneticists elucidated the indeterminacy of their knowledge and practice, citing their protracted professional education and vocational experience as factors which defined their superiority over the GPSIs.
Key features of the neo-Weberian approach

As discussed, there are a number of elaborations on Weber’s social closure concept that have been applied to studies of the professions. While there are some variations in these elaborations, there are several key features which are characteristic of a neo-Weberian approach to exploring and defining the professions. First, within this paradigm, the professions are seen to be dynamic entities, influenced by evolving socio-political factors, including changes in the market, other professions, demographic trends, technology, policy and regulations (Martin, 2014; Nancarrow & Borthwick, 2005; Saks, 1983, 2010, 2012). Accordingly, professions and their role boundaries are fluid and constantly evolving (Abbott, 1988; Martin, 2014; Nancarrow & Borthwick, 2005; Saks, 2012). Second, within the neo-Weberian tradition, the aspiring and established professions engage in competitive processes and strategies to achieve closure around their role boundaries and jurisdictions at the exclusion of others (Abbott, 1988; Fournier, 2000; Nancarrow & Borthwick, 2005; Saks, 1983, 2010, 2012). A third key feature of the professions according to neo-Weberian theory is that their key objective is to secure higher income, status and power (Currie et al., 2009; Larkin, 1983; Nancarrow & Borthwick, 2005; Saks, 2012, 2013; Timmons & Tanner, 2004).

Limitations of the Neo-Weberian approach

The neo-Weberian approach to defining profession is not without its flaws. It has been criticised for inaccurately and unfairly conveying the professions as self-interested entities with little or no regard for the benefit of the public (Saks, 2012). Neo-Weberian theories of the professions focus on the power dynamics of the various occupational groups with one another and with the state, but pay little attention to the relationship between knowledge and power (Harrits, 2014). Other critics have noted that this approach is not always substantiated by rigorous studies (Saks, 2012).

Saks (2012) in his analysis of the role of Marxist and neo-Weberian approaches to defining the professions, concluded that the neo-Weberian approach has many advantages over other perspectives of the professions and is therefore widely utilised. If utilised in a sound manner, a neo-Weberian approach can facilitate enlightening empirical studies of the professions. It allows for empirical investigation of the current state of the professions as well as an exploration of the history and socio-political context in which the professions emerged (Saks, 1983). Importantly, it accounts for the evolving and dynamic nature of professional boundaries (Abbott, 1988; Allen, 1997) which are influenced by socio-political among other factors (Nancarrow & Borthwick, 2005; Saks, 2012).
2.1.7 Conclusion

With regard to this thesis, the most pertinent and influential theories of the sociology of the professions have been summarised and presented. There were two key outcomes of this review: first was the identification of a common thread in each of the theories on professionalisation: inter-occupational competition and contestation (Macdonald, 1995; Martin, 2014). Whether referred to as symbolic power struggles as in Bourdieu (1989), boundary work as in Fournier (2000), disciplinary power or power-knowledge as in Foucault (1977) or for the neo-Weberian writers, social closure (Saks, 2012), there is an emphasis on the competition or contestation between two or more occupations or professions. This finding informed both the research question and shaped the systematic review of the literature, which focussed on professional boundary contests in health care. The systematic review of the literature conducted as part of this thesis focused on inter-occupational competition and contestation. See King, Nancarrow, Borthwick, and Grace (2015) (Chapter 4).

The second key outcome of the review of the sociology of the professions literature was that the neo-Weberian approach to describing professionalisation processes resonated most closely with the thesis. Numerous previous studies exploring professional role boundaries in health care have employed a neo-Weberian approach. Witz’ (1992) analysis of the history of the nursing profession, Larkin’s (1983) analysis of the occupational imperialism concept and the paramedical professions, and Borthwick’s work on the relevance of occupational imperialism to the podiatry profession were all informed by neo-Weberian theory. Data emerging in the early stages of collection resonates with these three analyses and fits well with neo-Weberian theory. This sociological paradigm has been used as the primary analytical framework for the thematic analysis of the data collected for this thesis. Aspects of other social theories, such as Foucault’s power-knowledge concept and Bourdieu’s symbolic power struggles also bore relevance to this thesis and will be drawn upon accordingly. The application of the analytical framework is discussed in detail in the methods chapter (Chapter 3).

2.2 Socio-historical context: The professional projects of nursing and podiatry

Further to the sociology of the professions literature that has been discussed, the professional projects of both nursing and podiatry and will be summarised to provide additional socio-historical context. The term professional project refers to the processes and strategies of occupational closure deployed by an aspiring profession, which are aimed at establishing and advancing their field of expertise (Evetts, 2003; Fournier, 2000; Larson, 1979a; Nancarrow & Borthwick, 2005; Witz, 1992).
Professional projects are strategies of occupational closure which seek to establish a monopoly over the provision of skills and competencies in a market for services. They consist of strategic courses of collective action which take the form of occupational closure strategies and which employ distinctive tactical means in pursuit of the strategic aim or goal of closure (Witz, 1992, p. 64).

Larson (1979a) summarised the process of professionalisation as a means to monopolise the provision of labour or a particular type of service in a market which places higher value on particular services and rewards the providers or professional groups accordingly. By monopolising work opportunities which are inextricably linked to work privileges, the professions attain a higher status and position on the professional hierarchy (Larson, 1979a).

Larson (1979a) and Larkin (1983) emphasised the notion of market control in the pursuit of a professional project. Establishing a standardised system of professional training which has a single point of entry enables a profession to control the input of students and output of professionals. The expertise required to secure employment and provide the professional service can only be attained following the completion of specific training and examination. Market control therefore is achieved when professions are able to monopolise work opportunities, privileges and enhanced status with the production of a controlled number of professionals with requisite expertise (Larson, 1979a).

Nancarrow and Borthwick (2005) described four key mechanisms by which the healthcare workforce can renegotiate their professional boundaries: diversification, specialisation, and vertical and horizontal substitution. Each of these mechanisms, if successfully implemented, enables a profession to mobilise and expand its work boundaries. Specialisation refers to the process by which a sub-set of a given profession refines their knowledge and skills in a particular area of clinical practice, usually via the completion of further training. These professionals typically adopt a title indicating their enhanced expertise and specialisation, distinguishing them from the general members of the profession (Bacon & Borthwick, 2013). Advances within a given profession, including the development of sub-specialties, provide opportunities for post-registration level professionals to take on more complex tasks and in turn shed aspects of their role that are considered to be somewhat unpleasant, lower status (Borthwick, Nancarrow, Vernon, & Walker, 2009; Nancarrow & Borthwick, 2005) or downright ‘dirty work’ (Bach et al., 2012, p. 222).

‘The ability of health professions to specialise is key to the division of labour’ (Nancarrow & Borthwick, 2005, p. 906). In the case of medicine, specialists are often rewarded with greater
autonomy and power (Nancarrow & Borthwick, 2005). Recent advances within the allied health professions have seen more formal systems of training and standards for the recognition of specialty and extended scope of practice roles. There is now acknowledgment of clinical physiotherapist specialists, optometrists, podiatry surgeons and authorised podiatry prescribers, with systems of training and in some cases, regulation to support these practitioners (Bacon & Borthwick, 2013; Borthwick, Short, Nancarrow, & Boyce, 2010; Kersten et al., 2007).

The professional projects of nursing and podiatry will be discussed with reference credentialist and legalistic strategies as well as their efforts to establish clinical sub-specialities.

2.2.1 The nursing profession
The professional project of nursing is a well-studied phenomenon. With its historical struggle in the shadows of medical dominance and, more recently, in competition with emerging non-medical health occupations, the nursing profession’s efforts to establish, protect and expand its jurisdiction have been explored and documented (Allen, 2000; Bach et al., 2008, 2012; Svensson, 1996; Timmons & Tanner, 2004; Witz, 1992). And, while it is not within the scope of this thesis to provide a detailed historical account of either the nursing or allied health professions, an overview of the key historical events throughout nursing’s professional project will be presented and drawn upon to contextualise and frame the findings of this thesis.

Witz’ (1992) neo-Weberian analysis of the nursing professional project, illustrated this it has been historically characterised by credentialist and legalistic strategies of occupational closure. The nursing profession’s credentialist tactics focused on controlling the systems of education of nurses. The nursing profession worked tirelessly to ensure that nurse education occurred within a standardised system with a single entry point for all aspiring nurses, the syllabus of which was controlled by the nursing profession (Russell, 1990; Witz, 1992). Legalistic strategies focused predominantly on the state-endorsed registration of nurses (Larkin, 1983), which took over twenty years to achieve in Australia, with the eventual passage of the Nurses’ Registration Act 1925 (Russell, 1990). Witz (1992) further identified the deployment of discursive strategies by nurses, within the radiography profession, which in the 1920s and 30s was made up of ‘nurse radiographers’ and male radiographers. Internecine feuding between male radiographers and female (nurse) radiographers were characterised by discursive strategies to discredit one another. Where the male radiographers emphasised their technical skills, female nurse radiographers boasted their caring skills and focus on the patient (Witz, 1992).
The nursing profession’s implementation of credentialist and legalistic strategies in the Australian context will be summarised to provide a socio-historical context for this thesis.

**Nurse education**

Prior to the introduction of the Nightingale System in 1868, the training of general nurses in Australia was highly disorganised and unsystematic. The Nightingale System was akin to an apprenticeship style of training (Russell, 1990). The Australasian Trained Nurses’ Association (ATNA) was established in 1899. The ATNA successfully implemented its own system of nurse training, education and examination, which enabled the ATNA to control the system of training of general nurses (Lusk, Russell, Rodgers, & Wilson-Barnett, 2001). The Nurses’ Registration Act was passed in 1924. This will be discussed in more detail in the next section (State registration for nurses). The Act outlined the role of the newly appointed Nurses Registration Board (NRB) which in supervising systems of nurse education. In 1925 the NRB, a government organisation, took over from the ATNA and became responsible for the training and examination of nurse trainees prior to their admission to the register (Lusk et al., 2001; Russell, 1990). The ATNA’s systems of nurse training and examination remained in place, enabling nurses to continue to influence and monitor the systems of nurse training (Larson, 1979a; Witz, 1992).

Throughout the 1950s and 1960s, the apprenticeship-style Nightingale model of nurse training was well entrenched and the theoretical component of the nursing course was bolstered in response to the advances in medical technology and patterns of health and illness (Russell, 1990). Around the same time, the nursing profession, its training and education systems were subject to scrutiny by a number of committees. Arguably, the most influential investigation culminated in the Truskett Report (1970), which first suggested that the apprenticeship style of nurse training be replaced with a more contemporary tertiary-based education system under the Minister for Education’s remit. The NRB endorsed the Truskett Report in 1971 on the strict proviso that the nursing profession itself maintain the responsibility of approving courses of study for registered nurses (Russell, 1990).

In 1978, the Minister for Health announced that the oversight of nurse training and education would be transferred to the Minister for Education. The majority of nurses supported a rapid transfer of nurse education from the hospital to education setting however most opposed the proposal to transfer nurse education to Technical and Further Education (TAFE) facilities. TAFE institutions were seen as providers of training for non-professional occupations and, importantly, the other health professions were educated in the university setting (Russell, 1990). Subsequently it was agreed that nurse education would be transferred to the tertiary setting. In
1984 legislation was passed to transfer the education of nurses from the hospital to the educational setting (Department of Health, 2013; Johnstone, 2016; Madsen, 2007; Russell, 1990). This was a triumphant milestone for the nursing (Lusk et al., 2001). The gradual transfer of nurse education began in the 1980s, when student nurses attended colleges of advanced education and earned a diploma of nursing (Lusk et al., 2001). The final intake of nurse trainees in hospitals took place in 1990 and from thereon nurses in training were no longer considered trainees but rather students (Lusk et al., 2001). Subsequently, it was determined that nurse education would be provided at universities and graduates be awarded a Bachelor Degree. The nursing profession argued in favour of a four-year honours degree, however a three-year bachelor degree was finally agreed upon (Lusk et al., 2001). This education program remains the pre-requisite for registration as a general nurse in Australia (Nursing and Midwifery Board of Australia, 2013).

State registration for nurses

The issue of nurse registration was first raised in Britain in the 1880s (Witz, 1992) and in Australia in 1903 (Russell, 1990). In both Britain and Australia there was division among the nursing body on the issue of the state registration. Arguments against state registration included the potential to lower the status of more advance nurses, the threat posed to the teaching of future nurses, and the threat to the public and to the medical profession (Witz, 1992). On the other hand, proponents of nurse registration saw it as an opportunity to advance their professional project and level of self-governance. In particular, state registration was seen as a mechanism to facilitate control over the systems of nurse education, the internal professional hierarchy and a means to improve their salary and working conditions (Witz, 1992).

The first Bill referring to the registration of nurses was introduced into the New South Wales Parliament in 1906 with a subsequent Bill in 1907. The ATNA’s main concern at this time was resisting medical dominance by maintaining control over the processes and conditions in which nurses were admitted to the register. In particular, the ATNA objected to any Bill which did not specify full nurse representation on the registration board. This is consistent with a neo-Weberian account of the professions, where a key consideration for aspiring and established professions is to ensure they have effective control over the conditions for entry: ‘... professions in the Anglo-American context are typically seen as centred on self-maintained and exclusive registers of qualified practitioners – to which entry is gained through obtaining defined credentials, the nature of which are controlled by the profession itself’ (Saks, 2010, p. 893).

The ATNA continued its campaign for state registration and two further Bills which specifically concerned nurse registration were put forth in 1909, 1910 and 1915. Finally, in 1924, the
Nurses’ Registration Act was passed. While the passage of the Nurses’ Registration Act saw the ATNA relinquish some of its regulatory duties and power to the government, the ATNA Council viewed the legislation as a means to ‘protect its members and provide them with official recognition’ (Russell, 1990, p. 23). State based systems of nurse registration remained in place until 2010, when the Australian Health Practitioners Regulation Agency (AHPRA) was established. Among the first professions to become registered with this national agency were registered nurses and podiatrists (Australian Health Practitioner Regulation Agency, 2017).

Chapter 6 discusses the key themes emerging in this thesis in the context of nursing’s professional project and other strategies of occupational closure.

Specialisation
The nursing body is a large, diverse occupational group which has established a number of sub-specialties for nurses to pursue (Bacon & Borthwick, 2013; Nursing and Midwifery Board of Australia, 2016a; Timmons & Tanner, 2004). Throughout the 1950s, patterns of nurse specialisation began to emerge. By the 1960s the Nurses Registration Board had approved six specialty areas in addition to general nursing: geriatric, psychiatry, intellectual disability, midwifery and mothercraft. The general nurse training, which at the time was controlled by the Australasian Trained Nurses Association (ATNA), was pre-requisite for the specialist nurse training (Lusk et al., 2001; Russell, 1990). In the 1990s, there was some debate about the benefits of introducing credentialling systems for the different nursing speciality areas (Grealish, 1998). The associations representing critical care and gastroenterological nurses began the implementation of credentialling systems in the late 1990s, following the lead of the diabetes nurse educators (Coulthard, 1998, p. 24), who paved the way for nursing specialties to set up systems for credentialling.

Conclusion
The history of the nursing profession in Australia and the UK is characterised by its struggles to achieve autonomy and maintain control over the educational programs for nurses, a protracted battle to achieve state registration and endeavours to establish a career structure for nurses including opportunities for specialisation within hierarchy dominated by the medical profession.

Diabetes education as a nursing sub-specialty is different to others such as gastroenterology, midwifery and mothercraft in that the latter sub-specialties are only open for qualified nurses to pursue. As this thesis will illustrate, the nursing profession established the speciality area of diabetes education, however it was then opened up to other health disciplines.
2.2.2 The podiatry profession

The professional project of podiatry is less frequently and extensively documented than that of the nursing profession. There are, nonetheless, many parallels between the professional projects of these two groups. Like the nursing profession, podiatry’s professional project has been characterised by efforts to establish itself as a credible and autonomous profession in a socio-political environment dominated by the medical profession (Borthwick et al., 2009). Neo-Weberian analyses of the podiatry profession have illustrated that its early professionalising strategies were focused on achieving legally reinforced title protection and state registration (Borthwick, 1997; Larkin, 1983), with latter strategies aimed at expanding its scope of practice by securing prescribing rights and establishing clinical sub-specialties (Borthwick, 2001; Borthwick et al., 2010; Davies et al., 2015).

As is the case with other Commonwealth nations, the history of podiatry in Australia followed a similar trajectory to that of podiatry in the UK. As such, this brief socio-historical account of podiatry will encompass the major professional milestones achieved in Australia and in the UK. Note that the profession now widely recognised as podiatry was in the past known as chiropody. For the purpose of this overview, the terms will be used interchangeably and circumstances of the title change will be discussed in a subsequent paragraph.

Chiropody first emerged as an occupation in the early part of the 17th century however it was not until late in the 18th century when chiropodists commenced working from more formal premises that this occupational group began to develop their professional status (Borthwick, 1997). Like the professional project of nursing, the key strategies contributing to the professionalisation of podiatry can be categorised as credentialist and legalistic. The podiatry profession’s socio-historical context will be presented according the evolution of podiatry education, the advent of state registration and the establishment of clinical sub-specialties and non-medical prescribing.

Podiatry education

The first recognised training institution for podiatrists in the world was the London Foot Hospital, established in 1919, which offered a two-year diploma course (Hussein, 1999), although the majority of podiatrists did not receive formal training. In 1954 the Ministry of Health approved the Society of Chiropodists as the only provider of chiropody training and examination. This meant that the Society of Chiropodists controlled the means of qualification for employment as a chiropodist in the National Health Service (NHS). The Professions Supplementary to Medicines (PSM) Act was passed in 1960. The Act resulted in the establishment of the Chiropodists Board. Among the main functions of the Chiropodists Board
was the control and monitoring of the systems of training and examination of aspiring chiropodists. The Board was also responsible for admitting those who had successfully passed the training requirements to the national Register of Chiropodists in the UK (Ashford, Tollafield, & Axe, 1995).

From the 1960s to the late 1980s, aspiring podiatrists undertook a three-year diploma course. In the late 1980s it was recognised that the diploma course needed to be revised and a shift toward a bachelor degree course ensued in 1988. From 1995, all new podiatrists graduated with a bachelor degree (Ashford et al., 1995; Kippen, 1995). The shift to higher level education for podiatrists was viewed as one of the factors leading to improvements in their perceived professional status (Vernon, Borthwick, Farndon, Nancarrow, & Walker, 2005). In response to a changing health care landscape, consumer expectations and advancing technology, the podiatry profession and its scope of practice have evolved (Davies et al., 2015). In turn, tertiary level podiatry courses in Australia have been revised with the vast majority now being at least four-year degrees (Australian Health Practitioner Regulation Agency, 2013).

The pursuits of such surgical specialisation and endorsement as a podiatry prescriber involve additional units of study and other practical requirements (Australian Health Practitioner Regulation Agency, 2013). The advent of surgery and non-medical prescribing will be discussed in a subsequent paragraph discussing podiatric specialisations.

State registration for podiatrists

Like nursing and other allied health professions, the podiatry profession emerged within a hierarchy dominated by the medical profession. In an attempt to monopolise the foot health care market and mitigate their subservience to medical profession, an initial bid to achieve state registration for chiropody in the UK occurred in 1928. According to Larkin (1983), the Ministry of Health rejected this application due to the likelihood that other para-medical professions would follow suit and for fear of compromising the relationship that the Ministry had with the medical profession. This was followed by yet another unsuccessful bid in 1932. In 1938 the Incorporated Society successfully achieved recognition by joining the Board of Registration of Medical Auxiliaries (BRMA). In 1945, five separate British chiropody groups amalgamated to form the Society of Chiropodists and were recognised by the BRMA (Borthwick, 1997). At a similar time in Australia several podiatry associations amalgamated to form the Society of Chiropodists (Podiatry NSW / ACT, n.d.).

It was in 1950, with the passage of the Chiropodists Act that podiatry first achieved legislative recognition as a profession in Australia. This recognition did little to quell the medical
profession’s authority and capacity to influence the scope of podiatry practice (Borthwick et al., 2009). The Australian Chiropody Association (New South Wales) was officially established in 1955. In 1962, the Chiropodists Registration Act was passed. In the mid-1970s, podiatrists along with several other allied health professions in Australia, acquired the right to see patients without a medical referral (Boyce, 2006). In 1978, the Australian Chiropody Association changed its name to the Australian Podiatry Association. In the UK the term podiatry replaced chiropody a few years later, at approximately the same time the qualification was elevated from a diploma to a bachelor degree. The term podiatry perceivably reflects a more complex and specialised field of foot health care and a higher status profession than chiropody (Berry & Black, 1992; Borthwick, 1997; Vernon et al., 2005).

In Australia the state-based systems of registration for podiatrists were finally replaced by a national system in 2010, when AHPRA was established (Australian Health Practitioner Regulation Agency, 2017).

Specialisation and non-medical prescribing
A legislative change in 1975 in Australia enabled all podiatrists to administer local anaesthetics independently (Borthwick et al., 2010; Hussein, 1999). This was noted as a pivotal turning point for the podiatry profession and a significant impetus for the profession to pursue podiatric surgery as a sub-specialty (Borthwick, 2001). Podiatry’s bid to establish foot surgery as a clinical specialty has been met with a great deal of resistance by the medical profession. In particular, the orthopaedic surgery cohort which is at greatest risk of role boundary encroachment has been most active in its protests against the advancement of podiatric podiatry (Borthwick, 2001; Borthwick, 1997; Larkin, 1983).

In the face of significant objection by the medical profession, a sub-group of the Society of Chiropodists in the UK known initially as the Croydon Postgraduate Group, and then from 1974 as the British Podiatry Association (PA), sought to advance podiatry’s expansion into the field of podiatric surgery. The PA met a number of significant challenges to achieving this. As well as staunch resistance from factions of the medical profession, the association also encountered difficulty securing indemnity insurance. The association was further challenged by internecine conflict with the Society of Chiropodists who wanted to avoid confrontation with the medical profession (Borthwick, 2001).

The Australasian College of Podiatric Surgeons was established in 1978 (Australasian College of Podiatric Surgeons, 2014). In the UK public recognition of podiatric surgery advanced more rapidly than it did in Australia (Menz, Gilheany, & Landorf, 2008). In Australia, podiatric
surgeons are limited by restricted access to public health funding via the Medicare Benefits Scheme (Australasian College of Podiatric Surgeons, 2015; Gilheany & Borthwick, 2009) with opposition from the medical profession continuing to hamper progress for podiatric surgery. Nonetheless, the Podiatry Board of Australia recognises podiatric surgery as a clinical speciality area and the title of podiatric surgeon is protected (Davies et al., 2015).

Another key component of podiatry’s professional project has been the pursuit of non-medical prescribing rights. A great deal of progress has been made with regard to podiatry prescribing since the late 1990s. As is the case in the UK, the advent of non-medical prescribing rights for Australian podiatrists came about in response to the changing demographic trends and economic concerns, although not without staunch opposition from the medical profession. One key point of difference between the two countries is the lack of overarching national legislation pertaining to prescribing in Australia. As such, the attainment of prescribing rights for podiatrists in some states and territories in Australia has occurred more rapidly than in others (Borthwick et al., 2010).

Since the 1980s, podiatric surgeons in several states in Australia have obtained limited prescribing rights to some Schedule 4 medicines in addition to local anaesthetics. Since 2006, podiatric surgeons in Queensland have access to one Schedule 8 medicine. Subsequently, all general podiatrists have been given the right to administer adrenaline in cases of anaphylaxis. In 2009 a significant milestone was achieved in the state of Victoria, when legislation enabling general podiatrists to become endorsed prescribers of some Schedule 4 medicines was passed (Borthwick et al., 2010). A number of universities in Australia now embed pharmacology units in the podiatry curriculum to prepare undergraduate podiatrists for endorsement subsequent to graduation (Australian Health Practitioner Regulation Agency, 2011).

Despite the advances the podiatry profession has made with regard to non-medical prescribing and podiatric surgery, its professional status is perceivably inferior to that of other allied health professions (Vernon et al., 2005). Vernon et al. (2005) explored podiatrists’ views of their professional status. The authors found that there were a number of factors influencing the widely held perception that podiatry is a lower status profession when compared with other allied health professions. The title chiropodist was associated with a lower status than the title podiatrist. The inherent lack of glamour association with the foot was perceivably a hindrance to the profession’s status. When compared with other health professions such as optometry and dentistry, podiatry appeared to lack a scientific evidence base. In light of the podiatry profession’s struggle to establish clinical specialties in the face of medical resistance, it is not surprising that podiatrists viewed medical dominance as a key factor inhibiting their
professional status. Nonetheless, the podiatry profession remains one of the only allied health professions to formally establish clinical sub-specialties which has positively influenced its professional status.

Conclusion
The professional project of podiatry has been characterised by the struggle to establish, control and expand its role boundaries in the context of medical hegemony. Credentialist and legalistic strategies have contributed to the rise in the profession’s status and the establishment and expansion of its scope of practice. Attempts by the podiatry profession to expand its role boundaries to include some of the tasks traditionally exclusive to the medical profession (surgery and prescribing practices) have been met with significant and relatively effective resistance. The podiatry profession has not yet achieved the status level enjoyed by some other allied health professions due to several factors including medical dominance, the use of the title chiropodist, the comparative inadequacy of a scientific foundation and the lack of glamour associated with podiatry work.

2.2.3 Conclusion
There are a number of parallels between the professional projects of nursing and podiatry. Both are conducive to neo-Weberian analyses. Both have taken action to control and monitor systems of education and registration and have worked to achieve state registration in a bid to secure their professional titles and seal their jurisdictions. Furthermore, both professional groups have attempted to expand their role boundaries by establishing clinical sub-specialties. Most significantly, these two occupational groups have emerged within a professional hierarchy headed by the medical profession.

2.3 Australia’s health care system
This thesis explores the nature of the professional role boundaries between diabetes educators of nursing and podiatry (allied health) backgrounds while working in the interdisciplinary diabetes educator role in Australia. The systems and processes which support the practice of diabetes education in Australia differ from those in other developed countries. In order to undertake an in depth analysis, the focus of this thesis will be solely on the Australian context.

Australia’s health care system is unique and complex with a number of inter-related health care providers, settings, health care users and mechanisms to support services. Health care providers include medical officers, nurses and allied health professionals, all of whom provide services in a range of clinical settings under different funding arrangements. Some of the different types of publicly-funded health services include community-based clinics, public hospitals, emergency services, rehabilitation facilities and palliative care services. These services are funded by all
three levels of government: Commonwealth (national), state and territory, and local. Publicly-funded health services are usually provided to the user at low or no cost. Health care services are also provided in the private setting within private hospitals, medical practices, allied health clinics, rehabilitation facilities and pharmacies (Australian Institute of Health and Welfare, 2014). Users of these services pay either via their individual private health insurance arrangements or directly to the provider as they use the service. Medicare, Australia’s publicly funded national health insurance system was originally established in 1975 (Willis, 1990). Medicare has three components: hospital, medical and pharmaceutical. Under the Medicare Benefits Schedule (MBS), the health care services listed attract benefits or rebates when provided in the private setting (Australian Institute of Health and Welfare, 2014). The MBS and its relevance to diabetes education is discussed further by King, Nancarrow, Grace, and Borthwick (2017) (Chapter 5).

There are some variations in the scopes of practice of health professions working within the different states and territories due to legislative and regulatory differences. Some of the key differences will be referred to throughout this thesis, however it is beyond its scope to provide an in depth analysis of the differences between states and territories.

2.4 Conclusion
The sociology of the professions literature provided useful insights into the mechanisms by which the professions come to be established and their role boundaries come to be understood. With an appreciation of the social processes that are involved in the construction of professional role boundaries, I was able to formulate the research question and aims which are presented in Chapter 3 (Methods). The main findings of the review of the sociology of the professions literature also informed the systematic review of the literature. Furthermore, on reviewing the most contemporaneously relevant theories, the Neo-Weberian theory in particular, was found to resonate most closely with the data emerging in this thesis and was chosen as the main analytical framework.

Overviews of the socio-historical backgrounds of the nursing and podiatry professions contextualise the findings of this thesis. Of particular relevance are the advances in the systems of nurse and podiatrist education, the advent of state registration for these professions and the development of sub-specialties. For both professions, these milestones were achieved within the context of medical sovereignty. Diabetes education was established as a nursing sub-specialty and was subsequently broadened to include other disciplines. This thesis is concerned with the perceived interprofessional role boundaries and differences in the scopes of practice of diabetes educators of nursing and allied health backgrounds which emerged.
The brief overview of Australia’s health care systems orientates readers to the range of settings within which health professionals including diabetes educators, work. It also provides an overview of the various funding arrangements in place which support health service provision in Australia.
Chapter 3 Methods
This chapter defines the research question, aims and objectives. It then describes the research design and methodology, with details of the three research methods employed: a systematic review of the literature, analysis of documentary evidence, and interviews with key stakeholders. Chapters 4 (systematic review of the literature) and 5 (documentary analysis) were published as papers and as such, methods sections are presented within these standalone chapters. Due to strict word limitations additional details regarding the systematic review of the literature and the documentary analysis methods are presented in this chapter.

This chapter addresses the advantages and limitations of each method, followed by a statement relating to the researcher’s role as a key research instrument and the relevance of researcher reflexivity. The interview participant and documentary data sampling procedures and the details related to the gathering and organising data will then be described. In the final section of this chapter the process of data analysis will be explored with reference to the chosen theoretical framework, the methodological adequacy and quality of the data and the ethical considerations of this research.

Each section will be linked with a statement outlining the decision-making process at each point throughout the thesis. By documenting the decisions made regarding methodology and data analysis, research credibility is bolstered. This enables the audience, including other researchers, to determine whether it is reliable enough to base decisions upon and whether further elaboration is feasible (Liamputtong & Ezzy, 2005).

3.1 Research question
The review of the contemporaneously relevant paradigms of the sociology of the professions shaped the research question:

What is the nature of the professional role boundaries between podiatrist and nurse diabetes educators in Australia?

This research question then helped to inform the aims of this thesis.

3.1.1 Aims
1. To determine whether there are any real, legislative differences between the scopes of practice diabetes educators of nurse and podiatrist background, or whether these are perceived.
2. To determine the processes and strategies implemented to establish interprofessional role boundaries in diabetes education.

3. To examine whether the professional role boundaries between nurse and podiatrist diabetes educators can be explained with respect to existing sociology of the professions paradigms.

3.2 Methods and research design

The aforementioned research question and aims were determined and refined by an iterative, two-directional process of selecting the most fitting epistemology, methodology and research methods. In other words, the research question, aims and objectives influenced and were influenced by the choice of epistemology, methodology and methods (Carter & Little, 2007).

Epistemology refers to theory of knowledge. It informs the methodology and provides justification for the knowledge produced from the research methods (Carter & Little, 2007). Methodology refers to the research plan or strategy and influences the choices of research methods, linking them to the research outcomes (Crotty, 1998). Methodology relates to the process of research and not only informs the choices of methods but also how these are carried out. It also shapes the way the data collected is organised and analysed (Carter & Little, 2007; Crotty, 1998). The methods then, are the actions or activities of research and, as described already, these are shaped by the chosen methodology.

There is historical dissension among qualitative researchers with respect to assessing rigour or trustworthiness in research (Carter & Little, 2007). As Carter and Little (2007) argue, by selecting, stating and adhering to their epistemological stance and methodology, qualitative researchers are well positioned to justify their methods and the knowledge generated. This systematic approach to qualitative research confers theoretical trustworthiness which supports the arguments and reasoning put forth by the researcher (Liamputtong & Ezzy, 2005; Robson, 2002).

Upon searching a number of sources, no literature relating to the interprofessional role boundaries in the diabetes education involving podiatrists and nurses was located. The absence of literature and clear guidelines indicated that a thematic picture of the diabetes educator world as perceived and experienced by the people living and functioning within it needed to be developed. The first step was to understand more clearly the nature of the research problem and subsequently how the professional role boundaries are perceived and experienced by the full range of key stakeholders in the diabetes education world: from the people who write relevant polices through to the clinicians working on the ground.
With this knowledge and the research aims in mind, it was decided that the Weberian methodology of Verstehen, informed by subjectivist epistemology would be suitable for underpinning and guiding this thesis (Borthwick, 2001). The German term Verstehen translates to ‘understanding’ and refers to the capacity that humans have to make sense of their world. The Verstehen methodology centres on a researcher’s empathy with the actor/s. The concept of empathy was first introduced into social research by Weber and places importance on the feelings and motives of people within their social and cultural context (Patton, 2002).

As mentioned in the previous section, the initial method of data collection was a systematic review of the literature. Subsequently two different methods of data collection were employed: documentary analysis and stakeholder interviews. Figure 3.1 illustrates the sequence of research methods employed and their inter-relationships. In the next section these methods, the rationale for employing these methods and their limitations will be described. The concept of researcher reflexivity with reference to both the advantages and disadvantages of having a dual role as researcher and clinician will be discussed.
Figure 3.1 Research methods employed and their sequence

- **Initial ideas about research problem (a priori knowledge)**
  - Initial document search

- **Sociology of the professions literature review (Chapter 2)**

- **Research question and aims developed**
  - Research design, epistemology and further research

- **Systematic review of the literature: Contested professional role boundaries in health care (Chapter 4)**

- **Documentary analysis (Chapter 5)**
  - ADEA website search
  - Citation search of ADEA documents
  - Database searches
  - Targeted ADEA website search for employment
  - Data saturation

- **Interview data (Chapter 6)**
  - Initial interviews with identified key stakeholders
  - Snowball sampling
  - Sought confirming and disconfirming cases
  - Data saturation

- **Data analysis: Method of constant comparison**
  - Sociology of the professions literature: Neo-Weberian theory
  - Reflexive research practice
3.2.1 Systematic review

A systematic review is a process whereby both published and unpublished literature related to a particular research topic is retrieved via an extensive and systematic search. The literature identified is then subject to a quality appraisal process and synthesised to achieve a wider generalisation or a new theory. Systematic reviews are well-regarded research activities which contribute to the development of an evidence-base. Systematic reviews of qualitative literature seek to discover themes that are present across numerous studies (Booth, 2006). They are however, not commonly conducted as a part of sociological research. The decision to undertake a systematic review prior to the subsequent two research methods was motivated by my ambition to prudently establish a suitable theoretical framework for this thesis and also to enhance the applicability of the findings to other similar contexts.

One of the most salient findings of the review and summary of the contemporaneously relevant paradigms relating to the sociology of the professions was that professional role boundary disputes or contestations are all but inevitable in the professionalisation process and a part of ongoing role boundary negotiations. This led to the decision to focus the systematic review of the literature on contested professional role boundaries in health care. Upon finding no papers relating to the topic of interest in this study (diabetes educators of varying professional backgrounds), the decision was made to undertake a systematic review of the literature related to professional role boundary disputes, in order to inform and develop the research question. The systematic review therefore sought to locate, analyse and synthesise papers relating to interprofessional competition and contestation within the health care professions.

While systematic reviews of quantitative research or quantitative meta-synthesis are well established, systematic reviews of qualitative research are considered to be a relatively new research activity. Booth (2006) conducted a study on the reporting of qualitative systematic reviews, in particular, on the techniques employed to decide which articles were included in the reviews. Based on his study, he formulated a mnemonic to guide the literature search process, ensuring the search is comprehensive and systematic, therefore conferring a higher level of quality to the review and its findings. Booth’s mnemonic, STARLITE (search strategy, approach, range of years, limits, inclusions and exclusions, timeframe, electronic sources) provided a systematic framework to guide the literature searches.

This review is presented in full with its methodological limitations in King et al. (2015) (Chapter 4). Therefore, the remainder of this methods section omits details relating to the systematic review of the literature.
3.2.2 Documentary evidence

The second research method employed was the gathering of documentary evidence relating to the interprofessional diabetes educator role boundaries. Documentary data were used to trace the history of the diabetes educator role and provide evolutionary insights. Documentary data also supplemented the verbal accounts provided by interviewees and contributed to method and data triangulation (Bowen, 2009; Green & Thorogood, 2014; Patton, 2002; Robson, 2002; Schwandt, 2001). For this thesis, the term document refers to any written text or material culture (Patton, 2002) that relate to a particular topic, but which were not produced by the researcher for the specific purpose of their study (Green & Thorogood, 2014). Examples of documents that may be analysed in qualitative research include advertisements, websites, agendas, meeting minutes, background papers, letters, press releases, newspaper items, government, organisational and institutional reports and a variety of public records (Bowen, 2009; Green & Thorogood, 2014).

Written texts are of great value to qualitative researchers as they are generally low cost, easy to access (Bowen, 2009; Hodder, 2000), and as the information that can be derived from written texts may differ from, or may not even be available in, the spoken form (Hodder, 2000). Documentary evidence is considered to be an unobtrusive measure, that is, inferences about human behaviour and interactions are made based upon the contents of a document (Robson, 2002). Documents are also non-reactive, meaning they are not affected by being utilised in the research process (Bowen, 2009; Robson, 2002). As Bowen (2009) noted, documentary evidence is stable and therefore suitable for recurrent evaluation. It provides exact information (e.g. names, dates and other details) and provides broad coverage over time and settings. Furthermore, as written texts are sustainable over time, they provide a rich historical insight of current issues and can tell a story over time (Bowen, 2009; Hodder, 2000). Documentary evidence is particularly useful in research studies involving programs and organisations (Patton, 2002). Documents such as policy or professional guidelines can provide insight into the culture of the groups or organisations.

Collating documentary evidence provides for the supplementation of data collected via other methods (Patton, 2002), in this case, the interview data. The interviews primarily seek to understand the perceptions of key stakeholders of the interprofessional role boundaries in diabetes education as they currently stand, however it is also crucial to understand the historical context of the diabetes educator world. Interviewees’ current perceptions are influenced by their past experiences and their knowledge that has been accumulated over time. As Hodder (2000) asserted, documentary evidence can reveal facts about events that have taken place before any research has even begun and can help the researcher to understand the historical context of the
interview data (Bowen, 2009). Documentary evidence can also be utilised as a means of confirming or opposing ambiguous or conflicting verbal accounts of events or phenomena (Hodder, 2000; Patton, 2002).

The documentary analysis in this thesis serves two main purposes: to provide an historical account of diabetes education practice in Australia and to supplement the interview data. The documentary analysis is presented in its entirety in King et al. (2017) (Chapter 5), therefore only general details relating to the documentary analysis will be referred to in this methods chapter.

3.2.3 Limitations related to the use of documentary evidence

There are a number of limitations associated with using documentary evidence in research. Some of these limitations are methodological in nature and others relate to research trustworthiness (credibility and dependability) (Green & Thorogood, 2014; Patton, 2002). These limitations, however, are outweighed by the advantages they offer the research process (Bowen, 2009). They will nonetheless, be discussed.

There are several methodological issues in using documentary evidence. Document retrieval is not always easy or even possible (Bowen, 2009). In some cases, access to particular documents may be deliberately inhibited. Given the ease of electronic accessibility of documents, it is likely that the most pertinent data will be retrievable. With documentary analysis and interview methods employed, it is anticipated that any documentary data deemed to be of relevance that is unable to be retrieved may emerge throughout the interviews. Furthermore, it is possible that interview participants may be in possession of documents that are otherwise unable to be retrieved.

As documents deemed to be of relevance are likely to have been produced for purposes other than research, the level of detail may be insufficient to address the research question. Organisations are likely to hold documents that are aligned with their own values and therefore may not include documents relating to all facets of interest to the researcher (Bowen, 2009; Robson, 2002). Nonetheless, any information pertaining to the thesis topic gleaned via documentary analysis will increase the substance and enhance the trustworthiness of the thesis and therefore should be retrieved.

There are further limitations related to the analysis of documentary data. As some texts are unique to particular institutions, they can be inherently difficult to decipher and interpret (Patton, 2002). Given the researcher’s background as a health professional, it is anticipated that most of the documentary data will be interpreted with ease. As is the case in this thesis,
documents often supplement other forms of data, such as interviews or observational data (Robson, 2002) and linking the two (or more) forms of data can present analytical challenges (Patton, 2002). The benefits of data triangulation outweigh the challenges associated with synthesising the data.

There are also issues in using documentary evidence that impacts or threatens credibility and dependability. With respect to documentary evidence, a major threat to credibility is limited representativeness. It is difficult to ensure representativeness, as it is not feasible to document everything. Furthermore, the documents that endure may not be representative of all the documents which were produced at the time on a particular topic. These biases affect the level of representativeness of documentary evidence (Green & Thorogood, 2014). The level of representativeness of documentary data is discussed in section 3.6.1.

Credibility is influenced by the authenticity of documentary evidence and whether the document is what is purports to be (Green & Thorogood, 2014). To assure authenticity, researchers need to understand and describe the context within which the document was produced, however the nature of the written text makes it difficult for the researcher to determine how and why the documents were produced (Patton, 2002). The issue of authenticity of documentary data is discussed in section 3.6.1. While it is assumed that documentary evidence is accurate, this is not necessarily the case: there is a risk that details contained within particular documents may be incorrect (Patton, 2002). For this thesis, that risk does not outweigh potential value of undertaking a documentary analysis.

### 3.2.4 Interviews

One of the aims of this thesis is to understand perceptions of the key stakeholders in diabetes education about the professional role boundaries between diabetes educators with primary disciplines of nursing and podiatry. To achieve this, I needed to explore the perspectives and experiences of key stakeholders in the diabetes education world and build a thematic picture. Qualitative interviews are among the most commonly used research methods in the field of health research (Kelly, 2010; Liamputtong & Ezzy, 2005) and facilitate the gathering of rich information about peoples’ subjective opinions based on their experiences and perspectives (Liamputtong & Ezzy, 2005; Patton, 2002). Interviews, as Patton asserts, ‘allow us to enter in the other person’s perspective’ (Patton, 2002, p. 341) and yet they also allow for historical information to be gathered (Creswell, 2009).

Unlike focus group participants who are susceptible to peer influences, interview participants are more likely to feel comfortable to discuss sensitive issues in an open and honest way.
Furthermore, Karp (as cited in Liamputtong & Ezzy, 2005) found that interview participants often report feeling grateful for the opportunity to express their story or perspective.

These types of interviews typically involve the researcher asking participants a few open-ended questions, which seek to elicit perspectives and opinions. Some authors argue that in-depth interviews can be charted on a continuum with structured, survey type interviews at one end and open, more conversational type at the other end. Semi-structured interviews sit somewhere in the middle of the continuum, with a few questions to help guide the participant and provide some focus to the conversation and yet with enough flexibility for it to be an exploratory mode of data collection (Kelly, 2010; Liamputtong & Ezzy, 2005).

As this thesis seeks to understand and describe the state of the professional role boundaries in the diabetes educator world in the Australian context, interview participants were based in a variety of settings and geographical locations across Australia. It was therefore logistically difficult to undertake face-to-face interviews and telephone interviews were employed instead. Further information about the execution of the telephone interviews will be discussed in this chapter. The next section addresses the limitations of interview methods.

3.2.5 Limitations of interviews

There are a number of limitations associated with interviews as a means of data collection. Because the researcher is a key instrument in the qualitative research process, there is a degree of bias inherent in interviews (Robson, 2002). Selection bias may occur if the researcher fails to gather an interview participant sample which is sufficiently diverse to provide the full range of perspectives on the phenomenon of interest (Patton, 2002). Throughout the interview process, a participant’s desire to tell the interviewer what they think they might like to hear or what they consider to be a socially desirable response may exceed their desire or capacity to provide their genuine perspective (Carr & Worth, 2001; Creswell, 2009). Given that interview participants are answering questions and presenting their account based on their own unique point of view, this information is considered to be indirect and not statements of absolute truth.

Interviews often take place in an environment that is not where a participant would normally work or be otherwise situated, therefore their account may be influenced by the different surroundings. Moreover, some people are more sensitive to, and able to articulate, certain issues and their points of view than others, which can influence interview data (Creswell, 2009). Interviews are also considerably time consuming, not least because interviewing skills take time and persistence to master (Liamputtong & Ezzy, 2005; Robson, 2002).
There are also limitations specific to telephone interviews compared with face-to-face interviews. It may be more challenging for the interviewer to build rapport with the interviewee over the phone. Not being able to see the person as they respond to questions means the interviewer cannot use visual cues to assist with the interpretation of their responses. Telephone interviews as a rule tend to be shorter in duration and more focussed than interviews conducted face to face (Carr & Worth, 2001).

In light of the fact that my research is seeking participants’ accounts of their own subjective points of view relating to the topic of interest, the elimination of all biases was neither possible, nor necessarily desired. Nonetheless, measures were taken throughout the research process to minimise biases and other limitations where possible. One such measure is the use of these different research methods to achieve data and methodological triangulation (Bowen, 2009). The concept of triangulation is based on the consensus that of the milieu of available research methods, each has its strengths and limitations. By combining two or more methods, their strengths can be compounded and limitations can be combated (Liamputtong & Ezzy, 2005; Patton, 2002).

3.2.6 Researcher reflexivity

The researcher is a key instrument throughout each process in the course of a qualitative study (Green & Thorogood, 2014). This leaves qualitative studies open to strategic, ethical and personal biases (Creswell, 2009). With respect to methodology, the term reflexivity refers to ‘the process of critical self-reflection on one’s biases, theoretical predispositions, preferences and so forth’ (Schwandt, 2001, p. 224).

The reflexive researcher will critically evaluate how their particular circumstances have influenced the entire research process. This involves assessing how their own social networks and interrelations have influenced participant recruitment, how their personal values and interests continue to influence the generation of data, how they interact with data sources (e.g. interview participants) and how they then interpret the data collected (Creswell, 2009; Schwandt, 2001). This reflexivity in researchers affords confidence and credibility and authenticity of the qualitative research, which confers a greater sense of trustworthiness (Schwandt, 2001; Walker, Read, & Priest, 2013).

Interviews are at particular risk of being influenced by interpersonal interactions. Researchers undertaking interviews need to be aware and critical of their proximity to the research topic and their personal values and note how these may influence both the data collection and analysing processes. Reflective journals are very useful tool to address these requirements (Schwandt,
2001; Walker et al., 2013). As a part of the overall methodology in this thesis, I have kept a reflective journal to allow me to record and identify my evolving attitudes and feelings toward the research topic as the journey progressed.

I acknowledge that my clinical background as a podiatrist and diabetes educator orientated this thesis and had the potential to introduce certain biases throughout the course of the research. To address these potential biases, I made a commitment to maintaining a reflexive and transparent approach throughout the research. By acknowledging and remaining aware of personal values and where appropriate, stating these values, researchers are able to observe and demonstrate the impact of personal values on the nature and course of the research. ‘To be reflexive, then, is to undertake an ongoing examination of what I know and how I know it.’ (Patton, 2002, p. 64).

It is important to note that there are advantages associated with being closely aligned with the research topic, in particular, having an understanding and appreciation of the research context (Creswell, 2009). With a dual role as clinician and researcher, I had an understanding of the context, issues and nuances constitutive of the diabetes educator world and was therefore more sensitive to, and aware of, the challenges faced by diabetes educators of all primary disciplines. Therefore, I was committed to remaining cognisant of her inherent biases brought to this study, but was also aware and took advantage of my unique dual role throughout the research process.

3.3 Document and participant sampling techniques

This section describes the sampling logic employed to select documentary evidence and interview participants. In qualitative studies, a purposive sampling strategy is commonly implemented. That is, the researcher chooses data sources that are likely to generate information that is appropriate and useful and in sufficient number to address the research question (Carter & Little, 2007; Creswell, 2009; Green & Thorogood, 2014; Kelly, 2010; Patton, 2002).

There are two important considerations when employing purposive sampling: firstly, the researcher must clearly state the criteria which will be used to determine the suitability of data sources and secondly, they must demonstrate that they are also looking for data sources which may not necessarily support the emerging themes, that is, negative or disconfirming cases (Patton, 2002).

The sampling techniques for documentary data and interview participants will be discussed separately.
3.3.1 Documentary data sampling

Sampling documentary data in this thesis was purposeful (Patton, 2002) and was consistent with a systematic approach in that search terms were identified, search engines were utilised and criteria for the inclusion and exclusion of records were set. I decided to include both peer-reviewed and grey literature. Grey literature is produced by governments and government agencies, universities, professional associations and other organisations. Grey literature may be available in physical and electronic formats and is usually accessible to the public (Benzies, Premji, Hayden, & Serrett, 2006; King et al., 2017). The inclusion of grey literature in analyses of the available evidence increases the likelihood that sufficient and high quality evidence is considered. Grey literature also reflects expert consensus relating to the available evidence (Benzies et al., 2006).

In the early stages of this thesis, I undertook an extensive database search for literature relating to the role boundaries and scopes of practice of diabetes educators. It became immediately evident that there was a lack of evidence or peer-reviewed literature regarding this research topic. As such, the consideration of grey literature was required to complete to the documentary analysis (King et al., 2017).

As is illustrated in King et al. (2017) (Chapter 5), data sampling processes were systematic and comprehensive. It was, however, difficult to assure saturation of documentary evidence. While it is plausible to assume that the greater majority of peer-reviewed and grey literature was retrieved via the robust search methods, it is impossible to assure that all applicable documentary data have been obtained. Individual stakeholders may have some privately held documents of relevance such as submissions, queries and other correspondence pertaining to the professional role boundaries and scopes of practice of diabetes educators. Nonetheless, the documentary data retrieved were sufficient to provide comprehensive historical review of the diabetes educator workforce since the establishment of the ADEA in 1981.

3.3.2 Interview participant sampling

As a podiatrist and ADEA credentialled diabetes educator who has worked in the field of diabetes education, I had developed a significant understanding of the diabetes educator world as well as an extensive professional network. I was, therefore, able to use my a priori insider knowledge to identify five key stakeholder groups within the diabetes educator world: clinicians working on the ground in the area of diabetes care; the relevant professional associations; policy-makers who have experience in, or knowledge of, relevant clinical diabetes education policy; post-graduate education providers, such as course coordinators of the Post-Graduate
Certificate in Diabetes Education; and government regulators with an understanding of the issues related to clinical care in diabetes education.

Saturation theory guided the sample size for the semi-structured interviews, that is, interviewing continued until the point where no more new information was being presented by participants (Green & Thorogood, 2014; Liamputtong & Ezzy, 2005; Patton, 2002; Robson, 2002). That said, decisions regarding the ideal number of stakeholders from each group to include in the sample were made prior to the commencement of interviews with respect to achieving ‘reasonable coverage of the phenomenon given the purpose of the study and stakeholder interests’ (Patton, 2002, p. 246). Appendix 4 is a Word table which captures the decision-making process around the types of stakeholders to include in the initial participant sample. The initial participant sample was expected to comprise of:

- One allied health professional with an interest in diabetes (non-diabetes educator)
- One podiatrist non-diabetes educator
- One podiatrist diabetes educator
- Two registered nurse (RN) diabetes educators
- One RN non-diabetes educator
- One representative from the ADEA
- One senior podiatry executive
- Two Post-Graduate Certificate in Diabetes Education course coordinators
- One health policy-maker
- One senior allied health administrator

It was perceived that a participant sample comprising the range of stakeholders listed above would address, at least in part, selection bias. With an existing extensive professional network, I was able to identify potential interview participants who demonstrated an understanding of the research topic and were likely to be agreeable to participate (Green & Thorogood, 2014). The initial interviews were conducted with clinician stakeholders, who were categorised according to five groups: nurse diabetes educator, podiatrist diabetes educator, podiatrist non-diabetes educator, nurse non-diabetes educator and allied health professional with an interest in diabetes who was neither a podiatrist nor a diabetes educator. Through my professional network I was able to identify key people, who then identified people with similar as well as contradictory views in order to generate appropriate, varied and useful data (Green & Thorogood, 2014). This process is known as snowball or chain sampling (Liamputtong & Ezzy, 2005; Patton, 2002).
Two relevant professional associations were identified: ADEA and the Australian Podiatry Council. One representative from each was interviewed to capture the views of these stakeholder groups. There are seven institutions which offer an ADEA-accredited Graduate Certificate of Diabetes Education course. Two course coordinators were included in the sample from institutions in different states. There are a limited number of policy-makers and advisors with knowledge of the research topic, so one representative of each stakeholder group was included. The policy-level stakeholders were from two different states as it is known that progress has been made in some states or territories on this topic, whereas not so much in others. This increased the likelihood that different points of view could be elucidated in the data collection process. Decisions about the suitability of particular stakeholders for inclusion in the study were made based on their demonstrated knowledge of the issues central to the research phenomenon and their willingness to participate (Green & Thorogood, 2014).

Subsequent to this initial sampling strategy, the snowball sampling method was employed again to identify further suitable participants. Confirming and disconfirming cases were sought. This type of purposive sampling involves the selection of confirming cases (or participants), that is, those that provide data consistent with the themes already emerging. These types of cases add depth and richness to the findings and therefore enhance the study’s credibility (Borthwick, 1997; Patton, 1990). Of equal importance are disconfirming cases. These are the cases that do not fit the emergent themes and therefore provide an impetus to consider whether the initial themes and findings are reliable, or if there are other plausible interpretations (Patton, 2002). This sampling strategy was used to recruit two additional RN CDEs, a key informant (with an in depth knowledge of the ADEA) and a representative from an extra stakeholder group: the Australian Nursing and Midwifery Federation (ANMF). The initial documentary analysis process facilitated the identification of other potentially suitable participants, including a podiatrist CDE and a key informant with demonstrated knowledge of the diabetes educator role boundaries. As the process of interviewing progressed it became evident that legislation was a key theme. This prompted the researcher to engage a participant with specialised knowledge of the legislation and regulation relevant to nursing practice. The combination of these various approaches to participant selection sought to counter potential selection bias (Patton, 2002).

In total, there were nineteen formal interviews as well as three further episodes of personal communication, which were undertaken to gather data until saturation was reached. Further details on the execution of the stakeholder interviews are provided in section 3.4.2 below.
3.4 Data gathering and organisation

This section describes how the documentary evidence and interview data were gathered and organised according to cursory themes as they emerged. Subsequently, a more in depth and formal process of data analysis was undertaken. I adopted a reflective data collection process, the method of constant comparison was employed and notes relating to emerging themes were kept throughout. Data collection and analysis occurred concurrently (Creswell, 2009; Robson, 2002).

The organisation and presentation of the data is based on a structure which enabled the raw data to speak for itself. In this thesis interview data will be presented in the form of direct quotations and the documentary data will be presented as direct excerpts or quotations (Patton, 1990).

3.4.1 Data gathering: Documentary evidence

Documentary evidence was obtained via four systematic methods: an initial search of the ADEA website, citation search of the relevant ADEA documents, database searches and finally a targeted search of electronic documents on the ADEA website. The execution of the document searches is discussed in King et al. (2017) (Chapter 5).

3.4.2 Data gathering: Interviews

This research is specific to Australian diabetes education services and therefore key stakeholders in the Australian context were interviewed. As participants’ location could be anywhere in Australia, it was logistically difficult to conduct face-to-face interviews. Consequently interviews were conducted over the phone, which does not appear to weaken this method of inquiry (Carr & Worth, 2001; Creswell, 2009). As Carr and Worth (2001) note, interviews conducted via telephone facilitate interpersonal communication without a face-to-face interaction. This method of inquiry boasts a high response rate, provides opportunities for the interviewer to clarify any misunderstandings and enables the use of probing questions as required. While face-to-face interviews are generally considered favourable, there are several advantages associated with those conducted via telephone, such as decreased interviewer effects and decreased tendency for interviewees to provide socially desirable responses (Carr & Worth, 2001). Additionally, telephone interviews require less time, effort, travel and financial resources and are safer for interviewers (Robson, 2002).

The participant interviews were conducted with approval from the Southern Cross University Human Research Ethics Committee (ECN-14-230). Potential participants were initially contacted via email, provided with information about the research and the consent form. They were invited to either participate or forward the information onto other potential participants.
The Participant Information is attached as Appendix 5. It was designed to inform the participants about the nature of the research and the research topic so that they could prepare themselves and their thoughts for the interview. The Consent Form, attached as Appendix 6, facilitated an informed consent process. The signed form was obtained prior to each interview. I conducted each of the telephone interviews from my private residence. Participants were situated either at their workplace or at their own home. Interviews were conducted between September 2014 and September 2016.

The questions used to guide the interviews for this present study were informed by the research aims, review of the sociology of the professions literature and findings of the systematic review. The questions were formulated in a Word table (Appendix 7) with five columns. The first column stated the research problem; the second stated what the researcher wanted to find out; the third column stated how the researcher would seek the desired information; the fourth column stated the desired outputs and the final column articulated the anticipated outcomes. This process facilitated the development of questions that were relevant and ensured the key issues were explored in each interview.

Pre-determined, yet relatively loose questions were used to guide the interviews to introduce a level of structure to the process. It was important to ensure that the time was used effectively to cover the topics and points of interest for this thesis yet also to retain an exploratory and conversational tone (Patton, 2002). The interview questions differed slightly for each of the five stakeholder groups interviewed. The interview question guides are included as Appendix 8.

I conducted each of the interviews. With participants’ consent all interviews were audio-recorded. This allowed me to focus on interacting with the participant, listening actively and asking probing questions as required. It also provided for a permanent audio-record of the interview which could be referred back to throughout the research journey (Liamputtong & Ezzy, 2005; Robson, 2002). I subsequently transcribed each of the interviews, a process that facilitated a deeper engagement with the data and a reflective process whereby I reviewed my performance in each interview. I then made improvements to my technique where indicated (Liamputtong & Ezzy, 2005). Furthermore, listening closely to the audio-recordings and documenting the interviews enabled me to reflect on my personal biases and whether these had any influence on the interviews or on the early analysis.

3.4.3 Organisation of the data: Documentary evidence
The documentary evidence was reviewed with a focus on role boundaries and scopes of practice of diabetes educators. Key facts, details or events were charted in a table in chronological order,
in effect creating a timeline, beginning at the establishment of the ADEA in 1981 and concluding in June 2017 (King et al., 2017). The timeline is presented in this thesis as Appendix 9. Further analysis of the timeline was then undertaken, the details of which are presented below and in King et al. (2017) (Chapter 5).

3.4.4 Organisation of the data: Interview data
Audio recordings were transcribed immediately after each interview. The raw data were organised in a Microsoft Word table according to a number of cursory themes to prepare it for more formal and extensive data analysis (Robson, 2002). Where relevant, the titles of documents containing data which either corroborated participants’ accounts or corresponded with themes emerging from the interview data were recorded in the table to enable convenient reference throughout the analysis and write up process.

After conducting a few of the initial interviews, the cursory themes were merged and organised into broader themes, some of which were reflected by some of the documentary evidence previously obtained. Subsequently, upon referring back to the literature of the sociology of the professions, it became evident that at least one of the paradigms paralleled the themes which emerged in this thesis: the neo-Weberian social closure concept.

In the latter interviews themes established in earlier interviews were repeated indicating that data saturation was imminent. In one of the later interviews however, a new concept that had not yet been considered was introduced by a participant. This concept was pursued and clarified by undertaking two further interviews which provided insight into a facet of the research topic that was not previously considered. Upon further analysis and reflection, parallels with neo-Weberian theory continued to emerge. Neo-Weberian theory provided a framework which facilitated more precise organisation of the data. The next section describes the data analysis process.

3.5 Data analysis
The processes of data collection and analysis occurred simultaneously. New data were considered and compared with existing documentary and interview data and the emerging themes as they were collected. This is known as the ‘method of constant comparison’ (Robson, 2002, p. 493), a feature of Glaser and Strauss’ (1967) grounded theory. Data analysis was also informed and oriented by neo-Weberian theory of the professions and the researcher’s a priori knowledge of the interprofessional role boundaries in diabetes education. See section 3.5.1.
The approach to data analysis employed in this thesis can be described as a template approach, whereby emerging themes are informed by existing theory and cursory analysis of early data. This approach is flexible, in that codes and templates can be changed as required throughout the data analysis process (Robson, 2002). The next section describes the theoretical framework which was derived from neo-Weberian theories of the professions and how this was adapted and applied to the data from this present study.

3.5.1 Theoretical framework
Review of the contemporaneously relevant theories of the sociology of the professions provided a frame of reference for data collected in this present study and the themes which emerged from both the interviews and the documentary evidence. As discussed in Chapter 2, a number of neo-Weberian authors have elaborated on the theory of social closure. Parkin’s (1979) analysis of social closure and its application to the occupational context is particularly relevant to this thesis.

Neo-Weberian accounts of the professions and more recent elaborations of the social closure concept provided a lens through which the data emerging from this present study were analysed. The pre-existing theory was not used as a template as such, but rather orientated and framed the data analysis process and contributed to the organisation of the data. Other themes which do not relate directly to social closure, but rather to alternate social theories and movements in the health care and professional worlds more broadly also emerged from the data and were explored.

3.5.2 Documentary data analysis
In synthesising and analysing the documentary data, key events and influences on the role boundaries and scopes of practice of diabetes educators were drawn out and charted on a timeline. These events were categorised as occurring or influencing the role boundaries and scopes of practice of diabetes educators at the macro, meso or micro level. Further analysis of the timeline was undertaken and emerging themes were explored (King et al., 2017). Details of the data analysis and synthesis process are contained in Chapter 5.

3.5.3 Interview data analysis
Raw interview data were organised in a Word table with an adjacent column to record the inductive (open) code. There was another adjacent table which was used to record other notes such as relevant documentary evidence. Weber’s social closure and elaborations of this concept were used in a deductive fashion and applied to the data. The key neo-Weberian concepts utilised in the analysis process were strategies of occupational closure: credentialist, legalistic
and discursive (Martin, 2014). The main themes emerging from the qualitative data are presented in Chapter 6.

3.6 Methodological adequacy of the data
This section discusses the methodological adequacy of the data, that is, whether the processes taken to collect the data confer trustworthiness (Liampputong & Ezzy, 2005; Patton, 2002). The level of trustworthiness in research practice corresponds with the likelihood that the outcomes and findings will be accepted and trusted by the intended audience including other researchers. Trustworthiness will be discussed with reference to credibility, dependability and transferability (Patton, 2002). These elements will then be addressed with respect to the interview and documentary data individually in subsections below.

Theoretical trustworthiness has already been addressed. Research trustworthiness can be discussed with reference to credibility and dependability. Credibility is an analogue for the term used in quantitative methods, internal validity. It refers to the extent to which the instruments or methods used actually measure what they are intended to, or to which the findings can be believed or trusted as accurate or true. Dependability, which is an analogue for the quantitative methods term, reliability, denotes the consistency of a research method or instrument (Liampputong & Ezzy, 2005; Patton, 2002).

Qualitative research designs rely on a variety approaches to ensure credibility. The use of more than one source of data facilitates data triangulation (Liampputong & Ezzy, 2005; Robson, 2002). Data triangulation enables the researcher to capture a comprehensive view of the phenomenon of interest from a range of perspectives, while minimising potential researcher bias (Bowen, 2009; Liampputong & Ezzy, 2005). The threats to credibility that are considered relevant to this thesis will be addressed with respect to the two data sources: documentary evidence and interviews.

Dependability relies upon the researcher being able to demonstrate that they have been ‘thorough, careful and honest’ (Robson, 2002, p.176) in undertaking their research. Robson (2002) suggests that an audit trail can overcome many concerns about research dependability. An audit trail is a record of all activities undertaken throughout the course of the research, including interview transcripts, reflective journal and the data analysis and coding record (Robson, 2002). This thesis and its appendices satisfy the criteria of an audit trail, therefore enhancing its dependability. Transferability of qualitative data is not always necessary. The level of transferability of research findings can be evaluated by determining the similarity or
congruence between the context within which the research was undertaken and that to which the findings are intended to be transferred (Lincoln & Guba, 1985; Patton, 2002).

The next two subsections discuss considerations of adequacy and quality of the data obtained via the document searches and the interviews, respectively. The subsequent sub-section discusses transferability: the application of the findings of this thesis to other similar contexts.

3.6.1 Adequacy of the documentary evidence

The permanent nature of documentary evidence contributes to greater credibility and trustworthiness of the research findings (Bowen, 2009). Documentary evidence in combination with the interview transcripts and my reflective research journal all constitute an audit trail, which too enhances the research dependability (Robson, 2002). Scott’s (1990) criteria were used to guide decisions pertaining to the legitimacy of the documentary evidence. The four criteria are: authenticity, credibility, representativeness and meaning (King et al., 2017; Scott, 1990).

1) Authenticity: The documentary evidence utilised in this thesis had been previously published and was categorised as either grey or peer-reviewed literature. The documents published were clearly authored by an organisation, government or government department or by an individual with adequate credentials. All documents used as data were available in the public domain, with the exception of the three occasions where email correspondence was utilised.

2) Credibility: As most of the documentary data were published documents (i.e. professional guidelines, legislation, submission, reports), they were deemed inherently credible. Additionally, given that such a range of documentary data was sampled, the sum of such documents contributes to a wider sense of credibility. With some of the data used to corroborate the interview data, once again credibility is assured through the building of a comprehensive and accurate thematic picture of the diabetes educator world through data obtained from multiple sources (Liamputtong & Ezzy, 2005; Patton, 2002; Robson, 2002).

3) Representativeness: Owing to the comprehensiveness of the approach used to retrieve documentary data, it is reasonable to assume that the documentary evidence collected is sufficiently representative. Unfortunately, to date, I have not been privy to privately held material or correspondence which may provide valuable insight into the diabetes educator world as experienced and perceived by its stakeholders. I have also been unable to access Annual General Meeting minutes or annual reports prior to 2006.
The level of representativeness can be determined by evaluating two elements: survival and availability (Borthwick, 1997). As the documentary evidence was retrieved from electronic sources, such as professional guidelines, position statements and relevant Government Acts and reports, it is possible that with time, these documents will be superseded by updated versions. Therefore, their survival and availability may be somewhat limited. Documents such as meeting minutes theoretically will survive, however they may not always remain available.

4) **Meaning:** This facet of legitimacy is more complex to evaluate, given that the *meaning* of data depends on many factors implicit in the research context (Hodder, 2000). Meaning is interpreted by the researcher and is therefore subject to questions of interpretive validity or credibility. It has been argued by postmodernist writers that there are no clear indicators for accepting an interpretation as accurate. This, however, does not mean that all interpretations are viewed as equal (Liamputtong & Ezzy, 2005). The key to enhancing credibility or trustworthiness lies with the researcher demonstrating how their interpretation was made. This can be achieved partly by the researcher knowing and describing as much as possible about the context within which the document was produced, including the source and primary purpose of the document (Bowen, 2009; Robson, 2002). It has been suggested that by utilising parts of raw data, such as quotes or passages in the research report the reader can obtain some insight into the evidence upon which the interpretation is made. Additionally, the researcher can make the raw data available to other researchers so they too can evaluate it (Liamputtong & Ezzy, 2005).

The context within which the various pieces of documentary evidence used in this thesis were produced is contained in the documents themselves in most cases. Given that all documents utilised as data are available in the public domain, those readers who are interested in reviewing these can do so with ease, as each document is fully referenced. Additionally, as the documentary data were employed in part to triangulate the interview data, each form of data can act to contextualise the other to some extent.

Appendix 10 demonstrates the utilisation of Scott’s (1990) criteria to evaluate each of the categories of literature retrieved for the documentary analysis.

### 3.6.2 Adequacy of the interview data

It has previously been acknowledged that there are flaws associated with the generation of data through subjective means, such as interviews, and these have been discussed in some detail (Liamputtong & Ezzy, 2005; Patton, 2002; Robson, 2002). The extent to which the phenomenon of interest can be comprehensively understood depends on the participant sample being adequately diverse.
The potential value of interview data depends on participants having an understanding of the phenomenon of interest. Every effort was taken to seek participants with demonstrated knowledge or interest in the professional role boundaries of diabetes educators between podiatrist and nurse diabetes educators, however one of the participants failed to demonstrate that they had an adequate understanding of the issues relating to the topic of interest. Notwithstanding, the range of stakeholders interviewed and the continuation of data collection until redundancy of information occurred provided a level of assurance that the research topic has been comprehensively explored from a range of perspectives. Selection bias threatens the adequacy of the interview data. There is a risk that the participant sample is not varied enough to provide a comprehensive range of perspectives on the research phenomenon. In the case of this thesis, the range of approaches to participant selection increases the likelihood that the views presented are rich and diverse. It is important to note that although I utilised my professional network to identify suitable interview participants, I explicitly sought potential participants with views both aligned with and opposing those held by the members of my professional network, thereby reducing selection bias.

It is possible that interview participants may not have expressed their perspectives as clearly as they could have or that their intended meaning was misunderstood. Throughout the course of the interviews, the interviewer clarified any ambiguous points with the participants. At the conclusion of each interview, participants were given an opportunity to discuss any issues relating to the roles boundaries and scopes of practice of diabetes educators that they considered relevant. In several cases, participants reiterated or clarified points that they had raised earlier in the interview.

Attempts were made to contact and recruit several individuals who are known to have an interest in professional role boundaries of diabetes educators, however one was on maternity leave, one was unable to be contacted and another declined due to many other commitments in addition to their full time work. Nonetheless, those who did participate in this thesis satisfied the three criteria of methodological adequacy presented by Plummer (1983):

1) **Cooperativeness:** Each person interviewed was amenable to participate and no reluctance was detected throughout the lead up to or during the interview. The majority of participants appeared to be grateful for the opportunity to express their views on the topic of interest in this study.
2) **High Consciousness:** Each of the participants had a considerable amount of experience in their professional field which was either directly involved in clinical diabetes education services, post-graduate education, one of the professional associations, in policy-making or regulation. They were all regarded as bearing particular expertise in the area of professional role boundaries as a result of their current or past vocation, influence on diabetes education services or participation in the development of diabetes education services.

3) **Accessibility:** Each interview participant was willing and able to commit to a telephone interview, which allowed them to participate in the research within the comfort of their own home or workplace. Each participant agreed to making themselves available should aspects of their account need to be clarified (Robson, 2002).

Taking into account the theoretical inadequacies of this method of data collection, the value of the rich data gleaned from the interviews justifies their use (Borthwick, 1997; Denzin & Lincoln, 2000; Patton, 2002; Robson, 2002).

### 3.6.3 Transferability

This thesis explores a unique subset of interprofessional dynamics and the findings may have applicability to other allied health disciplines. Whereas previous research studies concerning interprofessional role boundaries in health care has typically involved the medical profession; this thesis explores the interprofessional dynamics of two non-medical health professions. The diabetes educator field is an *interdisciplinary* area, incorporating the nursing and allied health professions. Furthermore, the diabetes educator qualifications are attained at the post-graduate level.

The findings of this thesis could be applied to other similar health care professional contexts where professional boundary issues may exist. The degree of transferability of the findings is highest in contexts where the level of congruence or similarity is greatest (Patton, 2002). One example of a similar context to diabetes education is the mental health care setting, where psychologists, social workers, occupational therapists, mental health nurses and others are qualified to work in this specialty clinical area. These health disciplines are, like the nursing and allied health professions, considered hierarchically equal.

### 3.7 Ethical considerations

Concerns regarding politics and ethics in sociological research are all but inevitable (Liamputtong & Ezzy, 2005) and careful measures must be taken to ensure research is conducted in an ethical manner. As with all human research, ethics approval must be obtained and was in this case, via the Southern Cross University Human Research Ethics Committee.
This research study was considered low risk with respect to ethical concerns. Ethics approval alone does not confer ethical soundness to the research and measures to ensure that no research participants were disadvantaged or harmed by their participation in this thesis were implemented. This included obtaining informed consent and ensuring the anonymity of participants in the reporting and publishing of the results (Liamputtong & Ezzy, 2005; Robson, 2002). The Participant Information (Appendix 5) and the Consent Form (Appendix 6), previously referred to, satisfy the requirements of informed consent. In each case, the participants consented to an audio-recording of the interview. The audio-recorder has been stored in a locked cabinet and all electronic transcriptions contained in a password protected folder on the researcher’s computer.

With regard to protecting participants’ anonymity, each participant was informed at the commencement of their interview that in reporting the results, they would be identified by their title, professional role or position. They were asked to provide their preferred title to ensure that they were represented accurately while protecting their anonymity. Most participants were not perturbed by the prospect of being identified. One participant even suggested their actual name be used, however on further discussion it was agreed that their professional title only would be used. Every effort was made to include the most pertinent information about the interview participants. For those participants who were considered to be potentially more identifiable by their peers, references to their gender were excluded.

Another ethical dilemma encountered was related the interview participant sampling approach. Given that I used my own professional network initially, followed by snowball sampling, there was a risk that participants and professional network members might relate certain findings and quotes back to the potential participants that they had suggested. As the members of my professional network and the research participants were health professionals and in some cases, researchers, with an understanding of the importance of confidentiality and anonymity, I had faith that they would respect all participants’ rights to these.

3.8 Conclusion

This chapter presented the key details regarding the chosen research methods, including the rationale for employing these methods. Although there are limitations associated with each of the research methods employed, the combination of the three methods: systematic review of the literature, documentary analysis and interviews, contributes to enhanced trustworthiness of the thesis. The method of constant comparison was employed throughout all the stages of the research. I have taken measures to reduce potential biases throughout the course of this thesis and have adopted a reflexive approach.
The next three chapters present the results of each of the three research methods. Chapter 4 presents the systematic review, Chapter 5 presents the documentary analysis and Chapter 6 presents the results of the interviews.
Chapter 4 Contested professional role boundaries in health care: A systematic review of the literature

This chapter presents the systematic review of the literature, including the methods and limitations. Subsequent to the completion of the systematic review, it was submitted a peer-reviewed journal for publication. The reference for this paper is:


A signed statement detailing the authors’ contributions is contained within Appendix 3. This chapter presents a modified version of the manuscript submitted for publication. The abstract and introduction included in the paper have been removed from this chapter to avoid repetition and has been replaced with a succinct introduction. The paper is attached as Appendix 1. All tables (4.1, 4.2, 4.3, 4.4 and 4.5) and the figure (4.1) included in this chapter were published in the paper.

4.1 Introduction

Upon completing a review of the sociology of the professions literature it became evident that inter-occupational or interprofessional role boundary contestation is considered a common feature of professionalisation. The decision was subsequently made to focus the systematic review of the literature of professional role boundary contestation in health care. This systematic review of the literature seeks to explore reported boundary disputes, how these came about, how these contests or disputes are characterised and what, if any, outcomes resulted from these interprofessional role boundary contests.

4.2 Methods

4.2.1 Literature search

Only peer reviewed research articles were considered for inclusion in the literature review. The STARLITE framework was used to guide the search (Booth, 2006) (Table 4.1) detailing search strategy including terms, databases, inclusions and exclusions.

Table 4.1 STARLITE Framework

<table>
<thead>
<tr>
<th>Sampling strategy</th>
<th>Purposive</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type of literature</td>
<td>Qualitative and quantitative research</td>
</tr>
<tr>
<td>Approaches</td>
<td>Subject search, citation search, internet search</td>
</tr>
<tr>
<td>Range of years</td>
<td>No start date to March 2014</td>
</tr>
</tbody>
</table>
**Limits**

| Inclusions and exclusions | Included: Health or health care and: contested role boundaries, disputed role boundaries, role boundary negotiation, interprofessional role boundaries, professional role boundaries
|                          | Excluded: Discussion pieces; developing countries; intra-professional boundary disputes; papers referring to, but not focusing on interprofessional boundary disputes; complementary and alternative therapies only; interprofessional education; collaboration; multidisciplinary care |

**Terms used**

- Contested boundaries AND health care
- Dispute* boundary$ AND health care
- Professional boundary$ AND health care
- Interprofessional boundary$ AND in health

**Electronic resources**

- CINAHL, Medline, PubMed, Expanded Academic ASAP

### 4.2.2 Synthesis and analysis

In synthesising and analysing the findings from the papers, a framework analysis akin to template analysis, described by Brooks and King (2012) is used. Template analysis is a technique which employs thematic organisation and analysis of data. The data being analysed can be any kind of textual data however interview transcripts are the most common form of data for which this approach is used. The key to this form of analysis is the use of a priori template, or pre-determined code set, to extract, organise and analyse qualitative data.

The pre-determined template used to code and analyse data in this literature review is the theoretical framework described by Nancarrow and Borthwick (2005) which relates to the dynamic health care workforce. The authors describe the directions in which workforce boundaries can shift, specifically, diversification, specialisation (etc). These directions of role boundary shifts form the a priori themes against which the papers will be coded.

Diversification is the identification of a new approach to practice that has previously been claimed and ‘owned’ by another profession. It may mean the creation of a new task or it may be performing an existing task with a new method, resulting in professional role expansion.

Specialisation is defined by Nancarrow and Borthwick (2005) as ‘the adoption of an increasing level of expertise in a specific disciplinary area that is adopted by a select group of the profession and legitimised through the use of a specific title, membership to a closed sub-group of the profession, and generally involves specific training’. Specialisation is more successful at post-registration level.

Boundary expansion can be also achieved by role substitution. Substitution involves a profession taking on work previously undertaken by another profession and can occur vertically.
or horizontally. Vertical role substitution refers to the delegation or acquisition of tasks across professional boundaries where one profession is considered to be superior on the hierarchy. The degree to which vertical substitution expands role boundaries is highly dependent on the profession considered to be superior. Boundary expansion can also occur by horizontal substitution, which occurs when a profession considered to be have a similar level of expertise and training as another one, takes on part of their traditional role. For this form of role expansion to be successful roles must be quite flexible to enable other professions to adopt them. Horizontal substitution is thought to be occurring more frequently with the rise in interprofessional education and practice (Nancarrow & Borthwick, 2005).

4.3 Results

Initial database searching yielded 616 results. See figure 4.1 for a pictorial summary showing the location of papers at each stage of the literature search process.
Studies which focused on contested role boundaries; including the drivers for contestation, evidence of boundary disputes and the means by which professions defended their occupational territory were included. Papers referring to boundary disputes but not focused on them and those
looking at intra-professional boundary disputes, were excluded. See STARLITE framework (table 4.1) for details of inclusions and exclusions. With only four papers remaining, a citation search of the paper which seemed most relevant (Timmons & Tanner, 2004) was undertaken. This elicited a further three papers; two citing the relevant paper, one cited by its authors. There were seven papers in total included in the literature review and were published between 2001 and 2012.

4.3.1 Quality indicators

The seven selected papers were assessed for quality using the Critical Appraisal Skills Programme (CASP) Qualitative Research Checklist ("Critical Appraisal Skills Program International Network," 2013). See table 4.2.

Table 4.2 Quality Indicators

<table>
<thead>
<tr>
<th>Quality Indicator</th>
<th>Yes</th>
<th>Can’t tell</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Was there a clear statement of the aims of the research?</td>
<td>7</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Is a qualitative methodology appropriate?</td>
<td>7</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Was the research design appropriate to address the aims of the research?</td>
<td>7</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Was the recruitment strategy appropriate to the aims of the research?</td>
<td>7</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Was the data collected in a way that addressed the research issue?</td>
<td>6</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Has the relationship between the researcher and the participants been adequately considered?</td>
<td>1</td>
<td>6</td>
<td>0</td>
</tr>
<tr>
<td>Have ethical issues been taken into consideration?</td>
<td>7</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Was the data analysis sufficiently rigorous?</td>
<td>6</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Is there a clear statement of findings?</td>
<td>7</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Is the research valuable?</td>
<td>7</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

All of the included studies used qualitative methodology, which is well-suited to the topic.

Table 4.3 provides an overview of the main characteristics of each of the included papers.

Table 4.3 Main Characteristics of Included Studies

<table>
<thead>
<tr>
<th>Authors</th>
<th>Overview</th>
<th>Country</th>
<th>Study type</th>
<th>Setting</th>
<th>Professions Involved</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bach et al. 2012</td>
<td>Looks at boundary work undertaken by registered nurses and health care assistants (HCAs) working in two National Health Service (NHS) Trusts</td>
<td>UK</td>
<td>Qualitative research using data from 60 semi-structured interviews</td>
<td>Two different hospitals</td>
<td>34 HCAs and 26 Registered Nurses, including senior nurses and sisters</td>
</tr>
<tr>
<td>Martin et al. 2009</td>
<td>Looks at micro-level professional jurisdiction negotiations between GPs with special interest (GPSI) in genetics and clinical geneticists</td>
<td>UK</td>
<td>Qualitative research using data from 34 in-depth interviews with GPSIs, clinical geneticists and other key stakeholders</td>
<td>Four different genetics clinics included in a pilot program</td>
<td>GPSI, clinical geneticists, managers and other staff working in the field of clinical genetics at the pilot sites</td>
</tr>
<tr>
<td>McNulty et al.</td>
<td>Analysis of the perspectives of the</td>
<td>Australia</td>
<td>Critical discourse analysis; data obtained</td>
<td>Not specified</td>
<td>Professional associations</td>
</tr>
<tr>
<td>Year</td>
<td>Authors</td>
<td>Country</td>
<td>Methodology</td>
<td>Data Sources</td>
<td>Findings/Results</td>
</tr>
<tr>
<td>---------</td>
<td>----------------------------------------------</td>
<td>--------------------</td>
<td>----------------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>2012</td>
<td>prominent service providers in maternity care on proposed service reforms</td>
<td></td>
<td>by 24 selected submissions to the maternity services review in 2008</td>
<td>including obstetrics, midwifery, rural doctors, GPs, academic institutions, women’s health networks, hospitals and the Australian Medical Association</td>
<td></td>
</tr>
<tr>
<td>Norris</td>
<td>Looks at micro-level boundary work undertaken by a large range of orthodox and alternative practitioners treating musculo-skeletal pathologies.</td>
<td>New Zealand</td>
<td>Qualitative research drawing data from semi-structured interviews with 83 treatment providers and 13 professional associations</td>
<td>Interviews took place mainly in the workplaces of the interview participants Seven medical specialists, 17 GPs, 17 physiotherapists, eight chiropractors, osteopaths and massage therapists, four acupuncturists, two Alexander technique practitioners, podiatrists, psychologists and beauty therapists (massage)</td>
<td></td>
</tr>
<tr>
<td>2001</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Salhani</td>
<td>Explores the micro-political struggles within an interprofessional mental health team working in a mood disorder unit. Focuses on politics and power, with an emphasis on nursing’s professional project.</td>
<td>Canada</td>
<td>Qualitative research using an ethnographic approach. Data obtained by intensive observation of the interprofessional team while at work, formal interviews with unit staff and review of relevant documents</td>
<td>A mood disorder unit in a metro psychiatric hospital Interviews were conducted with seven psychiatric nurse assistants, six psychiatric nurses, two psychiatrists, psychiatric residents and social workers, one medical resident, head nurse, psychologist, research coordinator, occupational therapist, physiotherapist, pharmacist, chaplain and ward clerk and senior administrators.</td>
<td></td>
</tr>
<tr>
<td>Coulter</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2009</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sanders</td>
<td>Looks at the claims of professional legitimacy in heart failure care made by three types of medical specialities and specialist heart failure nurses</td>
<td>England</td>
<td>Qualitative research looking at the content of discourses made by four professions. Data was obtained via semi-structured interviews</td>
<td>Participants’ workplaces (hospital or general practice) Eight cardiologists, eight geriatricians, seven GPs and ten specialist heart failure nurses</td>
<td></td>
</tr>
<tr>
<td>Harrison</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2008</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Timmon</td>
<td>Explores the case of theatre nurses and operating department practitioners (OPDs) and their disputed occupational boundaries</td>
<td>England</td>
<td>Qualitative research using observation and follow up semi-structured interviews</td>
<td>Sample drawn from five theatre departments across four NHS trusts Seventeen theatre nurses and three ODPs</td>
<td></td>
</tr>
<tr>
<td>Tanner</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The majority of papers focused on the micro-level strategies employed by individual professionals at a local level in order to protect their role boundaries. Macro level strategies are typically implemented by the professional associations; however the objective - to construct and defend their occupational boundaries - is consistent with the micro-level objectives. A comparison of the main factors related to the role boundary disputes within the seven papers is presented in table 4.4.

Table 4.4 Features of the role boundary disputes

<table>
<thead>
<tr>
<th>Feature</th>
<th>Number of studies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Existing or new professions and boundaries</td>
<td></td>
</tr>
<tr>
<td>• New occupation or sub-speciality encroaching on another’s established boundary</td>
<td>4</td>
</tr>
<tr>
<td>• Existing professional group encroaching on another’s established role boundary</td>
<td>1</td>
</tr>
<tr>
<td>• Long-standing role boundary contest</td>
<td>2</td>
</tr>
<tr>
<td>Overt or subtle contest</td>
<td></td>
</tr>
<tr>
<td>• Overt boundary contest</td>
<td>4</td>
</tr>
<tr>
<td>• Subtle boundary contest</td>
<td>2</td>
</tr>
<tr>
<td>• Unclear</td>
<td>1</td>
</tr>
<tr>
<td>Professional hierarchy</td>
<td></td>
</tr>
<tr>
<td>• Hierarchal component</td>
<td>4</td>
</tr>
<tr>
<td>• No hierarchal component</td>
<td>2</td>
</tr>
<tr>
<td>• Mixed</td>
<td>1</td>
</tr>
<tr>
<td>Strategy level being explored in review</td>
<td></td>
</tr>
<tr>
<td>• Macro-level</td>
<td>1</td>
</tr>
<tr>
<td>• Micro-level</td>
<td>5</td>
</tr>
<tr>
<td>• Both</td>
<td>1</td>
</tr>
<tr>
<td>Initial driver for change in professional role boundary/ies</td>
<td></td>
</tr>
<tr>
<td>• Government / modernisation agenda for health care</td>
<td>2</td>
</tr>
<tr>
<td>• Chronic illness trajectory</td>
<td>1</td>
</tr>
<tr>
<td>• Shortage of health care professionals</td>
<td>1</td>
</tr>
<tr>
<td>• Consumer / community driven</td>
<td>1</td>
</tr>
<tr>
<td>• Not specified</td>
<td>2</td>
</tr>
</tbody>
</table>

4.3.2 Template analysis

Nancarrow and Borthwick’s (2005) framework describing the means by which professions can expand their scopes of practice, often into the domain of other existing professions, is used to categorise how each of the boundary disputes came about. See table 4.5.

In the only case of diversification as the method used by professions to expand and define their scopes of practice, efforts to distinguish their profession from others did not appear to result in other professions being limited in their practice. There were three cases in this review where specialisation was used by the professions involved to expand their scopes of practice. In two of these cases their efforts to distinguish themselves from other professional groups practicing in the same field did not result in limitation of their practice, however in one case, it did. In this
particular case, involving clinical geneticists and GPs with special interest (GPSI) in genetics, there was a hierarchal component involved which was effectively used by the clinical geneticists to limit the practice of GPSI.

There was one case illustrating vertical substitution, implicating professions directly involved in maternity care (McIntyre, Francis, & Chapman, 2012). This is actually an example of vertical substitution in reverse. Maternity care was once undertaken by lay women however medicine commandeered the practice and medicalised it to the point where it became the medical specialty known as obstetrics (Nancarrow & Borthwick, 2005). In McIntyre et al. (2012) study, they found that some progress had been made on the part of midwifery to regain some of the power assumed by obstetrics in maternity care services.

There were two examples of horizontal substitution as the means by which professional groups expanded or defined their practice (Bach et al., 2012; Timmons & Tanner, 2004). Both of these examples were new professions whose core work was considered part of nursing’s traditional work domain. Both of the relatively new professions sought to highlight their similarities to, and in one case, their advantage over nursing in their particular work domain. While nurses sought to distinguish themselves and cite their superior capabilities in both cases, this did not appear to hamper the ability of the newer professions in encroaching on nursing’s traditional occupational territory.

Table 4.5 Template analysis

<table>
<thead>
<tr>
<th>Strategy to expand role boundaries</th>
<th>Authors Year</th>
<th>Professions involved</th>
<th>Overt or subtle dispute</th>
<th>Boundary work strategies observed</th>
<th>Outcome/s of dispute observed in study</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diversification</td>
<td>Norris 2001</td>
<td>A range of practitioners working with musculo-skeletal pathologies including physiotherapists, orthopaedic surgeons, chiropractors, massage therapists and others</td>
<td>Subtle</td>
<td>Occupations made claims of their ability to provide superior musculo-skeletal treatment based on concepts including: others being limited (because they lack something), their approach being holistic (where others are too focused) and prevention as part of their practice</td>
<td>Although professions somewhat succeeded in distinguishing themselves from others, and in some cases pointing out their advantages, it does not appear as though any professions are effectively limiting the practice of others</td>
</tr>
<tr>
<td>Specialisation</td>
<td>Martin Currie and Finn 2009</td>
<td>GPSIs with special interest in genetics (GPSIs) and clinical geneticists</td>
<td>Overt</td>
<td>GPSIs were eager to extend their skills vertically and practice clinically however geneticists were protective of their professional boundaries. Geneticists argued the indeterminacy of their knowledge, lengthy training and ongoing interaction with a team of experts as their unmitigated advantage over GPSI.</td>
<td>The highly specialised status of the geneticists was effectively used to limit the ability of GPSIs to practice in a clinical capacity in genetics. Geneticists successfully limited GPSIs from encroaching on their role, in this particular</td>
</tr>
</tbody>
</table>

86
<table>
<thead>
<tr>
<th>Author(s)</th>
<th>Professional Groups</th>
<th>Type of Boundary Dispute</th>
<th>Overview</th>
<th>Case</th>
</tr>
</thead>
<tbody>
<tr>
<td>Salhani and Coulter 2009</td>
<td>Psychiatric nurses, psychiatrists, occupational therapist, social worker and other allied health professionals and unit managers</td>
<td>Overt</td>
<td>Significant gains of power were made by psychiatric nurses in a setting which traditionally saw medicine (psychiatrists) in a more powerful position. Psychiatric nurses exercised a number of tactics to gain allies in other allied health professions and managerial support, which enabled them to establish their treatment model which contradicted the psychiatric model</td>
<td>Psychiatric nurses were able to not only expand their scope of practice by way of specialisation, they were able to exert their influence and power to achieve a level of autonomy from psychiatry and prevent encroachment from other non-medical professions</td>
</tr>
<tr>
<td>Sanders and Harrison 2008</td>
<td>Geriatricians, Cardiologists, GPs and heart failure nurses</td>
<td>Subtle</td>
<td>The authors identified four prominent discourses that were used by the heart failure care professional groups, to establish their professional legitimacy and emphasise their advantage over the other professions. These were: expertise, competence, organisational efficiency and patient-centredness</td>
<td>Overt boundary disputes were not evident. Although reluctance of the medical professions to inter-refer may indirectly limit the involvement of certain professions, the role boundaries of one profession are unaffected by another</td>
</tr>
<tr>
<td>McIntyre et al 2012</td>
<td>Medicine (including specialist obstetricians, general practitioners (GPs) and rural doctors), and midwives (nurses)</td>
<td>Overt</td>
<td>Vertical substitution enabled obstetrics to dominate maternity services. Midwives and their related professional associations birth as a normal, non-medical occurrence. Obstetrics and their professional associations, emphasised the risks associated with childbirth and the importance of a medical professional adopting a senior role in each case</td>
<td>Authors concluded that the historically elite position of obstetrics in maternity care is being challenged by not only midwifery, but also by consumers, maternity service managers and even some medical professions</td>
</tr>
<tr>
<td>Bach Kessler and Heron 2012</td>
<td>Registered nurses and health care assistants (HCAs)</td>
<td>Overt</td>
<td>The boundary preservation work of the registered nurses focused on attempts to distinguish themselves from the HCAs and assuming an authoritarian role. Alternatively HCAs emphasised their similarity to nurses and their team-based approach to patient care. HCAs were eager to blur the lines between their role and nursing, where nurses were keen to reinforce the divide</td>
<td>Although HCAs are treated as an inferior, marginalized group, nurses appeared unable to prevent them from undertaking traditional nursing work, especially direct patient care activities</td>
</tr>
<tr>
<td>Timmons and Tanner 2004</td>
<td>Theatre Nurse and Operating Department Practitioners (ODPs)</td>
<td>Overt</td>
<td>Both theatre nurses and ODPs used atrocity stories to illustrate the advantage of their profession over the other. Atrocity stories were categorised into themes: the role of technology; doctor-support versus caring for</td>
<td>Theatre nurses did not appear to be able to prevent encroachment on, or extend their own role boundaries</td>
</tr>
</tbody>
</table>
4.4 Discussion

Specific role boundary changes in allied health professions such as podiatry, have been captured in papers deploying social theory and these give some flavour of the type and form of boundary shifts and disputes that have emerged to date (Borthwick, 2000; Borthwick, Short, Nancarrow, & Boyce, 2010; Moran, Nancarrow, & Enderby, 2012; Moran, Nancarrow, Wiseman, et al., 2012). However, a broader sweep of literature across the health sector gives a clearer picture of the complex relationships giving rise to boundary disputes which may impact on other professions concerned with foot and ankle work.

It is clear that disputes between the professions take various forms, some more overt than others. However, the events preceding role boundary contests appear to be similar and revealing. In each case selected there was either a shortage of qualified staff to undertake a particular healthcare role, or an underpinning governmental modernisation agenda driving role change to alternative providers, the latter often involving a community or consumer drive, prompting the genesis of a new profession in some cases and the extension of scope of practice in others. Both sought to establish themselves and their role boundaries by way of diversification, specialisation, vertical or horizontal substitution, often into the domain of an existing profession (Nancarrow & Borthwick, 2005). In each instance, where the profession concerned enjoyed established roles, it sought to protect them when threatened, with the response more vociferous when the boundary was perceived to be more vulnerable.

Some of the selected studies focused on those strategies employed by the encroaching profession, others on those defending boundaries. In each case, the common theme derived from the use of discourse to discredit the competitor profession, either on the basis of their approach to clinical care or their skills or competence. There were several references made to macro level strategies adopted by some professional associations, where emphasis was placed on highlighting the advantages of one profession over a neighbouring one (Norris, 2001). However, in all cases the micro-level strategies employed by professionals were at the forefront of the discussion.

In cases where the focus was on resisting encroachment on an existing occupation’s domain, both success and failure were demonstrated. Unlike much of the theory of medical dominance,
in which medical specialities would, by virtue of their social and cultural authority, be more successful at protecting boundaries and resisting change, evidence in the studies selected suggest a change, based on aligning demands with policy direction. Salhani and Coulter (2009, p. p1227), for example, found in their study of nurses working within a multidisciplinary team in a mood disorder unit, that nurses were successful in securing autonomy from psychiatry, a move which enabled them to overrule psychiatrists intervention, whilst also resisting encroachment from other professions within the unit; a success based upon an overarching policy need for workforce flexibility.

In a study looking at the boundary work of both registered nurses and health care assistants (HCAs) in two NHS Trusts, Bach et al. (2012) found that the nurses enthusiastically defended their unique ability to provide hands-on, patient-centred, holistic care. In this study, the nursing profession was portrayed as one seeking to expand their role boundaries into the domain of medicine whilst also preserving their current boundaries, thus preventing usurpation by HCAs – what Witz referred to as ‘dual closure’ (Witz, 1992). However, the nurses were also keen to shed the ‘dirty work’, which proved to be a source of frustration for the HCAs, which thwarted their own professionalising ambitions (Hugman, 1991).

In each of the five studies involving the nursing profession, references to ‘patient-centred and ‘holistic care’ were made, clearly as a form of professional rhetoric designed to support their bid for legitimacy in claiming role exclusivity, or at least primacy. In Timmons and Tanner’s (2004) study the overt boundary dispute between theatre nurses and operating department practitioners (ODPs), nurse claims to a broad caring and holistic role gave them a perceived advantage over the ODPs, particularly in relation to gender claims, with nurses often referring to the insensitive masculine approach to patient care exhibited by the ODPs.

Similar to Timmons and Tanner’s (2004) study, podiatrists utilise horizontal substitution as a means to expand their scope of practice into the diabetes educator domain. This type of role boundary expansion has been shown to lead to hotly contested role boundary disputes, between two professions of equal standing, yet waged across a field in which one occupies the ‘established’ role and the other the ‘usurper’ role (Parkin, 1979).

4.5 Methodological limitations of the literature review

Whilst taking a systematic approach to this literature review confers a degree of objectivity, there is a risk that some relevant literature may have been omitted, such as grey literature, or that not all the relevant literature has been included. Literature which did not constitute research, nor actually focus on a disputed boundary was excluded, meaning that some material
on role boundary disputes in health care was not considered. Equally, some databases which were not within the health field may have contained relevant papers shedding light on boundary disputes relevant to healthcare, such as PsycINFO or SocINDEX.

Generalisability of the findings is made difficult by the fact that only seven papers met the inclusion criteria and the use of qualitative methodologies rendered this problematic. With relatively small sample sizes, including some single case studies, application of the analysis adopted to broader health care settings was not considered appropriate. Comparing and contrasting the finding of the papers was made difficult by the fact the various studies used different themes to code and analyse their data.

4.6 Conclusion
This literature review has explored cases of contested role boundaries, demonstrating that there are many different kinds of boundary disputes among the health professions, each with varying emphases and outcomes. The means by which professions attempt or succeed in extending their role boundaries - diversification, specialisation, vertical substitution or horizontal substitution - does not appear to directly influence whether or not a profession is able to extend its role boundaries where these are contested. However, it is clear that horizontal substitution appears to invoke more overt role boundary disputes, with little likelihood of a negotiated resolution.

Persistent health professional role boundary disputes may impede role flexibility and are likely to undermine the development of the health care workforce in line with policy objectives aimed at workforce redesign and longer term service sustainability in the face of demographic change. Trends in health policy continue to support professional role boundary flexibility and innovation in service delivery, and the recent exemplar of extensions in non-medical prescribing illustrates the impact of role redesign on health service provision and highlights specific directions in policy implementation, governance frameworks and competency structures to support their implementation. Role boundary disputes may delay, but are unlikely to prevent, full implementation of policy and practice developments.

This literature review supports the widely accepted notion that the health care division of labour is based not on immovable professional boundaries, but on dynamic shifts influenced by forces such as the health policy agenda, and may not always favour the traditionally most powerful professions. It may signal a reduction in professional power and autonomy by some of the professions, each of which is increasingly vulnerable to the vagaries of the healthcare market, and the fiscal restraints imposed on healthcare budgets.
Chapter 5 Diabetes educator role boundaries in Australia: A documentary analysis

Subsequent to the completion of this documentary analysis, it was submitted to a peer-reviewed journal for publication. A truncated version of this chapter was accepted for publication. The reference for this paper is:


The paper appears in Appendix 2 of this thesis. A signed statement detailing the authors’ contributions is contained within Appendix 3.

The full unedited version of the documentary analysis is presented in this thesis. To avoid unnecessary repetition, the abstract and introduction included in the published paper have been excluded from this chapter and replaced with a succinct introduction. This chapter considers more data and discusses additional themes which did not appear in the paper due to the word limitation. Sections of text contained within this chapter that were excluded from the published paper appear in larger font. Tables 5.1 and 5.2 and Figures 5.1 and 5.2 presented in this chapter were published in the paper. Table 5.3 and Figure 5.3 presented in this chapter were excluded from the paper. Appendices 10 and 12 of this thesis were also published, in modified form, as appendices in the published paper.

5.1 Introduction

The findings of the systematic review of the literature suggest that role boundary disputes among the health care professions are not uncommon and may hinder efforts to implement more flexible and efficient models of health care delivery. The review also substantiated the view that role boundaries in health care change according to socio-political processes. These findings informed the documentary data sampling processes.

The research question and aims stated in Chapter 3 of this thesis relate to the role boundaries between diabetes educators of nurse and podiatrist background. An initial search for documentary data relating to the role boundaries between diabetes educators of these two professional backgrounds was conducted prior to the systematic search presented in this chapter. No documents were located. The decision was made to widen the search to consider all documents relating to the role and scope of practice of diabetes educators in Australia. Consequently, the findings of the documentary relate to the role boundaries and scopes of practice of diabetes educators of nurse and all allied health backgrounds.
5.2 Search methods

Since its establishment in 1981, the Australian Diabetes Educators Association (ADEA) has published a number of documents, which, at the time of their publication, related to, and reflected the role and scope of practice of diabetes educators. These publications were developed by the ADEA to provide guidance and reference, its membership. There has been a number of other documents, predominantly grey literature, which relate to the diabetes educator role and scope of practice in the Australian context, including government publications, government agency reports, gazettes, submissions and legislation. A STARLITE framework guided the process of documentary data retrieval, which began with a comprehensive search of the ADEA website, followed by a citation search (see Table 5.1). Peer-reviewed literature was also consulted for this analysis. A separate STARLITE framework guided a database literature search (Table 5.2). In cases where details of relevance were not contained within any retrieved documents, targeted personal communication was utilised to gather the information. This targeted communication was with ADEA employees.

Table 5.1 STARLITE Framework ADEA website search

<table>
<thead>
<tr>
<th>Sampling strategy</th>
<th>Purposive</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type of literature</td>
<td>Grey literature; ADEA publications</td>
</tr>
<tr>
<td>Approaches</td>
<td>Grey literature search, comprehensive ADEA website search, citation search, consultation with key experts</td>
</tr>
<tr>
<td>Range of years</td>
<td>1981 - 2017</td>
</tr>
<tr>
<td>Limits</td>
<td>English, human</td>
</tr>
<tr>
<td>Inclusions and exclusions</td>
<td>Included: ADEA guidelines, position statements, policies, submissions, codes of conduct, standards of practice, role and scope of practice documents, Annual Reports, AGM minutes, Board updates, scoping documents, research papers, newsletters, member news, information sheets, project information</td>
</tr>
<tr>
<td></td>
<td>Excluded: Consumer resources, order forms, promotional materials, product information and advertising guidelines, business and private practice resources, frequently asked questions</td>
</tr>
<tr>
<td>Terms used</td>
<td>Not applicable: the website was searched comprehensively</td>
</tr>
<tr>
<td>Electronic resources</td>
<td>ADEA website</td>
</tr>
</tbody>
</table>

Table 5.2 STARLITE Framework Database Search

<table>
<thead>
<tr>
<th>Sampling strategy</th>
<th>Purposive sampling; search for documents relating to the role and scope of practice of diabetes educators in Australia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type of literature</td>
<td>Peer-reviewed literature and grey literature</td>
</tr>
<tr>
<td>Approaches</td>
<td>Subject search, citation search, grey literature search</td>
</tr>
<tr>
<td>Range of years</td>
<td>1981 – June 2017</td>
</tr>
<tr>
<td>Limits</td>
<td>English, human, Australia</td>
</tr>
<tr>
<td>Inclusions and exclusions</td>
<td><strong>Inclusions:</strong> Australian diabetes educators or diabetes education; diabetes educator role and scope of practice; published opinion pieces</td>
</tr>
</tbody>
</table>
A separate targeted documentary data search was undertaken during and after the initial documentary analysis. This search focused on obtaining data relating to employment opportunities available for diabetes educators as advertised on via the ADEA fortnightly member e-Newsletter within a twelve month timeframe: May 2016-May 2017. See Table 5.3 for the STARLITE framework guiding this search. There were 24 e-newsletters published in the timeframe of interest, with a total of 38 employment opportunities advertised. Employment opportunities advertised for diabetes educators were included for analysis, with those advertised as project manager and nurse practitioner roles excluded. Relevant employment opportunities were contained in 15 e-newsletters. There was a total of 29 employment opportunities advertised for diabetes educators, which were contained in 15 different e-newsletters. Dates of the e-newsletters are presented in Appendix 10.

Table 5.3 STARLITE ADEA e-newsletter search for employment opportunities for diabetes educators

<table>
<thead>
<tr>
<th>Sampling strategy</th>
<th>Purposive</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type of literature</td>
<td>Grey literature: ADEA e-newsletters</td>
</tr>
<tr>
<td>Approaches</td>
<td>Grey literature search: specifically e-newsletters published by the ADEA which contain employment opportunities for diabetes educators in Australia</td>
</tr>
<tr>
<td>Range of years</td>
<td>May 2016 – May 2017</td>
</tr>
<tr>
<td>Limits</td>
<td>English, human, Australian context</td>
</tr>
<tr>
<td>Inclusions and exclusions</td>
<td>Inclusions: Employment opportunities for diabetes educator specific roles Exclusions: Employment opportunities for project roles and nurse practitioners</td>
</tr>
<tr>
<td>Terms used</td>
<td>Not applicable: all ADEA e-newsletters published within the range of years specified were reviewed</td>
</tr>
<tr>
<td>Electronic resources</td>
<td>ADEA website</td>
</tr>
</tbody>
</table>

5.3 Synthesis and analysis
In synthesising and analysing the findings from the documents retrieved via the initial ADEA website, citation and database searches, key drivers were identified as events or influences that appeared to shape the role boundaries of diabetes educators. These drivers were categorised as macro, meso or micro level and charted on a table in chronological order, in effect creating a
timeline. For this review, macro level events are defined as those occurring at national or Government level, which impact the health workforce more widely. Meso level events are defined as those occurring at the professional association level, affecting some or all members of the diabetes educator workforce. Micro-level events are defined as those occurring at a local or workplace level and affect specific groups of diabetes educators. The timeline was analysed and the drivers were further categorised according to emerging themes. Key themes were identified as pivotal historical events or movements which appeared to precede changes in the wording within documents published subsequently by the ADEA, which were indicative of an evolving interdisciplinary culture.

The job advertisement data retrieved via the separate targeted search were analysed separately. The aspects of interest within the advertisements were: the title of the role being advertised, the specification of candidates’ primary profession if present, the classification of the role according to the relevant enterprise agreement, and the location of the employer. These details were recorded in a table (Appendix 10).

5.4 Search results

The ADEA website search yielded 276 records and the database searches yielded 198 records. A total of 52 records were included in the documentary analysis. Figures 5.1 and 5.2 illustrate the processes used to exclude irrelevant records and to locate further relevant ones to enable the gathering of sufficient data for review. Documents retrieved via the ADEA website and database search were included if they related to the role and scope of practice of diabetes educators in Australia.

The subsequent targeted search for employment opportunities for diabetes educators advertised via the ADEA in its fortnightly member e-Newsletter between May 2016 and May 2017 yielded 38 results. See Figure 5.3 illustrating the process for excluding some of the records. The details of all documents included in the analysis are presented in a table in Appendix 11.
Figure 5.1 ADEA Website Search PRISMA Diagram

276 records located via ADEA website search

181 records read

95 records excluded on title screening for relevance

161 records read and subsequently excluded, with:
- 104 deemed to be irrelevant to the roles and scopes of practice of diabetes educators
- 57 containing information deemed relevant, but the information was reported in a document read previously

Citation search of 20 records, led to the location of 9 further relevant ADEA documents, including earlier versions documents which had been updated. 29 records

Citation search of 29 records, led to the location of 5 relevant non-ADEA documents 34 records

3 instances where personal communication was used to obtain information and 4 further non-ADEA documents were retrieved to clarify details relating to events or information. 41 records included in the review
24 e-Newsletters were published by ADEA between May 2016 and May 2017

22 e-newsletters contained employment opportunities
38 employment opportunities in total were advertised via ADEA

15 e-newsletters were included in the analysis
29 employment opportunities were included in the analysis

7 e-newsletters were excluded as they contained irrelevant employment opportunities.
9 employment opportunities were excluded for being non-clinical or non-specific diabetes educator roles:
- 3 project manager positions
- 2 NP roles
- 2 clinical nursing roles
- 1 clinical trials coordinator position
- 1 university-based position delivering post-graduate education in diabetes education
5.4.1 Quality indicators
Scott’s (1990) four criteria, were used to assess the legitimacy of documents retrieved in this analysis. These criteria and their application were discussed in Chapter 3. Quality is not a major concern for the documents retrieved, as the variety of literature included is likely to capture a wide range of viewpoints as required for this thesis. Nonetheless, Scott’s quality appraisal provides a framework for reviewing and presenting the type of literature included in this analysis. The documentary data quality appraisal is presented in Appendix 9.

5.5 Results
The documents included in the review provided sufficient information to trace the interprofessional evolution of the diabetes educator role, from the inauguration of the ADEA until June 2017. The evolution is described in terms of four drivers which became evident throughout the analysis: non-medical prescribing, the expansion of the Medicare Benefits Schedule (MBS), the competency movement and the governance and organisational culture of the ADEA.

These drivers are presented as sub-sections and will be prefaced by an overview of the evolution of the diabetes workforce in adopting an increasingly interprofessional profile and culture. Subsequently the results of the targeted search for diabetes educator employment opportunities are presented. The sixth and final sub-section will highlight that there is an enduring perception among employers that nurses are superior in terms of their utility as diabetes educators.

5.5.1 The evolution of the diabetes workforce: moving towards interprofessional roles
The ADEA was established in 1981. Diabetes education in Australia, a paper published by the first ADEA president, described the unstructured manner in which diabetes education was provided by designated nurses in the hospital setting in 1970s and the circumstances that led to the inauguration of the ADEA. The first outpatient Diabetes Education Centre in Australia was established at the Royal Newcastle Hospital in 1974. In the decade that followed, there was significant growth in the clinical area of diabetes education and it became recognised as a health care specialty. A team based approach to diabetes education was utilised in these early days, however role boundaries were delineated: ‘All newly diagnosed diabetics both type I and type II received guidance with their individual meal plans from the dietitians and diabetes education from the nurse educator’ (Cusworth, 1984, p. 22). The ADEA’s membership which was 300

* The published paper presents only the first three key drivers (themes).
strong, included nurses, podiatrists, dietitians, medical officers, psychologists, pharmacists, occupational therapists and ‘lay diabetes educators’ (Cusworth, 1984, p. 23).

In 1986, the ADEA introduced the certification trademark Credentialled Diabetes Educator (CDE) (Australian Diabetes Educators Association, 2015b). Subsequently in 1989, The Role Statement of the Diabetes Nurse Educator was published (Australian Diabetes Educators Association, 2001b, 2007a). As the document’s title suggests, diabetes education was considered part of the nursing profession’s remit. In 1991, National Standards of Practice for Diabetes Educators was published. These standards highlighted the ‘multiplicity of professional backgrounds and experiences of diabetes educators’ (Australian Diabetes Educators Association, 1991, p. 1) however did not specify the CDE eligible professions.

Prior to the late 1990s, when the Dietitians Association of Australia (DAA) sought eligibility for ADEA credentialling, nurses were the only health professionals eligible for CDE status. Approval was granted to the DAA and in 1999 the first dietitian successfully became a CDE (per communication, 30 August, 2016). In 1994, the National Guidelines for the Safe Practice of Diabetes Nurse Educators was published. This document related specifically to nurse diabetes educators and discussed the ethico-legal dilemmas that may be encountered in practice. While the document stated, ‘diabetes management is increasingly considered to be team care’ (Australian Diabetes Educators Association, 1994, p. 4), no other team members or allied health professions were mentioned.

The ADEA published National Core Competencies for Diabetes Educators in 1996. The document stated that the ADEA recognised nurses, dietitians, podiatrists, psychologists and social workers as the professions providing specialised care for people with diabetes. The document referred members to the legal, ethical and professional standards of their primary disciplines to guide their diabetes education practice. There were five core units of competency listed. Unit 1.4 delineated interprofessional role boundaries by describing a competent diabetes educator as one that, ‘Maintains and applies clinical skills appropriate to the educator's clinical discipline and their specialist function, for example, nurses: insulin dosage adjustment or correct injection technique, dietitians: diabetes dietary prescription, podiatrists: wound management’ (Australian Diabetes Educators Association, 1996, p.3). It appears that discipline-specific competencies were emphasised at this time.

In 2001 Role of the Diabetes Educator in Australia was updated. The revised document acknowledged that since the publication of the first role statement for nurse diabetes educators
in 1989, there had been significant growth in the size and diversity of the ADEA membership and the document’s title was changed accordingly (Australian Diabetes Educators Association, 2001b). Also in 2001, Credentialling of Diabetes Educators 2000 was published. This document stated that diabetes educators must have a base qualification as either: RN, dietitian, podiatrist, psychologist, medical officer or Aboriginal health worker. In 2004 the first podiatrist achieved CDE status (per communication, 3 October, 2016).

In 2005 All about diabetes educators – a guide for General Practitioners was published. The article stated that RN CDEs were qualified to sign National Diabetes Services Scheme forms, confirming a person’s diagnosis of diabetes, but did not mention the role of allied health diabetes educators (Alford, 2005). In the same year, a joint statement between the DAA and the ADEA was published. This document indicated that at the time, there had been an increase in the role overlap between professions when working in the field of diabetes education, ‘... opportunities for expanded spheres of practice have resulted in the practice of diabetes education becoming more interdisciplinary in nature’ (Dietitians Association of Australia and Australian Diabetes Educators Association, 2005, p.1).

In 2007 The Credentialled Diabetes Educator in Australia – Role and Scope of Practice was revised. This version stated, ‘In light of the expanding role of Credentialled Diabetes Educators, the ADEA completed a review of the health disciplines that it recognises as eligible for credentialling in 2007’ (Australian Diabetes Educators Association, 2007a, p.7). The findings of the review were that RNs, dietitians, registered pharmacists (accredited to conduct medication management reviews) and medical officers were deemed CDE eligible. Notably, podiatrists, who had previously been approved CDE eligible, were not included in the 2007 list.

In 2008 registered podiatrists were once again deemed CDE eligible (Australian Diabetes Educators Association, 2008b) and in 2012, accredited exercise physiologists joined the CDE eligible list. (Australian Diabetes Educators Association, 2012a). In 2014, a successful application was made to the ADEA to remove the requirement for pharmacists to have medication accreditation to be deemed CDE eligible (Australian Diabetes Educators Association, 2015b). In 2015, two further professions: direct entry midwives and physiotherapists, were approved by the ADEA as CDE eligible (Australian Diabetes Educators Association, 2015b). Also in 2015, the joint position statement between the DAA and the ADEA was revised. This was the earliest document included in this review that emphasised the interdisciplinary nature of the diabetes educator role and diabetes self-management education (DSME):
Regardless of primary health discipline background, all CDEs are eligible to undertake all aspects of DSME. The extent of DSME provided by a CDE does not depend on their primary health discipline but is dependent on individual self-determined role and scope of practice (Dietitians Association of Australia and Australian Diabetes Educators Association, 2015, p.8).

This joint statement clearly stated that all CDEs, regardless of their primary discipline, are qualified to sign NDSS forms and eligible to claim Medicare, DVA and private health insurance rebates where applicable (Dietitians Association of Australia and Australian Diabetes Educators Association, 2015).

The Role and Scope of Practice for Credentialled Diabetes Educators in Australia was revised again in 2015. This version referred to ‘individual scope of practice’ (Australian Diabetes Educators Association, 2015a, p.14) and like the preceding version, emphasised that the role and scope of practice of a CDE is influenced by legislation, professional experience, training, competency, workplace policies and other factors.

In the 2016 ADEA Annual report, it was noted that there had been a significant increase in the number of CDEs of dietetics and podiatry background in the preceding year, however as at June 2016 nearly 90 per cent of CDEs were of nursing background (Australian Diabetes Educators Association, 2016a). In the same year a communiqué was sent to all ADEA members entitled, Working for All Members which stated:

ADEA values and supports all its members and does not privilege or promote one discipline over another... In creating messaging to government National Office and the Board seek expert advice. It is important that feedback is brief and very targeted. Trying to sell different versions of CDE weakens the message significantly, creates confusion and dramatically reduces interest in the topic as the key message is lost... As you would be aware, especially in a political reality where there are continued major cuts to health care funding, any perception of division within a representative organisation is likely to result in ADEA’s issue not being prioritised. Division adversely impacts the authority of the organisations’ standing with the relevant government department and can undermine the arguments for change (Australian Diabetes Educators Association, 2016b).

While this communiqué effectively demonstrated that the ADEA promoted an inclusive, interdisciplinary culture within the diabetes educator workforce, it also exemplified the
perception of enduring interprofessional boundaries at the micro level. The communiqué discussed the ADEA’s work advocating CDEs of all disciplines should have the right to authorise patient access to additional blood glucose test strips via the National Diabetes Services Scheme. The ADEA was successful in this endeavour and stated that, ‘If the ADEA’s position was that only nurse CDEs should be able to authorise blood glucose test strips, then ADEA would have been at risk of losing credibility and not being heard.’ (Australian Diabetes Educators Association, 2016b).

5.5.2 The non-medical prescribing era

The first key driver of the evolution of diabetes education in Australia and the shift towards interprofessional practice was the advent of non-medical prescribing. Insulin is one of the main medications used to manage diabetes. The National Guidelines for the Safe Practice of Diabetes Nurse Educators published in 1994 (Australian Diabetes Educators Association, 1994) addressed the ethico-legal considerations for nurses providing diabetes education and stated that diabetes nurse educators were, ‘... responsible for teaching the patient insulin technique including appropriate insulin adjustment... ’ (Australian Diabetes Educators Association, 1994, p.5). At this time, insulin was a classed as a Schedule 3 drug, which meant it could be purchased from a pharmacy without a prescription. This document further stated, ‘nurses cannot prescribe insulin. Therefore any medication adjustment must occur under the standing orders of the doctor’ (Australian Diabetes Educators Association, 1994, p.10).

The National Core Competencies for Diabetes Educators, published in 1996 (Australian Diabetes Educators Association, 1996), provided examples of clinical tasks undertaken by diabetes educators specific to their primary discipline. Unit 1.4 stated that a diabetes educator, ‘Maintains and applies clinical skills appropriate to the educator's clinical discipline and their specialist function, for example, nurses: insulin dosage adjustment or correct injection technique ... ’ (Australian Diabetes Educators Association, 1996, p.3). It is apparent that insulin adjustment was considered part of the nurse diabetes educator’s role at that time.

In March 2000, insulin was rescheduled from Schedule 3 to a Schedule 4 drug by the National Drugs and Poisons Schedule Committee. Consequently, as of December 2000 only a medical practitioner could prescribe insulin in all Australian states and territories (Australian Diabetes Educators Association, 2013b; Commonwealth of Australia, 2000). This legislative change meant RN diabetes educators’ autonomy was diminished significantly. Subsequently, a group of RN CDEs in New South Wales successfully lobbied for the right to issue a seven day supply of insulin to patients in accordance with a prescription from a medical practitioner (Australian Diabetes Educators Association, 2013b; New South Wales Government, 2001). This legislation
effectively delineated the boundaries between RN and non-nurse diabetes educators, in New South Wales at least.

The National Core Competencies for Diabetes Educators, published in 2001 (Australian Diabetes Educators Association, 2001a), contained a reference to the nurse diabetes educator’s role in adjusting insulin, despite insulin being rescheduled to a prescription-only medication the previous year. In 2004 National Standards for the Development and Quality Assessment of Services Initiating Insulin Therapy in the Ambulatory Setting was first published (Australian Diabetes Educators Association, 2004). This document defined a number of outcome, process and structure standards. Structure Standard 2.1 stated, ‘Registered Nurse Diabetes Educators and Dietitian Diabetes Educators who undertake a coordinating and primary role in the ambulatory initiation of insulin therapy have a minimum of 12 months supervised, relevant clinical experience’ (Australian Diabetes Educators Association, 2004, p.23). This suggested the ADEA supported experienced RN and APD CDEs coordinating the initiation of insulin in the ambulatory care setting.

The 2007 version of The Credentialled Diabetes Educator in Australia: Role and Scope of Practice document stated that some CDEs have role in ‘specific aspects of diabetes care, such as insulin initiation and stabilisation’ (Australian Diabetes Educators Association, 2007a, p.11). There was an apparent decline in the emphasis on the RN CDE’s role in insulin adjustment. In 2008 National Core Competencies for Diabetes Educators was updated. This version omitted references to specific clinical applications such as insulin adjustment which were present in the preceding version (Australian Diabetes Educators Association, 2008a).

In June 2009, legislation was passed enabling podiatrists in Victoria, with relevant endorsement, to prescribe some Schedule 4 drugs according to a formulary (Borthwick et al., 2010). In 2010, a piece entitled Nursing roles in initiating and adjusting insulin was published. The author and past ADEA president referred to the circumstances in which RNs are able to prescribe insulin: with endorsement as a nurse practitioner (NP) or with a service protocol (Giles, 2010). In 2012 National Standards for the Development and Quality Assessment of Services; Initiating Insulin Therapy in the Ambulatory Care Setting was revised. Structure Standard 2.3 stated:

Evidence-based policies and protocols that meet the requirements of State and Territory Drug and Poison Acts are in place where insulin dose adjustments are delegated by the Medical Practitioner to a Registered Nurse via for example; hospital or organisational protocol or standing order. (Australian Diabetes Educators Association, 2012b, p. 30)
Also in 2012 there was a resolution passed at the ADEA annual general meeting (AGM) whereby several RN ADEA members requested the ADEA Board lobby the Federal Government to secure secondary prescribing rights for RN CDEs (Australian Diabetes Educators Association, 2012c). In 2013, the ADEA made a submission to the Nursing and Midwifery Board of Australia entitled *Proposed expanded endorsement for scheduled medicines. Draft Registration standard for endorsement of registered nurses and/or registered midwives to supply and administer scheduled medicines under protocol.* This submission was part of a consultation process initiated by the Nursing and Midwifery Board to secure endorsement for some scheduled medicines (Australian Diabetes Educators Association, 2013a). Subsequently the ADEA informed members of their progress in a communiqué, ‘In summary, the ADEA Board will continue to take every opportunity to advocate for the recognition of RN CDEs to have secondary prescribing rights (regarding the adjustment of insulin therapies) ... ’ (Australian Diabetes Educators Association, 2013b).

In 2014 ADEA developed the *Australian Credentialled Diabetes Educators and Prescribing of Insulin and Glucose Lowering Agents - Scoping paper* (2014d). This scoping paper stipulated that the ADEA did not endorse prescribing practices, however it did state, ‘Some CDEs, such as a registered nurse or pharmacist, may through delegation or referral from an authorised medical practitioner accept secondary prescribing responsibilities ... ’ (Australian Diabetes Educators Association, 2015c, p.13). A subsequent ADEA document, *Australian Credentialled Diabetes Educators and Prescribing of Insulin and Glucose Lowering Agents* (2015c), discussed a number of considerations related to extending the scopes of practice of CDEs including the fact that neither dietitians nor exercise physiologists were regulated under the National Registration and Accreditation Scheme, which would impede the capacity for these professions to secure prescribing rights (Australian Diabetes Educators Association, 2015c). A further consideration was that: ‘The difference between the role of the nurse practitioner (diabetes) and future RN CDE with prescribing rights should be delineated’ (Australian Diabetes Educators Association, 2015c, p.5). There was no mention of the need to delineate the role boundaries between any other CDE-eligible professions.

In the 2015 version of the *Role and Scope of Practice for Credentialled Diabetes Educators in Australia* it was explicitly stated, ‘The current scope of practice of the CDE does not include prescribing or titrating of any medications, unless there is legislated change or endorsement of these functions by state and territory governments’ (Australian Diabetes Educators Association, 2015a, p.18). The emphasis placed on the RN CDE’s role in adjusting insulin had diminished significantly. Legislation appears to be the most salient factor guiding the perceived roles and
scopes of practice of diabetes educators and yet with the legislative changes affecting the different CDE eligible professions that have occurred over time, the role boundaries and scopes of practice of diabetes educators of different backgrounds have become arguably more ambiguous.

5.5.3 Expansion of the Medicare Benefits Schedule era

The second key driver of the interprofessional evolution of diabetes education was the expansion of the Medicare Benefits Schedule (MBS). Medicare is Australia’s publicly funded national health insurance system which was first established in 1975. In its early years, Medicare benefits were almost exclusively accessible by the medical profession (Willis, 1990). Throughout 1985-86, the Layton Inquiry was undertaken, which, in part, sought to determine whether the Medicare Scheme should be expanded to enable other, non-medical health services to access benefits for their services. Some 22 non-medical health professions made submissions, seeking inclusion in the Medicare Scheme. The Australian Medical Association opposed the expansion of the Medicare Scheme. The outcome was that Medicare benefits would remain as they were: available to the medical profession and optometry with very restricted benefits for dental services (Biggs, 2008; Willis, 2006).

Almost 20 years later, in 2004, podiatrists, dietitians, mental health nurses and dentists were included in the Medicare Benefits Schedule (MBS), as it came to be known. This meant that members of these professions working in the private sector could apply for a Medicare provider number and access partial Medicare rebates for services provided to patients with a specific type of referral from a medical practitioner (Australian Government Department of Health and Ageing, 2004). This was a significant event for the health professions concerned, as it increased the affordability of private health services for many patients. Subsequently, ADEA CDEs were included in the MBS (Australian Government Department of Health and Ageing, 2005; "Diabetes educators get item numbers," 2004). The MBS has since expanded further to include more non-medical health services (Biggs, 2008; Willis, 2006).

Around the time that CDEs were first included in the MBS, several professional associations approached the ADEA seeking eligibility for credentialling. In 2006 the ADEA reported, ‘A number of disciplines approached ADEA for eligibility for CDE® and the review has been conducted to assess eligibility against agreed criteria. The review has looked at eligibility based on current ADEA practices, ADEA publications, the literature and international experience.’ (Australian Diabetes Educators Association, 2006, p. 8). The tool assessment tool developed throughout the review and used to assess the eligibility of the professions was unable to
be located for this analysis and therefore the criteria against which applications were assessed remains unavailable to the public.

The outcome of the review as documented in the ADEA’s 2007 Annual Report was as follows:

The growing recognition of CDEs has increased requests for eligibility by a wider range of health professionals. To ensure a rigorous approach to determining eligibility for recognition as a CDE, ADEA completed a review of those health disciplines eligible for recognition. As a result, the disciplines now eligible for recognition as a CDE are Registered Nurses (Division One RNs in Victoria); Accredited Practising Dietitians; Pharmacists accredited to conduct medication management reviews; and Medical Practitioners. (Australian Diabetes Educators Association, 2007b, p. 8)

The Department of Veterans Affairs (DVA) first recognised CDEs and provided rebates for CDE services provided to veterans in the private sector in 2007 (Australian Diabetes Educators Association, 2007b). In 2008, the Private Health Insurance Rules were expanded to recognise diabetes education services. Similar to the MBS and DVA policies, private health funds which offered diabetes education services as ancillary services only provided rebates for those provided by ADEA credentialled diabetes educators (Australian Diabetes Educators Association, 2008b). In 2016, the ADEA reviewed the process and standards used to evaluate applications for CDE eligibility made by professional bodies (Australian Diabetes Educators Association, 2016b). The criteria used to determine the eligibility of professions, while referred to as ‘relevant and robust’, are not available to the wider public (Australian Diabetes Educators Association, 2016a).

The recognition of CDEs by Medicare, DVA and private health insurers also appeared to increase the interest of eligible diabetes educators to achieve CDE status. In June 2006, there were 501 CDEs nationally. By June of 2010, this had increased by a significant 64 per cent to 823. By June of 2014, there had been a further 27 per cent increase in credentialled ADEA members, to a total of 1049 (Australian Diabetes Educators Association, 2006, 2010, 2014). The recognition of the CDE status by Medicare, DVA and private health insurers and the associated opportunities to earn an income by providing rebateable services to eligible people in the private setting, was the most likely factor influencing diabetes educators to seek ADEA credentialling from 2006.
5.5.4 The competency movement

The competency movement was the third driver in the evolution of diabetes education practice. The movement began in the 1990s when the Commonwealth Government sought to introduce a nationally consistent approach to the training and qualification of workers across a range of industries. Competency standards serve as a quality assurance measure, reflecting the appropriate application of sound knowledge and skills within a particular vocational context (Colagiuri & Ritchie, 1996; National Training Board, 1991). In 1994 the ADEA instigated the development of competencies for diabetes educators and in 1996, published *National Core Competencies for Diabetes Educators*. Subsequently a paper entitled, *The process of developing and validating national core competencies for diabetes educators*, was published in a peer-reviewed journal (Colagiuri & Ritchie, 1996). The authors define the field of diabetes education as *interdisciplinary*. The ADEA’s *Core Competencies* document provided examples of clinical competencies, ‘... nurses: insulin dosage adjustment or correct injection technique; dietitians: diabetes dietary prescription; podiatrists: wound care’ (Australian Diabetes Educators Association, 1996, p.3). It is interesting to note that although the role is defined there as interdisciplinary, competencies were still defined according to the primary discipline of the diabetes educator with little evidence of support for role flexibility.

In 2005 the Productivity Commission released a research report, *Australia’s Health Workforce*, which examined the issues affecting Australia’s health care workforce. The report was considered a major impetus for changing thinking around the way health services were planned and delivered (Davies et al., 2015). It highlighted various factors inhibiting health workforce innovation such as entrenched custom and practice, limiting role flexibility and impeding the ability of the workforce to meet its full potential (Productivity Commission, 2005). It was acknowledged that traditional health care roles and boundaries have their place, ensuring high quality patient care, however historical and rigid work practices can, ‘... impede transferability of skills across professional boundaries; prevent appropriate recognition of prior learning; constrain the move to a more competency-based education and training system; and discourage the further development of multidisciplinary care approaches’ (Productivity Commission, 2005, p.29).

Furthermore, it indicated that professional bodies often implement strategies such as setting entry criteria and developing codes of conduct, which are primarily designed to uphold standards of quality and safety. These strategies, however, may also be driven by the desire to protect the professional task domain and associated income (Productivity Commission, 2005). In an appendix within the ADEA’s *Role and Scope of Practice* (2007a) document, there is reference to the Productivity Commission’s 2005 Report.
The Productivity Commission Report is calling for professional boundaries and discipline specific practice to be broken down, for more interdisciplinary practice and for work place innovation. On the other hand, many disciplines and their governing or professional bodies are advocating recognition of advanced specialisations. In defining the role and scope of practice of the Credentialled Diabetes Educator, ADEA must be ready to embrace these possible changes ... (Australian Diabetes Educators Association, 2007a, p.18).

In 2012 the National Prescribing Service (NPS) published the Competencies Required to Prescribe Medicines report. The report presented a competency framework for potential non-medical prescribers (National Prescribing Service Limited, 2012). The Health Professionals Prescribing Pathway Project Final Report published in 2013 referred to the NPS competency framework and discussed non-medical prescribing practices which were already taking place by professions such as podiatry, nursing and dentistry. The report did not refer to competencies specific to particular health professions, but rather a more general discussion about the key qualities and skills which are indicative of competence in prescribing (Health Workforce Australia, 2013).

The most recent Role and Scope of Practice for Credentialled Diabetes Educators in Australia (2015a) document contained comparisons between the scopes of practice of diabetes educators in Australia, America and Canada. In America there are two diabetes educator certification pathways: the National Certification Board of Diabetes Educators and the American Association of Diabetes Educators (AADE). The professionals eligible for AADE certification include registered nurses, registered dietitians, registered pharmacists, physicians and physician assistants. There is a three-tiered approach to certification, with each tier corresponding to different levels of competencies. Each of the three certification levels can be obtained by any of the eligible professions. The system employed by the Canadian Diabetes Educator Certification Board is similar to the ADEA’s, whereby diabetes educators are bound by the competencies specific to their primary profession. At the conclusion of ADEA’s international comparison, it stated,

Currently there exists debate about the level of competency for each discipline undertaking accredited courses in diabetes education and management. Many members would like to see a level playing field and competency outcomes developed for each of these courses. ADEA will explore this issue with the education facilities that offer the
This statement demonstrates the ADEA’s interest in pursuing a more competency-based focus in the role of diabetes educators.

### 5.5.5 Governance and organisational culture

ADEA’s evolving governance and organisational culture was the fourth and final identified driver of change in the diabetes educator role in Australia. Organisational governance refers to the systems and structures implemented to guide the organisation’s strategic direction, leadership, management and practices (Power & Choy Flannigan, 2008; Prybil, 2008). The governance culture, strategic direction and therefore performance of an organisation are largely influenced by its board of directors (Bennington, 2010; McDonagh, Chenoweth, Totten, & Orlikoff, 2008; Prybil, 2008). This subsection illustrates the evolution of the governance and organisational culture of the ADEA as well as the composition of the ADEA Board of Directors over time.

The ADEA details the Board Directors’ obligations for the association’s governance including: setting its strategic direction; approving business plans, policies and budgets; and representing the association at a government and non-government agency level (Australian Diabetes Educators Association, 2016d). It is only possible to trace the ADEA Board of Directors composition back to 2006, as the AGM minutes and the ADEA Annual Reports were only accessible from 2006 onwards. Upon request, an ADEA employee provided the register of ADEA presidents from 1981. There have been a total of 16 different ADEA presidents, two of which were not a registered nurse. Both non-nurse presidents were dietitians, the first holding office from 1996-98 and the second from 2002-04 (per communication, 9 January 2017).

Over the past decade, the composition of the ADEA Board of Directors has shifted dramatically. From 2006 until 2009, all Board Directors were of a nursing background. In 2012, the ADEA undertook a review of the constitution. The introduction of skills based board directors were among the changes proposed (Australian Diabetes Educators Association, 2016c). In 2013 nine of the ten Board Directors were RNs. In 2014 and 2015, eight of the 11 Board Directors were RNs. There was another review of the
constitution in 2015, whereby it was proposed that the Board consist of eight directors, including five ADEA members and a maximum of three independent directors, one of whom might be a consumer (Australian Diabetes Educators Association, 2015d). As at June 2017, the ADEA Board was comprised of nine Directors: five RNs, one pharmacist, one with a pharmaceutical background and two other skills-based Directors.

Given the Board’s role in setting the strategic direction of the ADEA, this transformation in the Board’s composition from largely nursing dominated to multidisciplinary is of high relevance. In the Working for all members communiqué issued by the ADEA to its members in 2016, reference was made to a new strategic plan to commence in 2017. The communiqué broadly discussed a number of key issues impacting the diabetes educator workforce, including health care reforms, the ADEA’s profile and the fact that the ADEA is a multidisciplinary association that does not privilege any one discipline over another. This is indicative of the culture and strategic direction of a contemporary Board of Directors.

5.5.6 Employment opportunities for diabetes educators

A table with the details relating to employment opportunities for diabetes educators as advertised via the ADEA fortnightly e-Newsletter is presented in Appendix 10. 23 of the 29 advertisements specified that the candidate must be an RN. Of the 29 advertisements, it was possible to access the associated position descriptions or further information about the role in 16 cases. Of these 16 advertisements, 14 were seeking RN applicants only. Of these 14, none of the associated position descriptions stated that the successful applicant would be required to undertake traditional nursing duties in addition to the diabetes educator role. It was therefore unclear why an RN candidate would be required, as opposed to any CDE eligible diabetes educator.

Of the 29 advertisements, ten specified the classification of the role which corresponded with the seniority of the position and the award pay rates. The rates of remuneration for these 10 roles were graded according to the relevant state’s Nursing Award, indicating that they were set up and funded as roles for nurses. Six positions were advertised as clinical nurse consultant roles, two as clinical nurse specialist roles and two as Grade 4 nurse positions. Clinical nurse consultant, clinical nurse specialist and Grade 4 positions are all considered senior nursing roles, with clinical nurse consultants being
the most senior. Each of these role titles correlates with a higher rate of remuneration than general nursing roles.

5.6 Discussion

This analysis illustrates significant evolution in the diabetes educator role and the ADEA since its establishment, in response to the changing social climate and health care policy in Australia. Initially considered part of the nursing role in the hospital setting, the education of people with diabetes has become increasingly recognised as an interdisciplinary role. There have been some key influences or drivers which have moved the association toward a more inclusive interdisciplinary entity. Earlier documents implied that there were defined clinical roles within the diabetes educator workforce, which correlated with the varying primary disciplines. There was little evidence of role flexibility. Terms such as multi- and inter-disciplinary began to be used more frequently in ADEA documents in the early 2000s, with more recent documents elaborating the terms and referring to the breaking down of professional role boundaries.

This review indicates that there were four key drivers that have influenced the diabetes educator role and scope of practice. Three of these influences or drivers occurred at the macro level: the rescheduling of insulin by the National Drugs and Poisons Schedule Committee in 2000; the expansion of the MBS to include CDEs and the publication of the Productivity Commission’s Report *Australia’s Health Workforce* in 2005 which gave impetus to the competency movement. One influence developed at the meso level: the evolution in the governance culture of the ADEA. Although these drivers did not necessarily engender greater interdisciplinarity within the workplace (micro-level), they challenged the notion that the nursing and diabetes education roles were continuous. Changes in the language used in ADEA documents, changes in the composition of the ADEA membership and in the culture of the ADEA were evident in the wake of these key influences or drivers.

The first macro level influence on diabetes educator role boundaries was the rescheduling of insulin from Schedule 3 to 4 in December 2000. This significantly altered the role and scope of practice for RN diabetes educators at the time. This legislative change appears to have influenced further changes in the ADEA and the diabetes educator workforce, as evidenced by the change of wording, predominantly in the standards of practice documents, which, after 2000, placed less emphasis on the RN CDE’s role in adjusting insulin. Since the rescheduling of insulin, the nursing profession has sought to change the legislation to enable RN CDEs to undertake prescribing and medication supply practices to enhance their capacity and autonomy as diabetes educators. The ADEA acknowledged that advances in CDE practice to include
prescribing would signal the need to clarify the delineation between RN CDEs and diabetes NPs. References to the clarification of other professions’ role boundaries were notably absent, presumably because it was perceived that only RNs would benefit from this expansion of CDE scope of practice. In New South Wales at least, legislation permits RN CDEs to issue a patient with a seven day supply of insulin that has been prescribed by a medical practitioner. This has reinforced role boundaries between RN and non-nurse diabetes educators.

The second key macro level driver identified was the expansion of the MBS to include benefits for allied health professions. Diabetes educators were added to the MBS in 2004, stimulating changes to the composition of the diabetes educator workforce. Although the expansion of the MBS did not directly alter the role and scope of practice of diabetes educators, it altered the composition of the diabetes educator workforce and the ADEA membership which in turn influenced the culture and dynamics of this faction of this occupational group. The Government’s decision to permit access to MBS rebates to diabetes educators who were ADEA credentialled made it more appealing to achieve CDE status. Furthermore, the potential to access Medicare rebates for services in the private sector prompted a number of non-ADEA eligible professions, such as pharmacists and exercise physiologists, to seek eligibility. This was evidenced by the fact that more professions applied to the ADEA to become eligible for credentialling from 2005, prompting the ADEA to review its procedures for assessing applications from professional bodies. This review was undertaken at a time when the entire ADEA Board of Directors was of nursing background. It is unclear whether external stakeholders representing the allied health professions were consulted throughout the review.

The ADEA continue to utilise its own criteria to determine the eligibility of professions to achieve CDE status. While a number of professions have since been deemed eligible by the ADEA, the criteria utilised to evaluate a professional body’s application are not publically available. Therefore, the ADEA maintains its exclusive role in determining which professions are eligible for credentialling according to criteria which are unavailable for public viewing and scrutiny. Nonetheless, the expansion of the MBS stimulated a number of new allied health professions to seek ADEA-eligibility and increased the interdisciplinarity of the ADEA membership.

The third macro level driver was the publication of the Productivity Commission Research Report (2005). The report was considered a major impetus for changing thinking around the way health services were planned and delivered (Davies et al., 2015) and further advanced the
competency movement in health care. It addressed various factors affecting the health care workforce’s productivity, highlighting the difficulty in determining the capacity of the workforce due to the emphasis on professions, rather than competencies. The report made a number of recommendations to improve the efficiency and productivity of the health care workforce, such as the cultivation of a supportive workplace where traditional role boundaries can be re-negotiated in favour of interdisciplinary practice. The ADEA’s 2007 role and scope of practice document (Australian Diabetes Educators Association, 2007a) made reference to this recommendation and the possibility that the diabetes educator workforce may need to embrace this innovative approach to health care provision. Prior to this publication, ADEA had used the term interdisciplinary, however, this was the earliest document included in the review that elaborated on it and referred breaking down role boundaries. ADEA documents published after 2007 placed less emphasis on the specific clinical skills and task domains correlating with the different primary disciplines. In their comparison with international systems and processes by which diabetes educators are credentialled in 2015, ADEA demonstrated an interest in pursuing a more competency-based focus (Australian Diabetes Educators Association, 2015a), in line with recent health policy research.

The fourth and final driver of the interdisciplinary evolution of the diabetes educator workforce occurred at the meso level: the shift in the governance culture of the ADEA. The available documentary evidence relating to the ADEA Board of Directors composition shows a dramatic shift over the past decade. From 2006-09 the Board consisted entirely of nursing Directors, whereas in 2016, nearly half of the Directors are from a professional background other than nursing. The strategic direction of the Board is reflective of this, with clear communication to its membership that the association is multidisciplinary and no one profession is privileged over another. The publication of the communiqué to members in 2016 was a significant and overt action by the ADEA to reduce perceived interprofessional role boundaries within the membership. It demonstrated that the ADEA promoted an inclusive, interdisciplinary culture within the diabetes educator workforce, yet it also exemplified the perception among members of enduring interprofessional boundaries at the micro level.

The search for employment opportunities for diabetes educators shows that while drivers at the macro and meso levels have been geared toward a more interdisciplinary diabetes educator role, the local (micro) interpretation of this has not necessarily been adopted. Nurses are still seen as the predominant profession by employers in the
provision of diabetes educator services. Furthermore, the majority of employment opportunities for nurse diabetes educators are associated with a higher classification within the Nursing Award and corresponding rates of remuneration. This suggests that diabetes education is a recognised nursing sub-speciality with an established career pathway.

This analysis demonstrates that the capacity of the health care workforce to evolve in response to macro level influences such as health care policy, modernizing changes and legislation may be hindered by the workforce itself. Resistance to changes to improve role flexibility may arise in the form of social processes and profession-based strategies at the micro level to preserve traditional role boundaries and ways of working. These findings may be of relevance to other contexts where interprofessional role boundaries are ambiguous or contested, such as mental health.

5.7 Limitations

Some document titles retrieved via the citation search of ADEA documents were not actually accessible. These were the earlier documents that were not in electronic format and were not held at any libraries in Australia.

It was unfortunate that the ADEA annual reports and AGM minutes prior to 2006 were not retrievable for the purpose of this documentary analysis. An ADEA employee was contacted by the researcher several times throughout the course of the documentary analysis, however she advised that annual reports and AGM minutes published prior to 2006 had been archived and were not easily accessible. Board meeting minutes were deemed strictly confidential.

For the purpose of this analysis, the search for employment opportunities was limited to the ADEA website. Ad hoc data were also retrieved via the Seek website (seek.com.au), however in the interest of maintaining a systematic approach, these data were excluded. Furthermore, it was not possible to undertake a thorough analysis of the job advertisements posted prior to September 2016, as the links to the position descriptions and further information had expired. Nonetheless, the sample of job advertisements posted via the ADEA over the twelve month period provided an accurate picture of the employment opportunities available for diabetes educators according to their clinical background.
5.8 Conclusion

This analysis illustrates the gradual movement of the Australian diabetes educator workforce from a nursing dominant entity with an emphasis on interprofessional role boundaries to an interdisciplinary body in which role flexibility is encouraged. ADEA is striving to foster an interdisciplinary culture to strengthen and advance this faction of the health care workforce and has demonstrated interest in adopting contemporary approaches to the delivery of diabetes self-management education. However, this analysis also demonstrates that strategies to exclude non-nurse diabetes educators from practising to the same level as RN CDEs with regards to non-medical prescribing remain apparent.

This analysis also indicates that at the micro-level, perceptions of interprofessional role boundaries and differences in the scopes of practice of nurse and allied health diabetes educators persist. These perceived differences are likely related to non-medical prescribing practices. Micro-level interpretations have proven more effective than the macro and meso level drivers in terms of convincing employers that nurses are the predominant profession in filling diabetes educator roles.
Chapter 6 Interviews with stakeholders: Reinforcement of interprofessional role boundaries in diabetes education

This is the third and final results chapter and primarily presents the findings of the interviews with key stakeholders in the field of diabetes education. A total of 19 telephone interviews were conducted. The duration of the interviews ranged from 25 – 60 minutes. The participants can be described as follows:

- Three podiatrists, two of whom were also diabetes educators
- One allied health professional with an interest in diabetes
- One registered nurse with a management background
- Four RN CDEs
- One nurse practitioner CDE
- One advanced practice nurse with a special interest in nursing regulation and scope of practice
- Two ADEA representatives
- One senior podiatry executive representative
- One ANMF representative
- Two post-graduate diabetes educator course coordinators
- One policy-maker
- One government regulator

There are two major themes that emerged from the interview data. The first and more prominent theme relates to the nursing profession’s pursuit of occupational closure in the field of diabetes education. The second major theme emerging from the interviews is that increasing role flexibility in diabetes education would bolster the capacity of the diabetes educator workforce to meet its ever-increasing demand.

6.1 Occupational closure: the interdisciplinary diabetes educator field

This section is presented according to four emerging sub-themes. This results sub-section is contextualised by the nursing profession’s broader historical and contemporary professional project.

6.1.1 Nursing and its professional project

The nursing profession appears to be trying to protect diabetes education from encroachment by the allied health professions. The following interview participant, who was attuned to the historical struggles endured by the nursing profession, commented:
Look I can understand being a Registered Nurse I’ve enjoyed learning about the history of nursing. Many of the allied health services came out of traditional nursing practice from 100 years ago. OT [occupational therapy] is a good example of that. I can understand nurses protecting their professional status. They’ve worked hard for it, particularly in the 1980’s under Irene Bulger. They want to protect it ... (RN and Health Systems Coordinator)

Several interview participants perceived that the nurse and diabetes educator roles were continuous. The notion that diabetes education is a nursing sub-speciality was highlighted by the following participant, on discussing the impact of facilitating equal scope of practice for nurse and podiatrist diabetes educators:

I think it can only broaden the perspective of diabetes educators. It’d take it out of being really only a nursing domain and then turn it into an actual full health domain. Because that’s how I see it, that it’s very much a nursing qualification when it doesn’t have to be. (Exercise Physiologist with an interest in diabetes)

Similarly, the following participant viewed the diabetes educator role as a nursing sub-specialty:

I don’t see the diabetes educator as a stand-alone allied health qualification. It should be an enhancement of where the primary discipline is. So in creating a credentialled diabetes educator it’s not creating a new class of allied health practitioner. The ADEA, although I believe was started with nurses, has now evolved into more of a business model and is being much more inclusive of other groups ... But I think it has grown out of the nurse role and really cannot be spawned into a stand-alone entity ... Without wanting to be too territorial about it. I think primarily in hospitals GPs referring under Team Care Arrangements to diabetes educators often assume they’re referring to a nurse, but in fact could be an exercise physiologist and you know it’s not clear to me whether an exercise physiologist has got the same set of skills that a nurse brings to a role like that. (RN CDE 2)

As elucidated by the participant quoted above, the ADEA appears to be working to increase their membership and part of their strategy to achieve this involves granting eligibility to more professions. It would seem that the aspirations of the ADEA to achieve a larger, more diverse membership are at odds with the nursing profession, which is arguably pursuing more clinical specialities within nursing. This sentiment is captured well by this participant:
I think the ADEA does have a specific set of ideas about the scope of practice of diabetes educators. From a nursing point of view that is not particularly supported. For instance the Australian Nurses and Midwives Association do not agree with credentialled diabetes educators. Their position is that groups of nurses shouldn’t be allowed to subscribe to external organisations that can credential you. They see that as creating false divisions for nurses. So it’s a contentious issue and I think that as the ADEA’s scope of practice work is changing – this is my belief as a normal member of the ADEA – it’s going to be more challenged, particularly by the nurse diabetes educators. It’s my feeling that a few groups are heading in directions where I think there may be some sort of conflict, or territorial divisions that are going to be in dispute. (RN CDE 2)

This participant commented that the role boundaries in diabetes education are hotly debated within her professional network:

I’ve been to meetings and have been in a big group setting of say 15 diabetes educators with nursing background and it can get quite a heated debate about what we just talked about, all those questions. And out of 15 only about two of us have a similar opinion to me. Everyone else is so busy looking after their turf that I feel they’ve lost the big picture. It’s not about us, it’s about the people, the clients. It’s mostly been around pharmacists applying for diabetes educator jobs. (RN CDE 1)

The nursing profession’s interest in its professional turf and protection of employment opportunities was referred to by another participant:

Lots of our CDEs are worried that their jobs are going to be taken over by practice nurses, pharmacists, general nurses working in the community. And then obviously we do find that nurse CDEs probably are a bit worried about their job when the ADEA provides another eligibility for the CDE list. They get a bit worried. (Professional Services Manager, ADEA)

A podiatrist who had achieved CDE status recalled this workplace experience:

A colleague had actually lobbied to get allied health professions included in the credentialling list. But I could tell there were some staff who were not happy with that idea. The thinking was that podiatrist diabetes educators would do podiatry, nurses would do the education part and credentialling to be something that the nurses should be
able to attain. It was not overtly expressed that they [the nurses] were disappointed with the idea; it was a feeling that they were not happy with that general idea of allied health practitioners becoming credentialled. (Podiatrist CDE)

On further discussion with this participant about the role boundaries and differences in the scopes of practice of nurses and podiatrist diabetes educators within this particular workplace, the following comment was made:

I know that at our hospital the nurse educators do have a fair degree of autonomy in terms of adjusting insulin doses for their patients. This did not really apply to allied health [diabetes] educators. I suppose it went along with the feeling that they weren’t happy with podiatry being involved with that. The dietitian had also become credentialled. It was decided at the time that for myself and the dietitian, if we felt that somebody needed to have their dose adjusted, we would have to run it past the nurse diabetes educator first before we could actually adjust it. So it seemed almost like a bit of a double treatment. So I would say, “yes we need to adjust your dose” - we could adjust by about 10% of their dose at the time - “but let me just check with the nurse educator first, before we can actually do it”. In some respects it did get a little bit difficult, so I just thought, “OK somebody’s insulin needs to be adjusted; I’ll just refer them off to the nurse diabetes educator”. (Podiatrist CDE)

The role boundaries as perceived and asserted by the nurses within the workplace eventually resulted in this participant’s decision to cease providing the full suite of diabetes education services. Another participant highlighted the fact that the majority of diabetes educator jobs are actually designated nursing roles:

One of the bigger issues is that most hospitals employ nurse diabetes educators rather than a diabetes educator. The roles are set up as nursing roles from the outset and there are industrial protection issues around that. The podiatrists that end up in the diabetes educator roles often tend to develop the role themselves where they are already working as a podiatrist. (Podiatrist)

On discussion with the next participant about changes over time to the perceptions of role boundaries and scope of practice differences between nurse and non-nurse diabetes education she stated:
We’re still getting students through the graduate certificate courses who say, “there’s no point me getting credentialled because I was told on my clinical placement that I can’t do anything different than I already do as a physio or an exercise physiologist or a dietitian. So they stop there ... An exercise physiologist, just recently, enrolled in their Bachelor of Nursing. They’d done their Certificate in Diabetes Education but were then told by their clinical placement supervisor that they really needed to be a nurse as well to be a CDE, so she’s gone and enrolled in her Bachelor of Nursing. It was just amazing. So there are definitely still mixed messages out there. (Professional Services Manager, ADEA)

The following participant observed that the nursing profession has a penchant for protecting its role boundaries:

Nursing has a bit of a history of doing this – move into a role and, and do it well, but also protect the boundaries against anyone else doing it. (Senior Policy Advisor)

As the following participant explained, the nursing profession has established a specialist role for nurses in the area of diabetes:

I’ll give the example of a diabetes nurse educator: They’ve done a Bachelor Degree and they’ve done a Post-Graduate Certificate in Diabetes Nurse Education, which builds on what they’ve already got. They may have already had considerable experience in an acute ward, whether it’s medical or surgical or whether they’ve been working in community health or as a practice nurse in a GP Practice. Then they do their accreditation process. All that builds on - now that they’ve extended their scope of practice so that they’re getting into an advanced practice nurse [role]. If they then choose to, they can go on and do a Masters in Nurse Practitioner and be a Nurse Practitioner in Diabetes Nurse Education. So this example is showing how nursing has a very set framework which is put out by the Nursing and Midwifery Board of Australia. They have a framework in decision-making about how I can advance my practice. So I would suggest that other health professionals, if they wish to advance, build on what their current scope of practice is. (ANMF Representative)

It is suggested here that there is a sense of career structure and formality for nurses who specialise in diabetes education and attain advanced scope of practice.
6.1.2 Credentialist strategies

Education and accreditation (credentialling) will be discussed separately, although it is acknowledged that these strategies are inextricably linked.

Education

There were numerous references made by participants to the differences in the capacity of diabetes educators to practise, based on their primary professional education. It was felt that undergraduate health profession courses differed in the extent to which they prepared students (health care professionals) for roles in diabetes education. On discussing the potential for nurse and podiatrist diabetes educators to practise to the same scope, this participant stated:

We are all different. Our basic education is not identical. People undertake a career path that most suits what they want to do. Most people become a podiatrist and do not want to undertake a nurse’s role and vice versa. (Course coordinator, Post-Graduate Certificate in Diabetes Education 2)

Post-graduate certificate courses in diabetes education are offered to a range of health professionals, however the professions eligible to attain CDE status are determined by the ADEA. There are currently seven ADEA accredited post-graduate certificate course in diabetes education offered in Australia. The tertiary level educators determine the eligibility of applicants based upon their professional background. At present, some courses accept only the professions deemed eligible for ADEA credentialling and others use their discretion with regard to which types of students they admit. As the following participant explained:

The ADEA have a list of persons who they will allow to credential. But they don’t stop us from admitting other people onto the course, at the university’s discretion, as long as they realised they won’t be able to credential with the ADEA. (Course Coordinator, Post-Graduate Certificate in Diabetes Education 1)

Two post-graduate diabetes education course coordinators were interviewed. Both confirmed that all students who undertake the graduate certificate in diabetes education were able to participate fully in all aspects of the certificate course, regardless of primary profession. A one-week clinical placement is an optional component of the post-graduate course, but a requirement to become a CDE. For many students, the clinical placement is a socialising exercise and their first experience in the diabetes educator world. This was described by one participant, a podiatrist diabetes educator, who recounted their experience whilst undertaking the post-graduate diabetes educator course and placement:
When I was doing the course and I was on placement, I was not being seen as equal by the nurse educators and it was constantly said to me, “you’re not just a podiatrist, but you’re a podiatrist and we have to rework our student training for you because we’ve never had a podiatrist going through before”. And I was often given the role of the foot care education because that was my primary discipline to be assessed on, other than a more general diabetes educator role. So I do feel there is a lack of recognition from nurse educators for allied health [practitioners] going through. So I think with the placements in particular there should be a set of criteria for anyone doing a diabetes educator course to practise regardless of their primary discipline. (Podiatrist Diabetes Educator)

Both the undergraduate and post-graduate education of diabetes educators was considered integral to their capacity to provide clinical services.

Another participant saw the undergraduate nurse education program as better able to prepare health professionals for holistic practice:

I think that nurses are educationally prepared to be very holistic practitioners and can address other issues. So maybe for a woman they can address contraception issues, or a person might be obviously having diabetes distress so you’re well situated to talk about accessing psychology or counselling them because there’s a good trust relationship. I think the other primary disciplines, you know, obviously have areas of real strength but don’t have that holistic educational preparation that nurses do. (RN CDE 2)

Similarly, this participant saw the primary profession education course as the most important factor determining scope of practice:

It’s again in the scope of practice and educational foundation of those particular nurses or podiatrists. So, for example, with nurses we can extend our practice, as anyone can and again that’s through education ... this is where it gets back to the definition of scope of practice. And if you look at someone’s scope of practice again it gets back to their education qualifications. What were the units of competency that they did within that qualification that allowed them to practise? So it doesn’t matter whether it is pharmacists who have a particular scope of practice and qualifications. So do podiatrists, so do dietitians and so do nurses. And I think it’s not a blanket ‘thou shalt go forth and do everything’ and also it’s not a blanket that they can’t. I think what has
to happen with each of those professions is that the extension of the scope of practice that they wish to pursue has to be identified, it has to be clearly articulated and documented. (ANMF Representative)

The variation in primary discipline training was viewed as an issue for another member when it came to determining diabetes educator scope of practice:

I just think that there’s been conversation about some common areas in primary discipline training that perhaps should be taught to all disciplines, like pathophysiology for example that should be the same regardless of the discipline. There’s been talk of that across academic circles for a long time, but it’s a lot harder to implement. It’s almost that the sort of training that we’re talking about here, that if they’re going to include that in their scope then they should all have to do it in their primary discipline ...

And while multidisciplinary membership has made the specialty quite rich I think that it also created a few issues because of the training that each of those disciplines might have had at a primary level. (RN CDE 4)

Several participants saw opportunities for all diabetes educators, regardless of primary discipline, to attain the requisite education to undertake all aspects of diabetes education practice. This participant made this suggestion:

We could add more units to the graduate certificate to make it a graduate diploma. In that, we would do pharmaceutical units, which will then give us a prescribing pathway. It would be a bit like a nurse practitioner-type role. It would be a full prescribing role, like they do in Britain. You can actually go and do a full prescribing course, which consists of a couple of units of extended pharmaceuticals. We could just put a prescribers’ course into the existing course that would be open to everyone. (Course Coordinator, Post-Graduate Certificate in Diabetes Education 1)

The participant quoted above regarded the post-graduate education program for aspiring diabetes educators as insufficient in terms of the pharmaceutical component. She suggested that this aspect of the role could be incorporated into the existing course, which would then be undertaken by all those wishing to become a diabetes educator. Of note is that she indicated that it would be open to all CDE eligible professions. The following participant viewed post-graduate education as the key to creating equality for diabetes educators of varying primary disciplines:
... changing the graduate certificate in diabetes education so that it is tailored to the competencies that are required of credentialled diabetes educator across the board. So if medication management is part of that then one would argue that you need to put a module in the graduate certificate. It might end up being a diploma, but that should be in there. I would also argue that principles of adult learning should be in there as well. So that the program is tailored to the actual needs of the credentialled diabetes educator and what they can provide to the community. (ADEA Board Representative)

Similarly, the following participant perceived that the current education program for diabetes educators was inadequate:

I don’t think the existing courses help across the board for all people except for medical practitioners because of their starting base. I’m not sure a graduate certificate is enough. I think it needs to be a graduate diploma and there may well be the possibility for other disciplines to increase their scope – the current courses are about week-long supervision only, rather than actual skill attainment. I think that’s a concern. (NP CDE)

Once again, this next participant stated:

I think if you look at it from the education perspective, then I think that what you need to be an educator should be covered in that. For some professions some of that may already be learned, so whether there’s recognition of that or otherwise, it needs to be covered off in the education framework. (Government Policy Maker)

It is evident that the under- and post-graduate education courses were considered fundamental determinants of the capacity of the various professions to provide the suite of diabetes education services. Interestingly, some participants focussed on undergraduate educational preparation, whereas others focussed on post-graduate education, to bolster the knowledge and skills of all diabetes educators.

**Credentialling**

The trademark Credentialled Diabetes Educator (CDE) title was established in 1986. Initially only the nursing profession was eligible to achieve CDE status. Since then, eligibility has increased to include seven other health professions: podiatry, dietetics, pharmacy, medicine, exercise physiology, physiotherapy and midwifery. There are two broad forms of credentialling: state-controlled systems of occupational licensing and self-regulated systems of credentialling (Freidson, 1986). ADEA credentialling is an example of the latter, whereby the professional...
association itself sets the standards for credentialling at the meso level. The ADEA issues the relevant certification to members upon completion of the requirements and the process is not mandatory for employment. Although optional for diabetes educators, there are advantages to becoming a CDE, as discussed in King et al. (2017) (Chapter 5).

The ADEA determines which professions are eligible to achieve credentialled status. The following participant briefly explained the application process for professional associations wishing to become CDE eligible:

... professional organisations can submit applications to have their member recognised as credentialled. There’s quite an extensive process of paperwork that they’ve had to submit to justify why they should be considered for credentialing purposes ... So I guess my sense is that professional organisations have applied, and what’s on paper is what we’ve had to judge in terms of whether we give them credentialling or not. (RN CDE 4)

Another participant, a podiatrist who had interacted with the ADEA in its earlier stages, recalled:

It [ADEA] was trying to encourage membership from all different areas, but as they went through with their credentialling of newer professions, they decided - we’re going to become very protective of nursing, which was the stage that I stopped being a member of the ADEA, because nurses just took control and they decided to make it all about nursing. It was disappointing at the time and there was a lot of to-ing and fro-ing around it and everybody said, “Well, in the end you’re just this small little association protecting yourselves so we don’t care”. (Podiatrist)

The following participant, a podiatrist, applied for ADEA credentialling at the time the ADEA excluded podiatry, despite the fact that it was previously considered an eligible profession:

At the time when I was doing my studies they’d actually just changed their criteria for credentialled diabetes educators to not include podiatry anymore so there was a lot of lobbying by the Podiatry Council to reinstate podiatrists and being able to go through CDE. (Podiatrist Diabetes Educator)

Profession-based eligibility for ADEA credentialling proved to be a barrier for several other participants pursuing CDE status. One participant, an exercise physiologist with a special
interest in diabetes, commenced the credentialling process prior to exercise physiologists being deemed CDE eligible:

I guess I wanted to be part of a team, part of a process and that’s why I looked at doing the Graduate Certificate in Diabetes Management course. I did actually enrol in the course at Curtin Uni and had actually started the course, but as I was progressing through I had many conversations with the supervisors around credentialling and was being told that even though I would complete the course the likelihood of me becoming a credentialled diabetes educator would be virtually none. They could not see how an exercise physiologist could actually become credentialled and of course I found that quite confronting. (Exercise Physiologist with an interest in diabetes)

For one participant, a pharmacist, the ADEA’s restrictions and processes were a significant source of frustration and eventually resulted in their inability to attain CDE status. The pharmacist participant had initially applied for credentialling prior to pharmacists being approved CDE eligible, around 2006. One participant’s experience of attempting to become credentialled was described in some detail:

Around the time the Federal Government first allowed CDEs to have Medicare provider numbers ADEA was campaigning to increase their numbers of credentialled diabetes educators, and as such had a moratorium for a period of time during which non-credentialled educators could apply for credentialling without having to undergo the mentoring hours. Receiving an income would also allow me to include diabetes education to patients as a regular event. I loved my work in diabetes, but was somewhat limited by the lack of income for providing education to patients. I emailed the ADEA asking about the process. I remember being promptly informed not to bother, as pharmacists at that time were not on the ‘list’ of people who could apply for credentialling. The list included many groups but not pharmacists …

I was more than a little annoyed with this and contacted ADEA, PSA and a number of other national bodies and began to lobby for pharmacists to be added to the list. It took some time, and there was a lot of resistance, particularly from nurse CDEs, but with continued pushing … it finally happened. But it was not a quick process … So, for me, the process was bittersweet. Although it was fantastic that pharmacists were finally admitted on the ‘list’, it occurred after the date the moratorium ended, and I was informed that I would then have to complete all the mentoring hours, despite having applied for consideration well before the end date of the moratorium. This effectively
eliminated my chance of being credentialled. The experience was extremely frustrating in that I believed the delays were very political and more about ‘protecting turf’ rather having a fair and equitable playing field. (Pharmacist with a special interest in diabetes)

Control over the systems and criteria for ADEA credentialling has facilitated the monitoring and protection of the field of diabetes education. Evidently it has led to the exclusion of some aspiring CDEs, who, due to their professional background (podiatry, exercise physiology and pharmacy) were not deemed CDE-eligible at the time of their credentialling application. Subsequently, these three professions were deemed CDE-eligible.

6.1.3 Legalistic strategies
In this section the two key legalistic issues concerning the ADEA and diabetes educators will be discussed: professional registration and medication management legislation. These legalistic strategies occur at the macro level.

Professional registration
Data emerging is this thesis suggests that stakeholders concerned with diabetes education view national profession registration as a significant point of difference between the professions eligible to become a CDE. The following participant expressed concern about the fact that dietitians, in particular are not registered:

And I think dietitians are another difficult group because they’re not registered ... I mean nurses have always been registered so for us it’s always been fairly clear cut we’re provided with some degree of protection, provided we are practising within our scope. And I guess that to me is always that niggle at the back of my head, if people are practising outside what is seen as their scope, how are they protected? (RN CDE 4)

For the participant quoted above, being registered was perceived to provide a level of security and surety about their scope of practice. Dietitians, who as a profession are not registered, were seen to be at risk of practising beyond their scope and exposing themselves should an adverse event occur and legal proceedings take place. The issue of professional registration was raised by another participant, who also focused on dietitians and their non-registered status. This participant was more concerned with the issue from a regulation, quality and safety perspective:

There is also the dilemma that dietitians don’t come in under AHPRA. So you have a health discipline that is self-regulated, and I have grave concerns about that. Part of their annual accreditation process is that they’re asked to do a quiz. So one of my gravest concerns is that accredited practising dietitians are not under AHPRA, that they
are actually under DAA which is self-regulating, and I have great concerns over that professional organisation in terms of what protection it has for both clinicians and the general public. (NP CDE)

Non-nurse participants also viewed registration with AHPRA as an important step for the professionalisation of diabetes education. On discussing the strategies which could be implemented to reduce the barriers to non-nurse diabetes educators practising to full scope, this participant stated:

I think probably the most important one would be for diabetic educators to pursue, along with a whole raft of other professions that are currently not part of the national registration and accreditation scheme, a legislator or regulatory support for a self-accreditation and registration scheme. (Senior Podiatry Executive)

This sentiment was reiterated by another participant, once again on discussing strategies to enable non-nurse diabetes educators to practise the full scope of the role. The participant made this suggestion:

You could look at legislative type changes which would mean that it would be something through AHPRA, so it would become an AHPRA speciality, in the same way that acupuncture is an AHPRA accreditation. So with acupuncture it’s managed by the Chinese Medicine Board but it can be provided by another one of the boards. So with acupuncture, the Chinese Medicine Board say, “These are our rules but we are happy for you to say other people have met our rules”. So it could be done in that kind of management, because it’s not like podiatric surgery which is managed purely in podiatry, it would be managed across nursing, dietetics (who aren’t registered, unfortunately) and pharmacy and podiatry. So there is a group and it may well be the nursing board, who set up the actual credentialling standards, but then we could say these people have met those standards, therefore they are credentialled diabetes educators. In some ways that’s the best way to do it because currently a credentialled diabetes educator is credentialled by a private group of people with vested interests. (Podiatrist)

Professional registration that has already been established for many of the professions eligible for ADEA credentialling (RNs, podiatrists, pharmacists, physiotherapists, medical officers and midwives) was viewed as an important aspect of their capacity to practise diabetes education safely. Furthermore, the registration of diabetes educators with a government agency, such as
AHPRA, was seen as a mechanism to potentially enhance their status and function. Furthermore, the formal registration of diabetes educators was viewed as a strategy to address interprofessional role boundaries and scope of practice differences.

**Medication management**

The other legislative issue raised throughout the interviews was that relating to the medication management role of diabetes educators. Many interview participants who were of nursing background cited the legislation relating to medication management as the pivotal determinant of the role boundaries between diabetes educators of nurse and allied health background. On discussing the differences between nurse and podiatrist CDEs in terms of their scope of practice, a representative from the ADEA Board of Directors commented:

> At the moment the ADEA Board would recognise that in actual fact everyone is in line. They wouldn’t actually say that CDE RNs can be involved in medicine management and someone else can’t be. So from an ADEA point of view they would say that everyone is in line. However what enables the RN to do more is that legislation. But I would argue that a lot of people don’t have this set up either – legislation supports that the RN CDE can in actual fact be involved in medicine management, as long as they have protocols written up. I would argue that a lot of people probably don’t have protocols written up but from an ADEA point of view, they would say that everyone does have the same scope of practice at the moment and that medicine management in a sense is an extension of that scope of practice for any of the individuals.

> From a legislative point of view, it’s quite clear in the Australian legislation, regardless of the state, that there are barriers there and therefore changes to medicine management cannot be done by those people. So at the moment the only people who can are medical officers, nurse practitioners, podiatrists with protocols, or surgical podiatrists and then it’s registered nurses with protocols or standing orders. So there are very specific documents that say, “This is what you provide the person”. At the moment this is what the Poisons Acts basically say. The restrictions do not come from the ADEA. In actual fact, they come from the legislation in Australia. (ADEA Board Representative)

Another participant, a representative from the Australian Nursing and Midwifery Federation (ANMF), referred to the law which ostensibly enables nurses only, to be involved in the administration of medication:
It says quite clearly in the law at the moment that doctors prescribe, pharmacists dispense, Registered Nurses and Medication Endorsed Nurses administer – that’s it, that’s the law. It doesn’t say that anyone else can do it. (ANMF Representative)

Similarly, on discussing the potential for nurse and podiatrist diabetes educators to practise to the same scope, the following participant commented:

Nurses are legislated to help patients with medication administration. We can’t dispense medications and we can’t prescribe medications, but we can definitely, under legislation, possess drugs and administer them to patients. I just don’t know that other groups have got that supporting legislation, under the Poisons Act. (RN CDE 2)

Another participant, a NP with more than twenty years experience in diabetes education, described the experience in the late 1990s, when insulin was rescheduled, and what this meant for nurse diabetes educators at the time. This account demonstrates the relevance of the historical role boundaries which were more clearly defined when insulin was a Schedule 3 (pharmacy-only) medicine:

Back in the late 90s, insulin stopped being a Schedule 3 - believe it or not until the late 1990s insulin was considered a Schedule 3. Then in the late 90s it became a Schedule 4. CDEs who were nurses then had to deal with the whole issue that they could no longer adjust doses. So overnight when insulin became a Schedule 4 that meant that nationally registered nurses who were CDEs could not adjust doses. So up until that time we could adjust doses. I was adjusting doses throughout the 90s, not even as a CDE. It was just a convention that if you were a nurse who did the diabetes course, you could adjust doses. Then it became a Schedule 4 and that changed everything. So that’s where you get those original late 1990s early 2000s ADEA documents around insulin adjustment, because it was then realised that there was a different scope of practice in terms of legal requirement. All that because it was a Schedule 4 and nurses are not allowed to change Schedule 4 unless there is a policy or some sort of standing order. So there’s still a hangover effect that allied health CDEs still feel exists because any of the old timers remember a time when there were no restrictions around that. (NP CDE)

The participant quoted above suggests the perceived role boundaries between RN and allied health diabetes educators are based upon historical practices rather than current legislation. Several other nurse participants described how the legislation pertaining to the titration of insulin affected their practice and demarcated the boundaries between registered nurse and
allied health diabetes educators. The following participant used their own workplace to exemplify how the legislation pertaining to medication management governed their systems and practices for RN CDEs:

> Where I work by law a registered nurse cannot change insulin without a standing order or a policy so we have a policy for our CDEs that there can be a percentage change according to the framework so it fits into that practice. (NP CDE)

While it was emphasised that the legislation supports the nurse’s role in medication management, it was acknowledged by some participants that podiatrists in Australia had secured prescribing rights for some Schedule 4 medications:

> The reality is that there are legislative restrictions, not on all podiatrists. For example, there are limited abilities for surgical podiatrists, but there certainly are legislative restrictions for dietitians and exercise physiologists who are also able to become CDEs. (ADEA Board Representative)

Interview data suggests that nurses perceive the legislation relating to medication management as the main factor delineating and reinforcing the boundaries between nurse and podiatrist and indeed all allied health diabetes educators.

**Casting doubt over the legislated role boundaries**

Doubt over the relevance of legislation and regulation in diabetes education practice was cast by several interview participants. One participant, a registered nurse with a special interest in nursing regulation and scope of practice, provided this insight into legislation impacting nurse diabetes educator practice:

> I’m not aware of any legislation that either allows nurses to become nurse educators or prohibits them from. ... I don’t know that diabetes education or titrating insulin would actually come under regulation unless you were to have it specified by your employer. (Advanced Practice Nurse with an interest in nursing regulations and scope of practice)

On discussing the legislative support for standing orders with the same participant, she challenged some of the perspectives presented by other participants regarding the legality of standing orders:
I’m not aware of any legislation that will support standing orders in the Australian context. I’d have to ask someone working specifically in that area to check whether there’s any kind of loop hole that would allow that. A lot of the legislation and things that have happened have done so because of the historical practice, rather than there actually being a supporting regulation that allows it to occur. So in the Australian context I’m not sure whether facilities are still using standing orders and whether there’s ever been a legal challenge. What we are finding is that much of the current regulator work that’s going on is because of historical practices that are now being challenged in the courts. This is resulting in regulators discovering that there are practices that have been occurring for decades, which are not actually legal and now they’re having to deal with that problem.

On further discussion with regard to the differences between standing orders and protocols governing nurse diabetes educator scope of practice, she offered this insight:

Protocols are very important in certain situations. Protocols are a form of standing order and the problem is that things get put into protocols and get followed that may not actually fit the current legal definition of what is supposed to be in a protocol. So I really am not sure whether a lot of them are allowed or not allowed, you’d really have to get a health lawyer to have a very close look at some of these things to see whether or not they would stand up in a court of law. My personal experience is that most of them don’t, when scrutinised ... I think that under the Act that governs poisons and medications and the section around prescribing you would probably find that most standing orders are contrary under that but they have just never been enforced. Standing orders have a place in emergency care, particularly for paramedics, but not for a lot of other things.

It appears that the legislation relating to medication management is not only perceived to be the point of role boundary delineation for registered nurse and allied health diabetes educators, but is also poorly understood.

Further ambiguity around the legislation relating to the medication management aspect of diabetes educator practice is emphasised by the next participant, a Government policy maker who has worked on a project which explored diabetes educators’ scopes of practice:

My understanding, and I have sought advice on this, is that, other than medical officers, insulin adjustment is not part of the scope of any of those professions – nursing or allied
health. Titration of drugs is part of a nurse’s role but again, it’s very unclear. It falls under what is considered a *terris provision* because it’s not prescribing, it’s not administration and it sort of falls between which means actually it was not illegal for either profession, but it didn’t fall within [the scope of] any of the professions. I think the real barriers to equal scope of practice are minimal and perceived barriers are greater. (Government Policy Maker)

The latter two interview excerpts cast doubt over the widely held perspectives of nurses that medication management, specifically, the adjustment of insulin dosage, is supported by legislation. This doubt indicates that at the macro level, there are no specific provisions for a wider scope of practice for RN diabetes educators.

On discussing the differences in the scopes of practice of nurse and podiatrist diabetes educators, one participant referred to a document, which was at the time, being developed by the ADEA:

ADEA has developed a draft document – it’s called the Interim Position Statement, interim meaning we can’t put it into place now, but this is where our position is at the moment regarding CDE prescribing of insulin and glucose-lowering agents. It will go to the Board meeting in November ... That document doesn’t detail that it’s only RNs that can do CDE prescribing of insulin and glucose-lowering medications. (ADEA Board Representative)

It seems that the omission of specific professions concerned with CDE prescribing was deliberate, indicating that the ADEA do not propagate the notion that the ambition and potential for non-medical prescribing rights are unique to the nursing profession.

There are no absolute legislative or macro level determinants of the role boundaries between diabetes educators or nursing and allied health background. This interview data suggest that there is a myth being promulgated at the micro level that only nurses can assist with medication management. Nurses appear to believe it, other stakeholders are confused, and as the largest and dominant discipline in the diabetes educator field and the founding profession, they exert some authority over this myth.

### 6.1.4 Discursive strategies

Nurses have used discursive or rhetorical strategies in a bid to demonstrate that they are more suited to the diabetes educator role when compared with the other CDE eligible professions.
This section will discuss references made by nurses that they possess unique, indeterminate professional qualities, which enable them to provide a higher standard of diabetes education services than allied health diabetes educators. For instance, the following participant provided insight into what she considered to be the key differences between nurse and non-nurse diabetes educators, with respect to their professional backgrounds:

There is a difference in terms of understanding many other conditions and how they affect diabetes, so whether that’s cardiac, respiratory, mental health, cognitive impairment or palliative care. Registered Nurses have an understanding of other medical conditions and just more hands-on experience, in terms of cancer, emergency departments and even just the age groups: paediatrics, aged care, pregnant women. They have exposure to more medical conditions and to more clinical settings and diabetes is so different in those clinical settings - the person with schizophrenia, as opposed to the person having chemotherapy on dexamethosone for example ...  

I think it’s possibly just sheer exposure. Just to sound very “nursey” for a moment, when you work in a profession for a set number of years, you work any day of the week, any hour of the day where you see people at their best and worst, where you deal with a number of dead and dying people, it gives you a greater sense of what might be happening outside in that person’s world, not just what you see in your office. (NP CDE)

For the participant quoted above, nurses were considered more qualified than allied health diabetes educators due to their experience and exposure, both indeterminate qualities. The following participant also referred to the qualities of nurses which differentiate nurse from non-nurse diabetes educators:

Whereas the nurse is not as educationally prepared to the depth of any one allied health group, they have a unique body of knowledge. They have a very very broad understanding of many health issues that relate to patients. From psychosocial, to reproductive, to children, their education is right across the lifespan and I think that’s what they bring to diabetes education. So those counselling skills, the reassurance, the trust, the caring - just the general caring role. Nurses have a responsibility to care that other allied health groups don’t have. When I get a page at 4:30am to go to ED to sort out someone who’s going home, I go. I don’t want to go, but I go because I have to. Because I know they’ll get admitted if I don’t go down there. Whereas if you tried that on a dietitian or a podiatrist at 4:30 they’d just say, “Sorry, no they’ll have to come
back, the clinic is closed”. Not that that makes a nurse a better diabetes educator, but they do come from a different motivation of having a complete responsibility for the patient. (RN CDE 2)

According to this participant, nurse diabetes educators have an obligation and commitment to their patients that non-nurse health professionals do not. While the participant is clear that this does not make them better providers of diabetes education, they emphasise that they have a greater responsibility to their patients than non-nurse diabetes educators. Once again these qualities are indeterminate, unable to be codified or defined in terms of a competency.

Another participant discussed the unique ability for nurses to fill the diabetes educator role, due to the global nature of diabetes:

> Diabetes is a global, holistic disease that affects every part of the body, so we’re not just talking about elements of the body. A dietitian will be just looking at their diet and I know that they have a wider view than that, but I’m just being specific and you [podiatrist] will be looking at the feet and the toes. But the Registered Nurse is looking at all the organs and the skin is the largest organ in the body; their eyes, their lifestyle, how they live. What are the circumstances of their life, the social determinants of health? All of that knowledge must be incorporated into the consideration of whether this insulin is going to work or not because quite frankly it is very poor practice, if you’ve got someone living in a caravan on the side of the hill and the circumstances of their environment are not good, they don’t have access to proper hygiene, cleaning, food, all of those aspects, all of that can impact enormously on a diabetic’s ability to be able to manage their disease. Equally, it then gets back to their mental health and whether they have the understanding, the intelligence, the will or even the mental capacity to be able to manage their disease. So I don’t think you can segregate diabetes into sections or elements, because it is a global disease of the person who has that diagnosis. (ANMF Representative)

The above excerpt demonstrates that from this nurse’s perspective, nurses are the only health profession eligible to practise diabetes education and capable of taking an holistic approach to diabetes education practice.

On discussion with another participant about the role boundaries and scope of practice issues in diabetes education, she expressed this concern:
The other problem is that the ADEA are trying to move forward with prescribing. What do we do with the multidisciplinary aspects of our course and how is this going to work? Particularly, one of the main problems is with the dietitians, rather than pharmacists and podiatrists who already have a reasonable medication background. But the dietitians, it’s always been argued that they don’t. Similarly the exercise physiologists lack a medication background as well so that has to be addressed first, before we can go forward with the prescribing issue. So the sooner they sort out the scope of practice, the better it will be. (Course Coordinator Post-Graduate Diabetes Education 1)

This participant suggested that one of the perceived barriers to working towards true interdisciplinary practice for diabetes educators is that some of the CDE eligible professions have less capacity to work in the medication support space.

Discursive strategies were used to highlight a number of nurse-specific indeterminate qualities, which were perceived to make nurses more qualified to undertake the diabetes educator role than podiatrists and other allied health professionals. The indeterminate qualities presented in the participant quotes cannot be taught, learned and assessed and are therefore not transferrable to others. These qualities therefore serve to highlight the professional role boundaries between nurse and allied health diabetes educators.

6.2 Role flexibility and substitution in diabetes education

Throughout the course of the interviews, data emerged which supported the notion that role flexibility and substitution in the area of diabetes education is both possible and advantageous. On discussing whether diabetes educators of podiatry background should be able to practice to the same scope as those of nursing background, this participant, an RN working in a rural location stated:

People with diabetes need to see quite a few health care professionals: a GP, a dietitian, a podiatrist diabetes educator and sometimes others. In rural regions in particular, you don’t always have access to those allied health or nursing specialists. In the same vein, in a metro zone there may be poor uptake of these health professional services. If you have got a podiatrist or a physiotherapist that is a diabetes educator also and you’ve got the client there, as long as they are doing a comprehensive, holistic assessment, you can tick both areas. That is their self-management, pharmaceutical support and their physio in one consult. Particularly for people that have other conditions as well as diabetes. Often they have really complex, chronic profiles. That is a barrier to them going to see
three or four providers in a six month time frame. It’s not just about cost or affordability it’s about time, capacity, ability, health literacy. The more we’re asking people to do and health professionals to go to, people are less capable and uptake is poor. If you can minimise the number of appointments, de-complicate service delivery and care coordination, over time we’ll see better health outcomes. (RN and Health Systems Coordinator)

This sentiment was reiterated by another participant, a podiatrist diabetes educator, also working in a rural area:

Working in a rural-remote area, there are just not enough basic services. I’ve been able to give my patients a different experience in that having the dual role [podiatrist and diabetes educator], I can approach them more holistically. It’s not all about their foot wound, it’s also about managing their diabetes. I know exactly what to do if they’re coming to the door having a hypo. (Podiatrist Diabetes Educator)

On discussing the possible outcomes of allied health CDEs practise to the full scope of the diabetes educator role, the potential to decrease both the number of health professionals to be consulted and contacts with health services required of people with diabetes was highlighted:

It would reduce the number of clinical appointments for the patient. If they are coming in to see a podiatrist with the CDE qualification, they can receive podiatry education as well as diabetes education in the one appointment. It would also help to improve health outcomes in terms of wound management. If a patient comes in with a wound and diabetes management is poor, we can look at ways to improve their diabetes management ... From the patient’s point of view, it would be simpler if they are only dealing with less clinicians. (Podiatrist CDE)

The following participant, a senior podiatry executive, made this comment regarding the impact of maximising the scope of practice of podiatrist CDEs:

The patient pathway is changing in health care. Historically the GP was the holder of all knowledge and determined the patient pathway based on what the GP felt was in the best interest of the patient. That’s an old model that has slowly evaporated in part because of the increasing need for health services, increasing levels of consumer demand and the diminishing information asymmetry between patients and doctors or all health services. Patients want to be more engaged in understanding the options and in
determining how to manage their own health outcomes. In that environment, having practitioners who are able to practise to their full scope means less service fragmentation. If patients with neuropathy and poor circulation see their podiatrist and they are able to access a fuller service, rather than being sent off to another service point, that is better than kicking them around like a pin-ball machine. Give them a pathway and allow them to get through that pathway in the straightest line. This is probably the high level message. (Senior Podiatry Executive)

Another participant, a senior policy advisor made this comment on discussing the benefits of podiatrist’s practising to the full scope of the diabetes educator role:

It makes sense, in that it would turn every patient contact with the health system into something where they are getting the most out of it. In that way perhaps it would reduce the number of necessary contacts they require ... Ideally, you’d have a diabetes educator team that had someone who had a podiatry background, someone who had a nursing background, someone who had a dietetic background and depending on the particular patient’s needs, one or other would play a much greater role. (Senior Policy Advisor)

For the following participant having diabetes educators with varying professional backgrounds was perceived to be beneficial in several ways:

If a dietitian becomes a CDE; likewise an exercise physiologist or a podiatrist, it gives the patient with diabetes a much more well-rounded education session because they are wearing two hats. They’ve got a whole-body picture of the whole disease, rather than just one aspect of it. I think the nurses are seeing that more often as well. We’re trying to encourage mentoring relationships across disciplines to get that more rounded education and experience. (Professional Services Manager, ADEA)

On further discussion with this participant about the benefits to diabetes services in Australia as a result of allied health CDEs working to the full scope of the diabetes educator role, she stated:

It would make them more accessible to more people ... ADEA did an access economic report a couple of years ago. It showed that only half of all people with diabetes have access to a CDE or to any diabetes education for that matter. So we have to up-skill as many people as we can in diabetes education, because we’re just not getting to the people that need it. We need to try and work together. The prevention of diabetes is massive - the people with pre-diabetes. We’re not even getting to them because there
are not enough services to go round. I think it’s only going to be beneficial for the health care of Australia ... It is about the care of people with diabetes in Australia and we need to make sure that’s the focus.

It is interesting to note that while interprofessional role boundary contention is apparent in the area of diabetes education, this participant highlights the fact that only half of all people living with diabetes have access to diabetes education services. This suggests that there is a far more extensive market for these kinds of services.

The following participant acknowledged that with increasing rates of diabetes, widespread review of the roles of numerous diabetes care service providers will be necessary:

The numbers of people with type 2 diabetes are going to double in 15 years. So I think we’re going to need to review everything. We’re going to need to review what endocrinologists do, what GPs do, nurse practitioners and then CDEs across a wide variety of disciplines. I mean we’ve got physician’s assistants in Queensland for example, state enrolled nurses having a far greater role, podiatrists have assistants to help with foot hygiene. So I think in health almost everything is up for grabs in the next ten to 20 years, particularly in chronic disease. (NP CDE)

Furthermore, as pointed out by a number of participants, diversity in the backgrounds and clinical settings of diabetes educators may be a facilitator for the uptake of these services by those who have not been able to willing to access diabetes education. The following quote aptly summarises this:

We need to promote as many flexible options as possible in our health system to be able to access the population and to be accessible. Diabetes is a pandemic disease, meaning you don’t want finite options, you want to maximise the options. (RN and Health Systems Coordinator)

6.3 Conclusion

The interview data suggests that the nursing profession has deployed a number of strategies in a bid to achieve professional closure around the diabetes education field. The efforts exerted by the nursing profession to achieve closure around diabetes education practice and claim it as an exclusive nursing sub-specialty, forms part of its broader professional project. Strategies of occupational closure such as credentialist, legalistic and discursive were evident in an attempt to reinforce the differences in the scopes of practice of diabetes educators of nurse and allied
health background and the role boundaries. These strategies, although implicating macro and meso level influences, were deployed at the micro level.

The discursive strategies that emerged from the interviews were consistent with Jamous and Pelloile’s (1970) indeterminacy-technicality ratio concept. Indeterminate nursing qualities which are unable to be defined as competencies and therefore shared between professions, were emphasised as the defining features of a well qualified diabetes educator.

The data presented also highlighted that role flexibility and substitution in the interdisciplinary area of diabetes education could enhance the capacity of this faction of the health workforce to meet ever-growing population diabetes health care needs. The subsequent chapter is the Discussion which synthesises the results of the three research methods employed in this thesis to address the research question.
Chapter 7 Discussion
This chapter presents the key findings and implications of this thesis. It combines the major themes emerging from the systematic review of the literature, documentary analysis and stakeholder interviews to address the initial research question: What is the nature of the professional role boundaries between nurse and podiatrist diabetes educators in Australia?

This initial research question which referred specifically to the role boundaries between podiatrist and nurse diabetes educators guided the design of the research study. As data collection progressed it became apparent that the data and the findings apply to all allied health professions eligible for credentialling. Therefore this discussion chapter will refer to the role boundaries between nurse and allied health diabetes educators.

A neo-Weberian approach to exploring the professions has been used to frame the data analysis and will be used in part to present the findings. Aspects of alternative theories on the sociology of the professions will also be drawn upon throughout this discussion section. The results of the systematic review of the literature reinforced the view that the professions and their role boundaries are dynamic and influenced by various forces. Professional role boundaries continue to evolve over time and are shaped by contemporary health policy and social processes.

The documentary analysis demonstrated the evolution of the ADEA and the diabetes educator role in response to key macro- and meso level drivers. These were: the legislative change relating to the scheduling of insulin, the expansion of the Medicare Benefits Schedule to include CDEs, the competency movement and the changing governance and organisational culture of the ADEA. Despite the inclination of these macro- and meso level drivers toward interdisciplinary practice and role flexibility, the documentary evidence indicated that at the micro level, there were enduring perceptions of interprofessional role boundaries. This was most clearly evidenced by the fact that the majority of employment opportunities for diabetes educators remain open to nurse candidates only.

There were two prevailing themes which emerged from the interview data. The first and most prominent theme was the nursing profession’s implementation of strategies of occupational closure in the diabetes educator field, forming part of its broader professional project. Specifically, the nursing profession has reinforced the myth that it has the legislative underpinning to undertake prescribing practices which the CDE-eligible allied health professions do not, thereby excluding other hierarchically equal professions from working in this area of clinical practice. The second theme was the presence of opportunities for role flexibility in diabetes education practice.
This chapter combines the results of the three aforementioned research studies to present the overarching findings of this thesis. This chapter discusses the evidence supporting the assertion that the professional role boundaries between diabetes educators of nurse and allied health backgrounds are socially constructed, lack a legitimate foundation and have been reinforced at the micro-level. The key findings are presented in accordance with the major influences and outcomes of the perceived interprofessional role boundaries.

7.1 Strategies of occupational closure: Level of influence and relative success

This thesis demonstrates that the interprofessional role boundaries in the field of diabetes education are in part the product of the strategies of occupational closure deployed by the nursing profession. As a part of its broader professional project, the nursing profession has engaged in both exclusionary and demarcationary forms of closure (Witz, 1992), to create and maintain boundaries between nurse and allied health diabetes educators. The strategies that have been observed are consistent with those documented by numerous neo-Weberian writers: credentialist, legalistic and discursive (Currie et al., 2009; Martin, 2014; Witz, 1992). These strategies can also be defined by the level at which they have been deployed: macro, meso and micro and will be discussed according to this definition.

7.1.1 Macro level strategies (legislation)

Macro level strategies are those targeted at national or government level. The nursing profession initially emerged within a health care hierarchy spearheaded by the medical profession and it continues to exist and evolve in a similar socio-political context. The key professionalisation strategy deployed by the medical profession was securing government-endorsed legislative closure. The nursing profession’s historical professional project was focused on implementing similar legalistic strategies to emulate medicine’s success and it appears its contemporaneous project retains the same focus. The macro level strategies deployed in the diabetes education field have been otherwise defined in this thesis as legalistic in nature. The most prominent legalistic strategy is the nursing profession’s emphasis on the legislation which they perceive permits RN diabetes educators to be involved in medication management practices while excluding allied health diabetes educators from this area of practice. Therefore the authority to provide medication management support services has been utilised to elucidate the role boundaries between the nursing and allied health professions. This view was contradicted by several participants. One participant claimed there was no legislation specific to this area of practice and therefore could be undertaken by diabetes educators of any professional background. There was no documentary evidence which explicitly supported the notion that RN diabetes educators were endowed by law with the exclusive right to provide medication management support.
Prior to the rescheduling of insulin in 2000, it was accepted that RN diabetes educators were able to adjust insulin doses. Once it became a Schedule 4 drug, RN diabetes educators were no longer permitted to adjust insulin doses. This dramatically changed the diabetes educator landscape for RNs. The ADEA documents published after 2000 reflected this legislative change, with less emphasis on the role of RN CDEs in adjusting insulin doses. RN CDEs in NSW took action to mitigate the effects of this legislative change and successfully lobbied for legislation allowing them to issue an initial, limited supply of insulin with medical prescription. Consequently, there is some legal reinforcement of the role boundaries between the hierarchically equivalent nurse and allied health diabetes educators in NSW only.

Several RN CDE participants expressed a belief that all RNs had the authority to undertake medication management, as long as they had relevant protocols or standing orders in place. This view was not supported by others. It was suggested by one highly credible participant that the legislation pertaining to the use of standing orders and protocols by RNs (without endorsements) was unclear and has not been challenged in a court of law. No documentary evidence was located which explicitly supports or prohibits this practice by RN or allied health diabetes educators.

The ADEA does not endorse prescribing practices such as medication titration by CDEs without specific endorsement such as NPs. RN ADEA members requested the ADEA pursue the advancement of their role and scope of practice to include prescribing rights for RN CDEs only, as recently as 2013. Securing primary or even secondary prescribing rights for RN CDEs would clearly delineate the role boundaries between RN and allied health diabetes educators. As yet, attempts to secure legally-enshrined prescribing rights for glucose-lowering medications for RN CDEs have been unsuccessful.

Although the nursing profession perceives the legislation to be the point of delineation between their scope of practice and that of allied health professionals working in the diabetes educator role, this thesis illustrates that the current legislation neither explicitly supports nor precludes nurses or allied health professionals from providing medication management in their course of diabetes education practice. That is, the assumption that diabetes educators of nurse background have legal reinforcement with respect to the adjustment of glucose lowering medications, whereas those of allied health background do not, is not founded in law. As discussed in Chapter 2, the podiatry profession has successfully advanced its bid to secure non-medical prescribing rights. The active pursuit of legislation to support primary and secondary prescribing on glucose-lowering medications by the ADEA on behalf of the nursing profession
indicates that there is known ambiguity around the current legislation and its bearing on the interprofessional role boundaries between nurse and non-nurse diabetes educators. It is reasonable to conclude that this aspect of the nursing profession’s legalistic dual closure strategies at the macro level have thus far failed to achieve legitimate closure in this area of clinical practice.

7.1.2 Meso level strategies (credentialist)
Meso level strategies of occupational closure are those deployed by or aimed at the professional association level. In the case of diabetes education, meso level strategies of occupational closure have centred on controlling the education and accreditation of diabetes educators thereby monitoring and controlling the supply of these health care providers. These strategies have been defined elsewhere in this thesis as credentialist strategies. The ADEA, which has historically been dominated by nurses, has controlled systems of credentialling since its establishment in 1981 and the ADEA has assumed responsibility for determining profession-based eligibility for credentialled diabetes educator status.

The first theme presented in the results of the documentary analysis was the evolution of the diabetes educator workforce, in particular the increase in diversity of the professions eligible for the ADEA credentialling. In the early years following the establishment of the ADEA by a group of nurses, eligibility for credentialling was limited to RNs. With time and a number of social, demographic and policy-driven changes, the eligibility for the ADEA credentialling widened, with eight different types of health professions now eligible. The ADEA appears to be working to cultivate a flexible diabetes educator workforce, by including and enlisting a wider variety of CDE eligible disciplines and by working to reduce perceptions of interprofessional role boundaries.

Despite the gradual increase in the number and diversity of CDE eligible professions, the ADEA has strategically controlled the field of diabetes education by determining which professions achieved ADEA eligibility and when. The interview data illustrated that some aspiring CDEs were excluded due to their profession-based CDE ineligibility at the time of their application. The ADEA uses its own criteria to determine profession-based eligibility. The criteria are not accessible to the public. ADEA has maintained their status as the gatekeeper of CDE eligibility.

In the neo-Weberian tradition, credentialist strategies are aimed at controlling and monitoring the qualification and entry of members into a profession, contributing to occupational closure (Parkin, 1979). However, it is acknowledged that systems of credentialling are not implemented...
for the sole purpose of achieving occupational closure. These systems and processes duly act as quality assurance measures and work to facilitate best practice in the area of diabetes education. The capacity for the ADEA’s system of credentialling to achieve quality assurance is limited by the fact that it is not mandatory for individuals who practise diabetes education to be credentialled (Crawford, 2009). There are clear advantages to being credentialled, which relate to public sector employer preferences and in some cases requirements, as shown in the sample of diabetes educator job advertisements (Appendix 10). Moreover, only diabetes educators who are credentialled can claim Medicare benefits, DVA and private health insurance rebates where available in the private sector. Nonetheless, credentialling is not mandatory.

Taking a different theoretical perspective to the role of credentialling and controlling the systems of credentialling, Bourdieu’s social world and symbolic power concept can be used to explain these findings. Bourdieu’s social world is made up of different status groups with varying levels of social capital. The attainment and mobilisation of social or symbolic capital is key to the escalation of status groups (Bourdieu, 1989). The ADEA and more specifically the CDE status constitute part of the nursing profession’s social capital. The CDE title has been used to legitimise the nursing profession’s authoritative position in the diabetes educator (social) world and its role as the pre-eminent provider of diabetes education. The CDE title has been mobilised as a form of social or symbolic capital, facilitating the nursing profession’s successful attainment of further symbolic capital: recognition by Medicare, DVA and other stakeholders. This has facilitated the nursing profession’s enduring pre-eminence and control the field of diabetes education.

When considering the success of the nursing profession’s meso level credentialist strategies of closure, there are three key factors to take into account. Firstly the ADEA has successfully maintained its control over the systems of credentialling of diabetes educators. The second consideration is the gradual increase in the diversity of professions eligible for this form of credentialling which challenges the nursing profession’s pre-eminence in the practise of diabetes education. The third consideration is that credentialling is a voluntary process which is certainly beneficial for diabetes educators to undertake but not a strict requirement for employment. Therefore, the deployment of credentialist strategies of closure at the meso level can be considered only moderately successful in the achievement of closure for nurses.

7.1.3 Micro level strategies (discursive)
Micro level strategies of closure are those deployed within the workplace or at the ground level. The micro level strategies evident in the diabetes educator field, as found in this thesis, were largely discursive. The indeterminacy of the nursing profession’s knowledge and practice
Currie et al., 2009; Jamous & Peloille, 1970) and its experiential knowledge were emphasised (Currie et al., 2009). The broad knowledge base associated with the nursing profession was contrasted with the in-depth but narrow expertise held by the allied health professions. Their clinical exposure and experiences of death and dying were some of the other points raised in this study, which highlighted the nursing profession’s esoteric knowledge and practice. Perceptions held by nurses that they have a higher level of commitment and a more holistic approach to patient care than allied health professions were also evident. It is purported that these abstract characteristics which cannot be defined in terms of competencies and therefore transferred between the professions make nurses more well-rounded and capable diabetes educators than those of an allied health background. These discursive strategies may have contributed to the continuation of the recruitment of RNs to diabetes educator roles, at the exclusion of allied health professionals, particularly in the public hospital setting.

Foucault’s power-knowledge concept provides useful insight into the nursing profession’s claim to these abstract characteristics and qualities as a part of its field of expertise. Foucauldian perspectives have been used to describe the means by which some professions such as medicine and dentistry, have attained and reproduced levels of power by first establishing their unique fields of expertise (Fournier, 2000). The nursing profession has claimed exclusivity to its knowledge of holistic caring practices, death and dying and commitment to patient care. In effect, this knowledge constitutes part of the nursing profession’s field of expertise. In the case of diabetes education practice, claims to exclusivity of this knowledge and these practices have been used to generate power and authority in this field by the nursing profession.

Legalistic strategies typically occur at the macro level. This thesis demonstrates that work has been undertaken within the workplace (micro level) to convince employers of the legalistic (macro level) nature of the interprofessional role boundaries in diabetes education. The assertion that only RN diabetes educators are legally permitted to adjust glucose lowering medication doses with appropriate protocols implemented within the workplace has contributed significantly to the construction of interprofessional role boundaries in diabetes education. In one instance, the role boundaries asserted in the workplace by nurses made it difficult for a podiatrist CDE and a dietitian CDE to undertake their work efficiently. In turn, this led to the decision of the podiatrist to cease providing all aspects of diabetes education. This reinforced the perceived interprofessional role boundaries in diabetes education and arguably discouraged other non-nurse diabetes educators from providing comprehensive diabetes education services in this particular workplace. The ambiguity in the legislation has worked in the favour of the nursing profession. In this respect, the strategies of occupational closure implemented at the
micro level appear to be the most successful at influencing and reinforcing the interprofessional role boundaries in diabetes education.

### 7.2 The protection of opportunities: Employment, enhanced status and income

Taking a neo-Weberian approach to exploring the professions, benefits such as secure employment, enhanced status and income and opportunities to enhance these, often at the expense of other groups, are considered central (Currie et al., 2009; Nancarrow & Borthwick, 2005; Saks, 2010, 2013; Timmons & Tanner, 2004). This thesis has illustrated that diabetes education provides an avenue for career progression and is associated with benefits such as opportunities for employment, enhanced professional status and higher levels of income, for the nursing profession at least. Conversely, for the hierarchically equivalent allied health professions, diabetes education is a special interest in addition to their base profession, which is not necessarily associated with a recognised career pathway, higher income or enhanced status. The nursing profession has an interest therefore, in consolidating and protecting its role in this area of clinical practice.

The majority of employment opportunities for diabetes educators are available exclusively to RN candidates. The position descriptions associated with diabetes educator job advertisements failed to provide a rationale for employers specifically seeking RNs. There were several possible explanations for employers seeking to recruit nurses to diabetes educator roles which became apparent throughout the course of this thesis. One such explanation is that hospitals prefer to maintain a level of flexibility among their employees in case of staffing shortages due to illness, planned leave and other circumstances. It is feasible to suggest that in some cases nurse diabetes educators may be called upon to undertake traditional nursing duties or fill shifts on wards. If this is in fact the case, it could be argued that the same degree of convenience and flexibility could be achieved with a diabetes educator with an allied health background, such as dietetics, podiatry or physiotherapy, as these professionals are frequently employed within the hospital setting.

Another conceivable explanation is that diabetes educator roles are often set up as nursing roles and there may be industrial protection around these roles. Nurses employed as diabetes educators within the public health setting are paid at a higher grade than general nurses. The remuneration of nurse diabetes educators will be discussed further in a subsequent paragraph. If diabetes educator roles were to be occupied by allied health professionals rather than nurses, it is unclear how these employees would be remunerated, however it would almost certainly have an impact on the number of higher grade employment opportunities for nurses. As mentioned in
the preceding section, discursive strategies deployed by the nursing profession at the micro level were characterised by its emphasis on indeterminate qualities, such as holistic practice, clinical exposure and commitment to patient outcomes. It is possible that these ideations have been reinforced so extensively that they have influenced employers’ preferences with regard to the type of diabetes educators they recruit.

It has been demonstrated that historically diabetes education has been provided by nurses within the hospital setting. It stands to reason that diabetes education department managers and senior diabetes educators are likely to have a nursing background. These senior nurse clinicians and department managers may prefer to recruit nurses to diabetes educator roles, so that systems of supervision and mentoring are more streamlined. This reinforces the traditional systems and practices around the provision of diabetes education within the hospital. These traditions then extend to community settings, reinforcing perceptions that nurse diabetes educators have a wider scope of practice than those of an allied health background, or are otherwise more suited to the role. While the reasons for employers specifically seeking to recruit RN diabetes educators in the majority of cases are not completely clear, traditional practices and systems around the development of diabetes educator roles have supported the nursing profession’s enduring pre-eminence in diabetes education.

In this thesis it has been established that the clinical area of diabetes education is considered to be a nursing sub-speciality. Previous authors have noted that working within a recognised professional sub-speciality is associated with enhanced professional status and hierarchal position (Bacon & Borthwick, 2013; Nancarrow & Borthwick, 2005). Although nurse and allied health specialties are less formalised and recognised than medical specialties, there is evidence that diabetes education is perceived to be a nursing specialist area and may in fact be one of the more formalised and structured non-medical specialities. The nursing profession has an established system for those working as diabetes educators, which incorporates additional qualifications and credentials, as has been discussed previously in this thesis. It is also evident that diabetes education as a nursing sub-speciality is associated with higher status and attracts greater financial rewards. In the public health sector, a number of designated diabetes educator positions are classified as clinical nurse specialist and clinical nurse consultant roles. These titles are associated with a higher status level among the nursing profession. By virtue of the aforementioned titles, these roles are reserved for RN candidates and not open to allied health diabetes educators. This enables nursing as a profession to maintain exclusive access to opportunities to achieve higher status and power in the area of diabetes education.
Drawing on Bourdieu’s social world and symbolic power, the professional titles held by some nurses working in the public sector and in hospitals: clinical nurse specialist and clinical nurse consultant are considered valuable symbolic social capital. These titles have been legitimated through social processes and are associated with a level of prestige and power. As such, this valuable symbolic capital can be used to generate further social as well as economic capital. The nursing profession therefore has an interest in preserving the value of this form of symbolic capital by maintaining exclusivity of access to it.

Nurse diabetes educators employed within the public sector are often classified and paid at higher levels than general nurses. These higher classifications include Grade 4 (Victorian Public Health Sector Enterprise Agreement), clinical nurse specialist or clinical nurse consultant. The latter title signifies considerable seniority in the nursing ranks and salary is commensurate (Australian Nursing and Midwifery Federation Victoria, 2012; New South Wales Nurses and Midwives Association, 2016; Queensland Nurses’ Union, 2015). Consequently, these roles are much sought after. Should diabetes educator roles within the public health system be opened to all candidates, including those of allied health background, the exclusive access to prestigious, well-paid nursing roles would be threatened.

There was a surge in the number of professions who applied to the ADEA for eligibility in the mid-2000s. It was at this time that the MBS was expanded to include rebates for diabetes education services provided in the private sector by ADEA credentialled diabetes educators. DVA and private health insurers followed suit soon after, recognising and providing funding or rebates for diabetes education services provided by CDEs only. It is likely that these new opportunities for generating income for diabetes education services in the private sector prompted many of these new applications for profession-based CDE eligibility. Due to the inundation of new applications the ADEA conducted a review of eligible professions. At this time the ADEA’s Board of Directors were all from a nursing background. The criteria for reviewing profession-based applications were not publicly available. It could be argued that diabetes educators of nursing background felt threatened by the prospect of diabetes educators of different clinical backgrounds becoming CDE eligible and had an interest in maintaining exclusive access to these new sources of income.

It is clear that as a sub-speciality, diabetes education provides nurses with opportunities to advance their career, attain higher professional status and levels of income. It is reasonable to suggest the protection of this career progression pathway and the associated privileges have motivated the nursing profession to deploy strategies of occupational closure.
7.3 The ADEA’s evolution, credibility and capacity to influence the field of diabetes education

This thesis has illustrated that both the diabetes educator role and the ADEA have evolved and become more inclusive of allied health professions. The ADEA was established by a group of nurses in 1981. At this time, diabetes education was considered part of the hospital nurse’s role. Membership with the ADEA was subsequently opened up to the medical and several allied health professions. Over time became recognised as the leading organisation for diabetes educators in Australia. Over the last three decades a number of professional associations have made applications to the ADEA eligibility for credentialling. There are currently seven professions in addition to nursing who are eligible for ADEA credentialling. The ADEA’s emphasis has shifted from specific profession-based tasks within the diabetes educator role such as insulin titration, wound management and dietary prescription to a greater focus on supporting the self-management skills for people living with diabetes. This shift appears to have aided the ADEA’s growth in terms of membership and diversity of professions, however it has also led to attempts to reinforce professional role boundaries, particularly by nurses.

The ADEA has established and maintained a high level of credibility among many important stakeholders including government departments, committees and agencies. A number of important stakeholders look to the ADEA to guide standards around the provision of diabetes education. For example, Medicare, DVA and private health insurers only approve monetary rebates for diabetes education services provided by diabetes educators who are ADEA credentialled. The ADEA’s status as the national leading body for diabetes educators is itself an interesting phenomenon. The ADEA gained control over the education and credentialling of diabetes educators within the first decade of its establishment and has maintained exclusive control over these processes. It has also maintained its role in the accreditation of post-graduate diabetes education certificate courses. Most significantly, the ADEA has sustained its supreme unmitigated power to determine which professions are deemed eligible for credentialling and which are not. Stakeholders are not able to view the ADEA’s criteria for CDE eligibility, much less be able to effectively challenge it.

The ADEA’s level of power combined with their credibility in the eyes of government agencies and departments facilitates their control of the diabetes education field. Notwithstanding, the ADEA’s credibility is only assured by the organisation itself and, as is the case with other professional associations, their accountability does not extend to any statutory bodies. As such, access to financial benefits in the form of rebates for CDEs are limited and controlled by the ADEA, a self-governed association. This may be perceived as unfair to many smaller
professions who have an interest in diabetes education but have not been accepted by ADEA as meeting the criteria for eligibility.

Nonetheless, this thesis illustrates that the ADEA’s interest in cultivating an interdisciplinary, flexible and progressive diabetes educator workforce has strengthened over time. The ADEA is the most respected and influential entity in the diabetes educator field and has taken advantage of opportunities to emphasise the interdisciplinary nature of the diabetes educator role and promote a culture which minimises the perceptions of interprofessional role boundaries. There is still more work to be done to change the micro level culture of diabetes education and increase the opportunities for allied health diabetes educators to secure employment.

7.4 The future of diabetes education

With rates of diabetes increasing exponentially and a diabetes educator workforce insufficient to meet the current demand, the development of innovative, efficient ways to organise and deliver diabetes health services are imperative. As workforce shortages threaten the sustainability of health services both in Australia and internationally, there has been significant interest in efforts to maximise health workforce flexibility and implement role enhancement and substitution (Bach et al., 2012; Borthwick et al., 2010; Currie et al., 2009; Dierick-van Daele et al., 2008; McPherson et al., 2006; Nancarrow, 2015; Smith & Duffy, 2010; Thompson, 2013). Numerous studies exploring extended scopes of practice and role flexibility have shown that health care providers including health care assistants (Bach et al., 2008; Smith & Duffy, 2010), allied health professionals (Borthwick et al., 2010; Kersten et al., 2007; McPherson et al., 2006) and nurses (Dierick-van Daele, Metsemakers, Derckx, Spreeuwenberg, & Vrijhoef, 2009; Newhouse et al., 2011) can enhance their skill set and work in a competent manner beyond their traditional scope. In so doing, improved accessibility and efficiencies in service delivery have been demonstrated (Bach et al., 2012; Borthwick et al., 2010; McPherson et al., 2006; Smith & Duffy, 2010).

By virtue of the diverse clinical settings and requirements of the diabetes educator role and the range of professions deemed CDE eligible, the diabetes educator workforce provides an ideal landscape to cultivate genuine interdisciplinary practice. Increased collaboration and role substitution in diabetes education could be adopted with little difficulty. Furthermore, demand for diabetes education services is expected to rise with the ever-increasing prevalence of diabetes. It stands to reason that the implementation of modernising changes to improve collaboration and role flexibility be considered a priority. This thesis illustrates that there are two key facilitators for this: legislation and education.
Legislation has proven to be a pivotal issue in the field of diabetes education and perceived to define the role boundaries between nurse and allied health diabetes educators. In reality the legislation neither explicitly permits nor precludes the activities of CDEs according to their primary profession. Since 2000 there has been significant ambiguity around the role of the RN CDE with respect to adjusting insulin doses. This ambiguity has worked in the nursing profession’s favour and has enabled it to continue to promote its reputation as the original and more capable providers of diabetes education compared with allied health diabetes educators. Medication management is considered to be an important component of the diabetes educator role. Therefore perceptions held by relevant stakeholders that diabetes educators of RN background have a legally enshrined capacity to provide medication management services whereas allied health diabetes educators do not, reinforces the belief, at the micro level at least, that RN diabetes educators are superior to and more employable than those of allied health background.

The ADEA has stated that it does not endorse prescribing practices by any CDEs, regardless of their primary discipline, with the exception of medical officers and NPs who have separate legislation in place supporting prescribing practices. The ADEA has taken opportunities to support and advance the nursing profession’s ambition to expand its scope of practice to include prescribing practices. The majority of ADEA members are nurses by background. It stands to reason that the ADEA acts to support and advance this faction of its membership, however this reinforces interprofessional role boundaries and is at odds with current health policy drives which promote role flexibility. If the ADEA continues to advocate for RN CDEs to achieve primary or secondary prescribing rights at the exclusion of the various allied health CDEs, interprofessional role boundaries will not only be reinforced, but also consolidated. The ADEA may miss a golden opportunity to strengthen the capacity of the entire diabetes educator workforce to achieve advanced scopes of practice, become adequately equipped and flexible to meet the needs of the ever-growing number of people living with diabetes.

Education is another identified facilitator of genuine interprofessional practice in diabetes education. Diabetes educators are already qualified health professionals and the diabetes education qualification is undertaken at the post-graduate level. Concerns regarding the adequacy of the current post-graduate certificate of diabetes education to educate and prepare diabetes educators of all professional backgrounds to undertake all aspects of the role were raised in this thesis. This thesis suggests that a key mechanism to prepare diabetes educators of both nursing and allied health background is the expansion of the post-graduate certificate of diabetes education to include the required medication management units to prepare candidates for primary or secondary non-medical prescribing practices. Similarly, the graduate certificate
course could be complemented by a non-medical prescribing course for those diabetes educators wishing to pursue endorsement of these practices. This once again presents an opportunity to increase the scope of practice of all diabetes educators, address the perceived interprofessional role boundaries in diabetes education, and develop a flexible and responsive diabetes educator workforce.

The ADEA, a highly credible and powerful association, is considered instrumental in changing the culture and perceptions held by stakeholders in the interprofessional boundaries in the diabetes education. The ADEA is also in a position to advocate for the implementation of relevant legislation supporting the advanced practice of all ADEA eligible professions and for the appropriate changes to the post-graduate education of diabetes educators.

7.5 Limitations of this thesis

There are several limitations relating to the findings of this thesis. The limitations of the systematic review of the literature and the documentary analysis were presented in Chapters 4 and 5 respectively. There are further limitations relating to the documentary analysis and interviews which were discussed in the Methods Chapter (Chapter 3, sections 3.2.3 and 3.2.5). This thesis focuses on the Australian context, as the history and current status of the Australian diabetes educator workforce is significantly different from that in other developed countries such as New Zealand, the UK, Canada and the United States of America. Nonetheless, the systems and processes in these countries may have some relevance to the diabetes educator workforce in Australia, or at least would have made for an interesting comparison.

The interviews were limited to some extent by the fact that participants may not have felt at liberty to discuss historical events which occurred within the ADEA or the diabetes educator workforce, for fear of divulging controversial information. This was specifically expressed by one participant. Another participant referred briefly to some controversy which occurred throughout the early history of the ADEA, but did not feel confident with the precise details. This participant referred the researcher to another potential participant, who was subsequently contacted, but declined to discuss the events in any detail.

Another limitation related to this thesis is the fact that the research budget did not allow for the engagement of a health lawyer, who would have the precise knowledge and skills to determine the meaning of the current legislation relating to the alteration of medications used to manage diabetes. Given the backgrounds, levels of experience, knowledge and skills of the participants with which the current legislation and regulations relating to nursing practices were discussed, it is reasonable to determine that their opinions and perceptions of these are accurate.
7.6 Subsequent research

Future research into the barriers to and enablers of legislation supporting all CDEs to undertake the prescribing practices which are currently perceived to be the sole remit of RNs would help to progress the diabetes educator workforce in two ways. Firstly, it would draw attention to the fact that the legislation is ambiguous and not necessarily indicative of boundaries between diabetes educators of nurse and allied health background. Secondly, it would represent a step toward enhancing the capacity of the diabetes educator workforce to achieve genuine flexibility.

The current post-graduate education program for diabetes educators is deemed insufficient to support competent non-medical prescribing practices and the legislative changes to include primary or secondary prescribing practices for diabetes educators. As such, research into avenues to incorporate the requisite theoretical units for non-medical prescribing into the post-graduate course for diabetes educators is required. International comparisons, particularly with the United States, United Kingdom, Canada and New Zealand would be invaluable.

Increased efficiency and cost-containment are pivotal concerns for health services and policy-makers (Borthwick et al., 2010; Coombs & Ersser, 2004; Davies et al., 2015; MacNaughton et al., 2013; Nancarrow, 2015). Opportunities for health professionals to specialise in particular areas of health care are often associated with higher levels of income (Nancarrow & Borthwick, 2005). This thesis demonstrates that for nurses specialising in diabetes education, there are opportunities to secure employment opportunities with higher rates of remuneration. The majority of diabetes educator roles are designated as RN roles and associated with higher salaries, however there do not appear to be standard rates of remuneration for allied health diabetes educators. It is therefore unknown whether or not employing these types of diabetes educators would contribute to cost-containment. Studies evaluating the economic impact of employing diabetes educators of allied health background would provide valuable insight.
Chapter 8 Conclusion
This thesis sought to determine the nature of the interprofessional role boundaries between diabetes educators of nurse and allied health backgrounds and any differences in the scopes of practice of these health professions. This thesis was informed by, and consequently supports, a neo-Weberian approach to defining and exploring the professions by providing an example of an occupational group implementing closure strategies in a competitive market place to secure benefits at the exclusion of outsiders. It has been established within this thesis that diabetes education as a sub-specialty is associated with higher status, career progression and income within the nursing profession, whereas these benefits have not been established for allied health professionals who specialise in diabetes education. The nursing profession has an interest in protecting the diabetes educator role from intrusion by the allied health professions which would threaten the established career pathway for nurse diabetes educators.

Neo-Weberian accounts of the health professions are well-documented, with interprofessional role boundary contestation appearing as a key feature of professional projects (Abbott, 1988; Borthwick, 1997; Borthwick, 2001; Borthwick et al., 2010; Larkin, 1983; Parkin, 1979). Previous neo-Weberian analyses of both the nursing and podiatry professions have illustrated that these groups initially emerged and have subsequently evolved in a socio-political context dominated by the medical profession. This thesis presents a unique example of a professional role boundary dispute. Unlike the majority of role boundary disputes in health care, where the two professions occupy different positions on the hierarchy, the nursing and allied health professions are considered hierarchically equivalent (Timmons & Tanner, 2004) and the deployment of closure strategies was in a horizontal, rather than downward, direction. This thesis illustrates that professional dominance can in fact occur in a horizontal direction. Furthermore, strategies of professional dominance need not be legalistic in nature nor do they need to be targeted at the macro level of influence.

Another distinguishing feature of the boundary dispute between diabetes educators of nurse and allied health background from those previously studied, is the early history of diabetes education. Both the practice of diabetes education and the ADEA were established by the nursing profession and subsequently opened up to the allied health professions. Strategies of occupational closure to exclude these latter professions then ensued. This indicates that there is an element of confusion or tension within the ADEA and the diabetes educator workforce. This tension was further evidenced by the gradual evolution of the ADEA, characterised by apparently contradictory agendas. The ADEA has taken measures to reduce members’ perceptions of profession-based inequality in the diabetes education field and to promote interdisciplinarity, particularly in recent years. However, the ADEA’s interdisciplinary
evolution has been tightly controlled and hampered by the ambitions of the nursing profession to protect this clinical sub-speciality. The ADEA has been the gate-keeper of the CDE title, determining which professions are eligible to apply for credentialling and therefore access the benefits associated. For some professions, the application process for CDE-eligibility was painstakingly slow and precluded some aspiring CDEs from achieving credentialled status. Furthermore, the ADEA has acted upon the request of RN members to advance their scope of practice to include prescribing in the CDE role. This has reinforced the perceived interprofessional role boundaries. While the ADEA has a desire to foster a strong and diverse interdisciplinary workforce, it has also facilitated the nursing profession’s control of diabetes education.

Drivers at the macro level (eg. the rescheduling of insulin) and meso level (eg. the increased diversity of CDE-eligible professions) have ostensibly encouraged greater flexibility and role blurring in diabetes education. However, it is micro-level drivers imposed by the nursing profession that have proven most influential on the perceived role boundaries in diabetes education. The nursing profession has reinforced the myth that there is legislation that permits nurse diabetes educators to engage in medication management practices and precludes allied health diabetes educators from undertaking this aspect of the role. At micro level, the nursing profession has convinced employers that there are clear and legitimate interprofessional role boundaries in diabetes education and that based on the legislation, nurses are more qualified to undertake the role. Further micro-level strategies emphasised the indeterminate qualities inherent in, and exclusive to the nursing profession. These micro-level strategies which oppose the macro and meso level drivers, have proven successful at protecting this nursing sub-speciality with the majority of diabetes educator employment opportunities open only to nurse candidates. At the micro level it is apparent that the field of diabetes education has been consolidated as a nursing sub-specialty, with the nursing profession securing near exclusive access to the privileges associated with occupational closure: career progression, higher income and employment opportunities.

8.1 Final word

One of the limitations of a neo-Weberian approach to defining and exploring the professions is the tendency to be excessively critical of the professions and their motives. Neo-Weberian perspectives tend to portray the professions as self-interested parties with little concern for the benefit of the wider public (Saks, 2012). It is not anticipated that this thesis depicts the nursing profession or nurse diabetes educators in this unfavourable light, but rather it seeks to illustrate that there are socio-political factors which are prominent in influencing the perceptions of various stakeholder groups of the professional role boundaries in diabetes education.
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15*(5), 421-431.
Appendices

Appendix 1 Contested professional role boundaries in health care: A systematic review of the literature

This paper can be accessed via this link:

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4322807/
Appendix 2 Diabetes educator role boundaries in Australia: A documentary analysis

This paper can be accessed via this link:

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5504808/
Appendix 3 Statement of contribution to publications for Olivia King’s thesis

Throughout the course of my PhD, I have co-authored two papers with my supervisors, which each feature in modified form, as chapters in my thesis (Chapters 4 and 5). The contributions of the co-authors are as follows:

1. **King, O., Nancarrow, SA, Borthwick, AM & Grace, S. (2015).** Contested professional role boundaries in health care: A systematic review of the literature *Journal of Foot and Ankle Research* 8 (1), 1

   Author contributions: Olivia King participated during all stages of the development of this paper and provided an overall contribution greater than that of any co-author. Olivia King undertook the systematic review, conducted the analysis and wrote the initial draft manuscript. Susan Nancarrow and Sandra Grace guided the initial ideas and supervised the design and conduct of the research. Alan Borthwick reviewed the manuscript prior to submission and re-wrote the revisions following initial review. All authors read and approved the final manuscript.


   Author contributions: Olivia King participated during all stages of the development of this paper and provided an overall contribution greater than that of any co-author. Olivia King collected the data, conducted the analysis and wrote the initial draft manuscript. Susan Nancarrow and Sandra Grace guided the initial ideas, supervised the design and conduct of the research and provided feedback on the draft manuscript. Alan Borthwick reviewed the manuscript prior to submission for publication. Olivia King re-wrote the revisions following initial review.

I, Olivia King agree that the above descriptions of the contributions of authors to these publications are accurate and correct.

Signed: ________________ Date: 08/11/2017

I, Susan Nancarrow (principle supervisor), agree that the above descriptions of the contributions of authors to these publications are accurate and correct.

Signed: ________________ Date: 13/11/2017

I, Sandra Grace (co-supervisor), agree that the above descriptions of the contributions of authors to these publications are accurate and correct.

Signed: ________________ Date: 10/11/2017
I, Alan Borthwick (external supervisor), agree that the above descriptions of the contributions of authors to these publications are accurate and correct.

Signed

Date: 09/11/2017
## Appendix 4 Process to determine suitable participant sample

<table>
<thead>
<tr>
<th>Stakeholder category</th>
<th>Key stakeholder</th>
<th>Total number of stakeholders within this group (estimated)</th>
<th>Number of stakeholders likely needed to provide sufficient data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regulatory</td>
<td>Senior Policy Advisor (allied health)</td>
<td>8</td>
<td>1</td>
</tr>
<tr>
<td>Policy-makers</td>
<td>Policy maker with knowledge of the interprofessional role boundaries in diabetes education</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Professional</td>
<td>Member of the Australian Diabetes Educators Association (ADEA) Senior Podiatry Executive</td>
<td>8, 3</td>
<td>1, 1</td>
</tr>
<tr>
<td>Clinical</td>
<td>Nurse diabetes educator</td>
<td>1000</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Podiatrist diabetes educator</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Nurse (non-DE) with an interest or knowledge of the interprofessional role boundaries in diabetes education</td>
<td>Unknown</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Unknown</td>
<td>Unknown</td>
<td>1</td>
</tr>
</tbody>
</table>
Appendix 5 Participant information

06/08/2014 Information letter for Interview Participants

Olivia King’s PhD Study: Role boundaries and Scopes of Practice of Diabetes Educators

You are invited to participate in a research study entitled, “Role Boundaries and Scopes of Practice of Diabetes Educators”. This research is being conducted by Olivia King, under the supervision of Prof. Susan Nancarrow and Dr Sandra Grace, from the School of Health and Human Sciences, Southern Cross University. You may contact Olivia King if you have further questions, by email o.king.10@student.scu.edu.au or phone 0404 855 184.

This project will form part of Olivia’s PhD in Health Sciences thesis. She is the recipient of a scholarship from the Services for Australian Rural and Remote Allied Health. Diabetes educators are health professionals with additional post-graduate qualifications in diabetes education. A number of health professions are deemed to have the requisite knowledge and skills from their undergraduate studies and clinical experience, to undertake the Graduate Certificate in Diabetes Education and achieve credentialed diabetes educator status. These professions include nursing, podiatry, dietetics, exercise physiology and pharmacy. There is however a lack of clarity
around the role boundaries and scopes of practice of diabetes educators that come from different clinical backgrounds.

The purpose of this research is to explore the role boundaries and scopes of practice of podiatrists with qualifications as diabetes educators. It is anticipated that the outcomes of this research will contribute to greater clarification around the scopes of practice of these clinicians.

You have been identified as a key stakeholder, who has a particular strength or view on this topic. As such, you are invited to take part in an interview, which is expected to last approximately 60 minutes and will be held at a time and location convenient for you, either via Skype or telephone. The interview will be audio-recorded and transcribed verbatim to be included as data for the research project. Audio-recordings will be downloaded onto the researcher’s computer and these as well as the transcripts will be kept in a password protected folder.

In choosing to participate in this research study there are no foreseeable inconveniences and risks beyond the time commitment associated with the interview. The data being collected relates to the views held by you, or by the organization or agency you represent, with respect to the roles of scopes of practice of nurses and podiatrists with qualifications as diabetes educators. Your opinion regarding role boundary and scope of practice flexibility in diabetes education and the impact this will have, will also be sought. These data are not expected to be sensitive.

Your participation in this research is completely voluntary. If you do decide to participate, you may withdraw at any time without any consequences or explanation. You may decline to answer any of the questions you do not wish to answer. If you withdraw from the study your data will be used only if you give permission for it to be included in the research findings; however, it may not be possible to withdraw your data from the study results if identifying details have already been removed. If you have any concerns the researcher will be happy to discuss this further with you before you give consent.

Data will be collected from key stakeholders representing four areas related to diabetes education practice: clinician, post-graduate education, professional association, regulator and policy-maker areas. Due to the distinction that will be made about perspectives from these five areas, some participants may be identifiable. However no personal information will be collected from any participants. All data will be aggregated, synthesised and presented in a manner to protect your anonymity.

If you suffer any harm or complications as a result of this study you should contact the lead researcher, Olivia King, who will assist you in obtaining the appropriate care, treatment or counseling. To assure your confidentiality and the confidentiality of the data, access to the data will be limited to the researcher and research supervisors. All data collected will be stored in a password protected secure computer drive. Any paper copies of the data will be stored securely and destroyed at the end of the project. The results of this study will be shared with others in the following ways: a thesis which will be submitted to examiners at Southern Cross University and it is anticipated that there will be publication/s in peer-reviewed journal/s and conference presentations of the findings.

The research has been approved by the Human Research Ethics Committee at Southern Cross University; approval number ECN-14-230.

If you have any concerns about the ethical conduct of this research or the researcher, please contact the Ethics Complaints Officer at Southern Cross University, PO Box 157, Lismore NSW, 2480 or email ethics.lismore@scu.edu.au. All information received is confidential and will be handled as soon as possible.

Thank you for taking the time to consider participating in this study. If you wish to take part in an interview please sign the attached consent form.

Please retain a copy of this letter for your reference.
Appendix 6 Participant consent form

CONSENT FORM FOR INTERVIEW
Roles Boundaries and Scopes of Practice of Diabetes Educators
Name of researcher: Olivia King

Please tick the box that applies, sign, date and give to researcher

I agree to take part in the Southern Cross University research project specified above.  Yes ☐ No ☐

I understand the information about my participation in the research project, which has been provided to me by the researcher.  Yes ☐ No ☐

I agree to be interviewed by the researcher.  Yes ☐ No ☐

I agree to allow the interview to be audio-taped .  Yes ☐ No ☐

I agree to make myself available for further interview if required.  Yes ☐ No ☐

I understand that my participation is voluntary and I understand that I can cease my participation at any time.  Yes ☐ No ☐

I understand that my participation in this research will be treated with confidentiality.  Yes ☐ No ☐

I understand that any information that may identify me will be de-identified at the time of analysis of any data.  Yes ☐ No ☐

I understand that no identifying information will be disclosed or published.  Yes ☐ No ☐

I understand that all information in this research will be kept confidentially.  Yes ☐ No ☐

I am aware that I can contact the researcher at any time with any queries. Their contact details have been provided to me.  Yes ☐ No ☐

I understand that this project has been approved by the Southern Cross University Human Research Ethics Committee.  Yes ☐ No ☐

Participant’s name: _______________________________________

Participant’s signature: ___________________________________ Date: ____________

Please leave your email if you would like a summary of the study findings

__________________________________________________________________________
Appendix 7 Formulating interview guiding questions

<table>
<thead>
<tr>
<th>Research Problem</th>
<th>What I want to know</th>
<th>How I will address</th>
<th>Outputs</th>
<th>Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>What is the nature of the professional role boundaries between diabetes educators of different backgrounds?</td>
<td>Does the stakeholder believe that there are actually differences in the scopes of practice of diabetes educators of podiatry and nursing backgrounds?</td>
<td>Ask if they believe there are any differences in the scopes of practice of DEs of podiatry and nursing backgrounds.</td>
<td>Perspectives related to the role boundaries and scopes of practice of podiatrist and nurse DEs and any differences in these.</td>
<td>Quotations which represent both traditional and contemporary views on potential scope of practice and role boundaries.</td>
</tr>
<tr>
<td>What, if any, practices can be undertaken by nurse diabetes educators, but not podiatrists?</td>
<td>Which practices are deemed to be within the scope of practice of nurse diabetes educators, but out of that of the podiatrist?</td>
<td>Ask whether there are particular practices are perceived to be within the scope of nurse diabetes educator practice, but beyond the podiatrist’s.</td>
<td>Pin-point particular skill-sets and practices under contention.</td>
<td>A list of skills / practices believed to be beyond the podiatrist diabetes educator’s scope of practice. I anticipate that insulin commencement and titration will be identified by some stakeholders.</td>
</tr>
<tr>
<td>How do clinician stakeholders obtain information about their scope of practice?</td>
<td>Who do clinicians look to, to find out what their role boundaries and scopes of practice are?</td>
<td>Ask clinicians where / who they obtain information from regarding their role boundaries and scopes of practice.</td>
<td>Find out which entities and / or organisations are influential or perceived to be useful when it comes to information about scope of practice issues.</td>
<td>I anticipate the ADEA and the professional associations will be influential when it comes to matters of scope of practice.</td>
</tr>
<tr>
<td>What is the rationale for inequalities in the scopes of practice of podiatrist verses nurse diabetes educators?</td>
<td>How are health professional scopes of practice or role boundaries perceived to be determined?</td>
<td>Question what it is that determines the scope of practice and /or role boundaries of a health professional.</td>
<td>Perceptions of the definition/s of scope of practice and competency, and how these are determined and the influences that social and political factors have on the role boundaries of health professions.</td>
<td>A definition of scope of practice and competency which is likely to differ across the four different aspects of diabetes education.</td>
</tr>
<tr>
<td>If nurses and podiatrists</td>
<td>Ask course coordinators of</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

174
<table>
<thead>
<tr>
<th>Would the ability of podiatrists to practice to the full scope of the diabetes educator role be seen as an advantage or disadvantage for the profession? And for consumers? And diabetes services in Australia?</th>
<th>Is there a perception among key stakeholders that achieving equality among all diabetes educators would be disadvantageous for people with diabetes? For the diabetes educator workforce? For diabetes services in Australia?</th>
<th>Question whether key stakeholders see equality within the scopes of practice of podiatrist and nurse diabetes educators to have a positive or negative impact on 1) the profession, and 2) for people accessing diabetes services, and 3) diabetes services in Australia</th>
<th>A gauge of whether key stakeholders support or oppose podiatrist diabetes educators working to full scope of practice and their reasoning for their opinion</th>
<th>The positions of the various stakeholders in terms of either their support or opposition to all diabetes educators working to full scope of practice</th>
</tr>
</thead>
<tbody>
<tr>
<td>What sort of strategies, if any, could be implemented to up-skill podiatrist diabetes educators to achieve equality with nurses in their scope of practice?</td>
<td>Is there a perception that particular competencies or skill sets can be learnt and attained by podiatrists to enable them to practice the full scope of diabetes education as per nurses?</td>
<td>Question whether podiatrists could be trained and up-skilled to practice to full scope as per nurses</td>
<td>Opinions among stakeholders regarding the potential for equality in scope of practice among podiatrist and nurse diabetes educators with relevant training and competency attainment</td>
<td>An impression of whether the issue of inequality in scope of practice is related to competencies or more likely related to socio-political factors</td>
</tr>
</tbody>
</table>
Appendix 8 Interview guiding questions

Interview guiding questions for key stakeholders in the area of Diabetes Education

Name of interviewee:

Job title:

Date of interview:

Interviewer:

Permission to tape record:

<table>
<thead>
<tr>
<th>Introduction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thank you for agreeing to be interviewed as part of this research project.</td>
</tr>
<tr>
<td>This interview should last approximately one hour. The data obtained from this interview will be used in a non-attributable form.</td>
</tr>
<tr>
<td>Can you confirm that you have read and understood the consent form you have signed? Do you have any questions regarding your participation in this research project at this stage?</td>
</tr>
<tr>
<td>As you are aware, this interview will be audio-recorded and transcribed. I will also be taking brief notes throughout.</td>
</tr>
<tr>
<td>The data collected will form part of my PhD thesis. I am a recipient of a scholarship from the National Allied Health Scholarships Support Scheme. The final project report will be submitted to Southern Cross University for examination and may be submitted for publication in a peer-reviewed journal. A copy of the final report will be made available to all interview participants.</td>
</tr>
<tr>
<td>It is hoped that the findings of this research may improve the way diabetes educators practice.</td>
</tr>
</tbody>
</table>
Clinician stakeholders

1. Can you please describe your role and background in relation to diabetes educators?

2. What is your understanding of the role and scope of practice of diabetes educators?

3. Where do your beliefs and understanding of the role and scope of practice of diabetes educators come from?
   Eg. ADEA, university

4. As well as nurses, allied health professionals including podiatrists, pharmacists, dietitians and are able to qualify and practice as diabetes educators. As it stands, nurse diabetes educators have access to the full scope of diabetes education practice, whereas allied health diabetes educators have restrictions on their practice.
   i. In your opinion, should allied health diabetes educators have access to the full scope of diabetes education practice?
   ii. If yes, what strategies could be implemented to enable this?
   iii. If no, why not?

5. How do you think enabling podiatrist diabetes educators to practice to full scope would impact
   i. Patient care?
   ii. The diabetes educator profession?
   iii. Diabetes services in Australia?

6. Are you aware of any specific differences in the professional boundaries and scopes of practice between nurse and podiatrist diabetes educators?

7. What do you think are the differences between diabetes educators of nursing as opposed to podiatry backgrounds, in terms of relevant skills and training?

8. Do you have any other comments, concerns or ideas about the role boundaries and scope of practice of diabetes educators?
Post-graduate educator stakeholders

1. Can you please describe your role and background in relation to diabetes educators?

2. Could you please describe any pre-requisite or eligibility criteria for students’ admission into the Post-Graduate Certificate in Diabetes Education course?

3. How does the clinical background of the student affect their ability to participate in each of the theoretical and practical components of the course?

4. Which organisations / institutions / bodies do you believe influence the scope of practice of diabetes educators?

5. As well as nurses, allied health professionals including podiatrists, pharmacists, dietitians and are able to qualify and practice as diabetes educators. As it stands, nurse diabetes educators have access to the full scope of diabetes education practice, whereas allied health diabetes educators have restrictions on their practice.

   i. Should allied health diabetes educators have access to the full scope of diabetes education practice?

   ii. If yes, what strategies could be implemented to enable this?

   iii. If no, why not?

6. How do you think enabling podiatrist diabetes educators to practice to full scope would impact

   i. Patient care?

   ii. The diabetes educator profession?

   iii. Diabetes services in Australia?

7. Feel free to raise any other concerns or ideas you may have about the role boundaries and scope of practice of diabetes educators.
Professional association stakeholders

1. Can you please describe your role and background in relation to diabetes educators?

2. What is your understanding of the roles and scopes of practice of diabetes educators?

3. As well as nurses, allied health professionals including podiatrists, pharmacists, dietitians and are able to qualify and practice as diabetes educators. As it stands, nurse diabetes educators have access to the full scope of diabetes education practice, whereas allied health diabetes educators have restrictions on their practice.

   i. In your opinion, should allied health diabetes educators have access to the full scope of diabetes education practice?

   ii. If yes, what strategies could be implemented to enable this?

   iii. If no, why not?

4. How do you think enabling podiatrist diabetes educators to practice to full scope would impact

   i. Patient care?

   ii. The diabetes educator profession?

   iii. Diabetes services in Australia?

5. Are you aware of any specific differences in the professional boundaries and scopes of practice between nurse and podiatrist diabetes educators?

6. What is the reason for these differences? How is scope of practice determined?

7. Do you have any other comments, concerns or ideas about the role boundaries and scope of practice of diabetes educators?
Regulator stakeholders

1. Can you please describe your role and background in relation to diabetes educators?

2. As well as nurses, allied health professionals including podiatrists, pharmacists, dietitians and are able to qualify and practice as diabetes educators. As it stands, nurse diabetes educators have access to the full scope of diabetes education practice, whereas allied health diabetes educators have restrictions on their practice.

   i. In your opinion, should allied health diabetes educators have access to the full scope of diabetes education practice?
   
   ii. If yes, what strategies could be implemented to enable this?
   
   iii. If no, why not?

3. Are you aware of any specific differences in terms of regulated professional boundaries and scopes of practice between nurse and podiatrist diabetes educators?

4. What is the reason for these differences? How is scope of practice determined?

5. How do you think enabling podiatrist diabetes educators to practice to full scope would impact
   
   i. Patient care?
   
   ii. The diabetes educator profession?
   
   iii. Diabetes services in Australia?

6. Do you have any other comments, concerns or ideas about the role boundaries and scope of practice of diabetes educators?
Policy-maker stakeholders

1. Can you please describe your role and background in relation to diabetes educators?

2. As well as nurses, allied health professionals including podiatrists, pharmacists, dietitians and are able to qualify and practice as diabetes educators. As it stands, nurse diabetes educators have access to the full scope of diabetes education practice, whereas allied health diabetes educators have restrictions on their practice.

   i. In your opinion, should allied health diabetes educators have access to the full scope of diabetes education practice?

   ii. If yes, what strategies could be implemented to enable this?

   iii. If no, why not?

3. Are you aware of any specific differences in terms of regulated professional boundaries and scopes of practice between nurse and podiatrist diabetes educators?

4. What is the reason for these differences? How is scope of practice determined?

5. How do you think enabling podiatrist diabetes educators to practice to full scope would impact

   i. Patient care?

   ii. The diabetes educator profession?

   iii. Diabetes services in Australia?

6. Do you have any other comments, concerns or ideas about the role boundaries and scope of practice of diabetes educators

181
## Appendix 9 Australian diabetes educator workforce timeline

<table>
<thead>
<tr>
<th>Year</th>
<th>Level of influence</th>
<th>Diabetes Educator and other Health Workforce Events</th>
</tr>
</thead>
<tbody>
<tr>
<td>1981</td>
<td>Meso</td>
<td>Australian Diabetes Educators Association (ADEA) established by a group of nurses</td>
</tr>
<tr>
<td>1984</td>
<td>Macro</td>
<td>Passage of legislation to transfer nurse training and education from hospital to a university setting</td>
</tr>
<tr>
<td>1985-1993</td>
<td>Macro</td>
<td>Nurse training and education transferred from hospital based training to a university system</td>
</tr>
<tr>
<td>1986</td>
<td>Meso</td>
<td>The certification trademark of the Credentialled Diabetes Educator® (CDE) was introduced by ADEA in 1986</td>
</tr>
<tr>
<td>1987</td>
<td>Meso</td>
<td>Following the ADEA’s review of the professions eligible to become a CDE, a grandfather clause was implemented. This enabled diabetes educators of enrolled nursing background to continue practising</td>
</tr>
<tr>
<td>1989</td>
<td>Meso</td>
<td>The Role Statement of the Diabetes Nurse Educator published. This document was unable to be located, however as the title suggests, the diabetes educator role is a nursing role according to the ADEA</td>
</tr>
<tr>
<td>1991</td>
<td>Meso</td>
<td>National Standards of Practice for Diabetes Educators published. There was no reference to multi or interdisciplinary practice in this document. Nor did the document specify which health professions were eligible to practise diabetes education</td>
</tr>
<tr>
<td>1992</td>
<td>Meso</td>
<td>First diabetes educator course is accredited by ADEA</td>
</tr>
<tr>
<td>1994</td>
<td>Meso</td>
<td>National Guidelines for the Safe Practice of Diabetes Nurse Educators published. This document refers to the diabetes nurse educator’s role in adjusting insulin doses for their patients</td>
</tr>
<tr>
<td>1996</td>
<td>Meso</td>
<td>National Core Competencies for Diabetes Educators published. This document lists nurses, dietitians, podiatrists, psychologists and social workers as the professions involved in diabetes education. Reference was made to the RN diabetes educator’s role in adjusting insulin doses</td>
</tr>
<tr>
<td>1990s</td>
<td>Meso</td>
<td>Accredited Practicing Dietitians (APD) deemed eligible for ADEA credentialling</td>
</tr>
<tr>
<td>1999</td>
<td>Micro</td>
<td>First APD becomes a credentialled diabetes educator</td>
</tr>
<tr>
<td>2000</td>
<td>Macro</td>
<td>Insulin rescheduled from a schedule 3 to schedule 4 drug, effective 1 December 2000</td>
</tr>
<tr>
<td>2001</td>
<td>Macro</td>
<td>Registered Nurses (RN) CDEs in New South Wales successfully argued for the right to supply patients with a limited amount of insulin on initial prescription</td>
</tr>
<tr>
<td>2001</td>
<td>Meso</td>
<td>• Credentialling of Diabetes Educators 2000 published. The professions eligible for ADEA credentialling included: RNs, dietitians, podiatrists, psychologists, medical officers and Aboriginal health workers</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• National Core Competencies for Diabetes Educators (1996) reviewed and published. Reference was made to the role of the RN CDE role in adjusting insulin</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Code of Conduct for Diabetes Educators first published</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• The Role of the Diabetes Educator in Australia published (revision of The Role Statement of the Diabetes Nurse Educator, 1989). The title of the document was changed to reflect the growth and diversity of the ADEA membership</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• National Standards for Diabetes Education Programs published</td>
</tr>
<tr>
<td>Year</td>
<td>Event</td>
<td></td>
</tr>
<tr>
<td>--------</td>
<td>----------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>2001</td>
<td>The first Nurse Practitioner (NP) role in Australia was appointed to</td>
<td></td>
</tr>
<tr>
<td>2003</td>
<td><em>National Standards of Practice for Diabetes Educators</em> (of 1991) was reviewed and published</td>
<td></td>
</tr>
<tr>
<td>2004</td>
<td>• <em>National Standards for the Development and quality assessment of services initiating insulin therapy in the ambulatory setting</em> published. This document states that RN and APD CDEs have a role in coordinating the initiation of insulin in the ambulatory setting</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• <em>Code of Conduct for Diabetes Educators</em> (of 2001) reviewed and published</td>
<td></td>
</tr>
<tr>
<td>2004</td>
<td><strong>Micro</strong> First podiatrist becomes a CDE</td>
<td></td>
</tr>
<tr>
<td>2004 (July)</td>
<td>Podiatrists and APDs included in the Medicare Benefits Schedule, enabling them to offer Medicare rebateable services to patients who have had a GP Enhanced Primary Care plan developed by their GP</td>
<td></td>
</tr>
<tr>
<td>2005</td>
<td>• A collaborative position statement between the ADEA and DAA was developed: <em>Joint Statement on the Role of Accredited Practising Dietitians and Diabetes Educators in the Delivery of Nutrition and Diabetes Self-Management Education Services for People with Diabetes</em></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Article published in the Diabetes Management Journal, <em>All about diabetes educators – a guide for General Practitioner</em>, states that only RN CDEs can sign National Diabetes Services Scheme forms, confirming a person’s diagnosis of diabetes</td>
<td></td>
</tr>
<tr>
<td>2005</td>
<td><strong>Macro</strong> Diabetes Educators included in the Medicare Benefits Schedule enabling them to offer Medicare rebateable services to patients who have had a GP Enhanced Primary Care plan developed by their GP</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Productivity Commission releases Australia’s Health Workforce Report. Among a number of recommendations, the report called for more interdisciplinary practice to support role flexibility and enhance efficiency in health care practices</td>
<td></td>
</tr>
<tr>
<td>2005-2006</td>
<td>• ADEA conducted a review of the processes and standards used to evaluate the eligibility of professions for credentialling</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• In 2006, RNs, dietitians, podiatrists, Indigenous health workers, social workers, psychologists, physiotherapists and physicians recognised as being involved in diabetes care</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• ADEA Board made up of 11 directors, all of which were RNs</td>
<td></td>
</tr>
<tr>
<td>2006</td>
<td><strong>Macro</strong> Medicare Benefits Scheme rebate only available to Diabetes Educators who are ADEA credentialled</td>
<td></td>
</tr>
<tr>
<td>2007</td>
<td>• <em>The Credentialled Diabetes Educator: Role and Scope of Practice</em> reviewed and published. The professions deemed to be CDE-eligible were: RNs, APDs, medical practitioners and the new addition of registered pharmacists with medication management review accreditation. Podiatrists were not on this list</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• ADEA Board made up of 11 directors, all of which were RNs</td>
<td></td>
</tr>
<tr>
<td>2007</td>
<td><strong>Macro</strong> Department of Veterans Affairs first provided rebates for services provided to eligible veterans by CDEs</td>
<td></td>
</tr>
<tr>
<td>2008</td>
<td>• <em>National Core Competencies for Credentialled Diabetes Educators</em> was reviewed and published. This document did not refer to insulin adjustment or clinical skill sets specific to the different disciplines</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Registered Podiatrists added to the list of ADEA eligible professions</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• ADEA Board made up of 11 directors, all of which were RNs</td>
<td></td>
</tr>
<tr>
<td>Year</td>
<td>Level</td>
<td>Event</td>
</tr>
<tr>
<td>------</td>
<td>-------</td>
<td>-------</td>
</tr>
<tr>
<td>2008</td>
<td>Macro</td>
<td>ADEA mentoring program launched</td>
</tr>
<tr>
<td>2009</td>
<td>Micro</td>
<td>Private Health Insurance Rules recognised and endorsed rebates for diabetes education services provided by CDEs</td>
</tr>
<tr>
<td>2009</td>
<td>Meso</td>
<td>ADEA Board made up of 11 directors, all of which were RNs</td>
</tr>
<tr>
<td>2009</td>
<td>Macro</td>
<td>First pharmacist becomes CDE</td>
</tr>
<tr>
<td>2009</td>
<td>Macro</td>
<td>Passage of legislation to allow Victoria Podiatrists to prescribe schedule 4 drugs according to a formulary</td>
</tr>
<tr>
<td>2010</td>
<td>Macro</td>
<td>The National Registration and Accreditation Scheme was implemented and Australian Health Practitioners Regulation Agency was established</td>
</tr>
<tr>
<td>2010</td>
<td>Macro</td>
<td>NPs first gain access to the MBS and the Pharmaceutical Benefits Scheme</td>
</tr>
<tr>
<td>2010</td>
<td>Meso</td>
<td>ADEA Board made up of 10 directors, all of which were RNs</td>
</tr>
<tr>
<td>2010</td>
<td>Meso</td>
<td>Code of Conduct for Diabetes Educators reviewed and published</td>
</tr>
<tr>
<td>2010</td>
<td>Meso</td>
<td>Article published in the Diabetes Management Journal, Nursing roles in initiating and adjusting insulin, discusses the circumstances in which RNs are able to prescribe insulin: with endorsement as a NP or with a service protocol</td>
</tr>
<tr>
<td>2011</td>
<td>Meso</td>
<td>ADEA Board made up of 11 directors, 10 of which were RNs and one APD</td>
</tr>
<tr>
<td>2012</td>
<td>Meso</td>
<td>A resolution passed at the ADEA AGM, whereby members requested that the Board pursue the recognition of RN CDEs to have secondary prescribing rights by the Federal Government</td>
</tr>
<tr>
<td>2012</td>
<td>Meso</td>
<td>Guiding Principles for Managing Insulin in Ambulatory Care Settings: A Quality Use of Medicines Strategy was reviewed and published. This document states that the ADEA does not endorse prescribing practices for non-medical or nurse practitioner CDEs</td>
</tr>
<tr>
<td>2012</td>
<td>Meso</td>
<td>National Standards for the Development and quality assessment of services initiating insulin therapy in the ambulatory setting (of 2004) reviewed and published</td>
</tr>
<tr>
<td>2012</td>
<td>Meso</td>
<td>Accredited exercise physiologists deemed CDE-eligible</td>
</tr>
<tr>
<td>2012</td>
<td>Meso</td>
<td>ADEA Board made up of 11 directors, 10 of which were RNs and one APD</td>
</tr>
<tr>
<td>2013</td>
<td>Meso</td>
<td>ADEA Board made up of 10 directors, 9 of which were RNs and one with a pharmaceutical background</td>
</tr>
<tr>
<td>2013 Nov</td>
<td>Macro</td>
<td>Health Workforce Australia publish the HPPP Project – Final Report, which outlined a five step pathway for non-medical health professionals to engage in safe prescribing practices</td>
</tr>
<tr>
<td>2014</td>
<td>Meso</td>
<td>The requirement for pharmacists to have medication management review accreditation to be ADEA eligible</td>
</tr>
<tr>
<td>2014</td>
<td>Meso</td>
<td>National Core Competencies for Diabetes Educators (of 2008) was reviewed and published</td>
</tr>
<tr>
<td>2014</td>
<td>Meso</td>
<td>Code of Conduct (of 2010) reviewed and published</td>
</tr>
<tr>
<td>2014</td>
<td>Meso</td>
<td>ADEA published Australian Credentialled Diabetes Educators and Prescribing of Insulin and Glucose Lowering Agents – Scoping Paper</td>
</tr>
<tr>
<td>2014</td>
<td>Meso</td>
<td>ADEA Board made up of 11 directors, 8 of which were RNs, one with a pharmaceutical background, one pharmacist and another skill-based director</td>
</tr>
<tr>
<td>2015</td>
<td>Meso</td>
<td>ADEA published Australian Credentialled Diabetes Educators and Prescribing of Insulin and Glucose Lowering Agents Role and Scope of Practice for Credentialled Diabetes Educators in Australia reviewed and published</td>
</tr>
</tbody>
</table>
- Direct entry midwives and physiotherapists were approved as CDE-eligible
- ADEA Board of made up of 11 Directors, 8 of which are RNs, one pharmacist, one with a pharmaceutical background and one skills-based director
- ADEA constitution was reviewed, changes to the composition of the Board were made
- *The role of credentialled diabetes educators and accredited practising dietitians in the delivery of diabetes self-management and nutrition services for people with diabetes* (of 2005) was reviewed and published

<table>
<thead>
<tr>
<th>Year</th>
<th>Level</th>
<th>Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>Macro</td>
<td>A National Code of Conduct for health care workers – Final report was published. Health Ministers agreed to the terms of the National Code of Conduct for health care workers, which set minimum standards of conduct and practice for all unregistered health care workers</td>
</tr>
<tr>
<td>2015-2016</td>
<td>Meso</td>
<td>ADEA conducted a review of the processes and standards used to evaluate the eligibility of professions for credentialling. Criteria is not available to ADEA members or the professional bodies seeking eligibility</td>
</tr>
<tr>
<td>2016</td>
<td>Meso</td>
<td>Communiqué sent to all members, entitled, <em>Working for All Members</em>. This communiqué stated that the ADEA supports all CDE eligible professions equally and that no one profession is privileged or promoted over another</td>
</tr>
</tbody>
</table>
| 2016 | Meso | - There were 1,213 CDEs at the time of the 2015-16 AGM. Of these, 1,087 were nurses, 97 APDs, 22 pharmacists, 4 podiatrists, and 3 accredited exercise physiologists. The report stated that there had been an increase in APD and podiatrist CDEs in the preceding 12 months  
  - ADEA developed letter templates for RN CDEs to give to their patients, for them to complete and send to their individual private health insurers, requesting that RN CDE services are covered by their policy |
## Appendix 10 Quality appraisal documentary evidence

<table>
<thead>
<tr>
<th>Source</th>
<th>Literature type</th>
<th>Description</th>
<th>Number of records</th>
<th>Quality Indicator (Scott, 1990)</th>
<th>Authenticity</th>
<th>Credibility</th>
<th>Representativeness</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADEA* (retrieved from website)</td>
<td>Grey literature</td>
<td>Standards of practice, position statements and clinical guidelines (current)</td>
<td>4</td>
<td>Produced by ADEA, published on website</td>
<td>Authored by ADEA</td>
<td>Documents represented ADEA’s position. Were available on ADEA website</td>
<td>Purpose of document stated in most cases</td>
<td></td>
</tr>
<tr>
<td>ADEA (retrieved via university library)</td>
<td>Grey</td>
<td>Standards of practice, position statements and clinical guidelines (superseded)</td>
<td>10</td>
<td>Produced by ADEA; were published and held at university libraries or the National Library of Australia (NLA)</td>
<td>Authored by ADEA</td>
<td>Documents represented ADEA’s position. Were held at libraries</td>
<td>Purpose of document stated in most cases</td>
<td></td>
</tr>
<tr>
<td>ADEA (retrieved from website)</td>
<td>Grey</td>
<td>Annual Reports</td>
<td>9</td>
<td>Produced by ADEA, published on website</td>
<td>Authored by ADEA</td>
<td>Annual reports provided details of key activities undertaken by ADEA over previous financial year</td>
<td>Meaning was clear due to nature of reports</td>
<td></td>
</tr>
<tr>
<td>ADEA (retrieved from website)</td>
<td>Grey</td>
<td>ADEA meeting minutes</td>
<td>2</td>
<td>Produced by ADEA, published on website</td>
<td>Authored by ADEA</td>
<td>A record of proceedings of ADEA AGM</td>
<td>Meaning was clear due to nature of document</td>
<td></td>
</tr>
<tr>
<td>ADEA (retrieved from website)</td>
<td>Grey</td>
<td>Submissions</td>
<td>1</td>
<td>Produced by ADEA, published on website</td>
<td>Authored by ADEA</td>
<td>Submission based on evidence gathered by ADEA and endorsed by CEO</td>
<td>Intention of submission was stated</td>
<td></td>
</tr>
<tr>
<td>ADEA (retrieved from website)</td>
<td>Grey</td>
<td>Project / scoping / information documents</td>
<td>1</td>
<td>Produced by ADEA, published on website</td>
<td>Authored by ADEA</td>
<td>Documents were developed by ADEA and available of their website</td>
<td>Purposes of documents were stated</td>
<td></td>
</tr>
<tr>
<td>ADEA</td>
<td>Grey</td>
<td>Communication to</td>
<td>2</td>
<td>Produced by ADEA,</td>
<td>Authored by ADEA</td>
<td>ADEA communiqués</td>
<td>Meaning was clear:</td>
<td></td>
</tr>
<tr>
<td>(retrieved from website)</td>
<td>ADEA members</td>
<td>published on website</td>
<td>ADEA</td>
<td>distributed to membership</td>
<td>these documents provided the member with targeted information</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-------------------------</td>
<td>--------------</td>
<td>----------------------</td>
<td>------</td>
<td>---------------------------</td>
<td>-------------------------------------------------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Government or Government agency documents (retrieved online)</td>
<td>Grey</td>
<td>Government project reports, gazettes, legislation</td>
<td>8</td>
<td>Produced by government agencies, with relevant logos or endorsements evident</td>
<td>Government agencies are considered credible sources</td>
<td>Government documents are considered to be of high authority and are widely available online</td>
<td>Purposes of documents were stated most cases</td>
<td></td>
</tr>
<tr>
<td>Evidence to clarify specific facts</td>
<td>Peer-reviewed</td>
<td>Published paper about the history of the podiatry profession</td>
<td>1</td>
<td>Published in a peer-reviewed journal</td>
<td>Peer-review process enhances the credibility of the paper</td>
<td>Published in a journal and is available upon searching</td>
<td>Purpose of paper was stated</td>
<td></td>
</tr>
<tr>
<td>Email</td>
<td>Personal communication</td>
<td>Emails to clarify facts which are contracted or unaddressed in the documents retrieved</td>
<td>3</td>
<td>Only those deemed to be key informants or experts were consulted to clarify facts.</td>
<td>By virtue of their employment status and their access to relevant records, the ADEA employees consulted were deemed credible.</td>
<td>Information was obtained via email, which can be kept for a designated period of time and made available as required</td>
<td>Personal communication was sought to clarify particular key points</td>
<td></td>
</tr>
<tr>
<td>Databases (CINAHL and Medline)</td>
<td>Peer-reviewed</td>
<td>Published documents</td>
<td>1</td>
<td>Published in a peer-reviewed journal</td>
<td>The authors’ credentials included in paper. Both considered highly credible</td>
<td>Papers were accessible</td>
<td>Purpose of paper was stated</td>
<td></td>
</tr>
<tr>
<td>Database (CINAHL and Medline)</td>
<td>Opinion pieces</td>
<td>Piece written by diabetes educators about diabetes education practice</td>
<td>4</td>
<td>Published in journals</td>
<td>Authors were either credentialled diabetes educators or affiliated with ADEA</td>
<td>Documents were accessible</td>
<td>Purpose of piece was stated</td>
<td></td>
</tr>
<tr>
<td>ADEA e-</td>
<td>Grey</td>
<td>Job advertisements</td>
<td>15</td>
<td>Published on ADEA</td>
<td>Advertisements</td>
<td>Titles of employment</td>
<td>Purpose of</td>
<td></td>
</tr>
</tbody>
</table>
Newsletters containing job advertisements for diabetes educators | literature: Job advertisements for diabetes educators May 2016-May 2017 | newsletter(s) (29 job advertisements) | website and in e-Newsletter | placed by employers | opportunities remain accessible as at May 2017 | advertisement is to recruit to diabetes educator positions

A modified version of this table is included in King et al. (2017)
## Appendix 11 Employment opportunities advertised via ADEA May 2016 – May 2017

<table>
<thead>
<tr>
<th>ADEA e-Newsletter date</th>
<th>Title of advertised position</th>
<th>Employer/ location</th>
<th>Primary profession specified</th>
<th>Grade (award) or title</th>
<th>Position description / further information about role available</th>
</tr>
</thead>
<tbody>
<tr>
<td>13/05/2016</td>
<td>Diabetes Education Manager</td>
<td>Alfred Health, Melbourne, VIC</td>
<td>Registered Nurse</td>
<td>Not specified</td>
<td>No</td>
</tr>
<tr>
<td>13/05/2016</td>
<td>Clinical Nurse Consultant</td>
<td>Chermside, QLD</td>
<td>Registered Nurse</td>
<td>Clinical Nurse Consultant</td>
<td>No</td>
</tr>
<tr>
<td>13/05/2016</td>
<td>Diabetes Educator</td>
<td>Melbourne, VIC</td>
<td>Not specified</td>
<td>Not specified</td>
<td>No</td>
</tr>
<tr>
<td>24/06/2016</td>
<td>Registered Nurse Level 2</td>
<td>ACT Health Diabetes Service</td>
<td>Registered Nurse</td>
<td>Not specified</td>
<td>No</td>
</tr>
<tr>
<td>24/06/2016</td>
<td>Clinical Nurse Consultant</td>
<td>Grafton, NSW (Clarence Health Service)</td>
<td>Registered Nurse</td>
<td>Clinical Nurse Consultant Grade 2 (NSW Public Health System Nurses and Midwives Award)</td>
<td>Yes</td>
</tr>
<tr>
<td>24/06/2016</td>
<td>Clinical Nurse Specialist</td>
<td>Randwick, NSW</td>
<td>Registered Nurse</td>
<td>Clinical Nurse Specialist</td>
<td>No</td>
</tr>
<tr>
<td>08/07/2016</td>
<td>Diabetes Educator</td>
<td>Kununurra, WA</td>
<td>Not specified</td>
<td>Not specified</td>
<td>No</td>
</tr>
<tr>
<td>22/07/2016</td>
<td>Clinical Nurse Diabetes Educator</td>
<td>Brisbane Endocrinology and Diabetes</td>
<td>Registered Nurse</td>
<td>Not specified</td>
<td>No</td>
</tr>
<tr>
<td>22/07/2016</td>
<td>Clinical Nurse Consultant</td>
<td>Canberra</td>
<td>Registered Nurse</td>
<td>Clinical Nurse Consultant</td>
<td>No</td>
</tr>
<tr>
<td>05/08/2016</td>
<td>Diabetes Educator</td>
<td>Various</td>
<td>Not specified</td>
<td>Not specified</td>
<td>No</td>
</tr>
<tr>
<td>05/08/2016</td>
<td>Diabetes Nurse Educator – Melbourne</td>
<td>Baker IDI</td>
<td>Registered Nurse</td>
<td>Not specified</td>
<td>Yes</td>
</tr>
<tr>
<td>05/08/2016</td>
<td>Credentialled Diabetes Educator</td>
<td>Albany Western Australia</td>
<td>Not specified</td>
<td>Not specified</td>
<td>No</td>
</tr>
<tr>
<td>05/08/2016</td>
<td>Diabetic Nurse Educator – Melbourne</td>
<td>Belmore Nurses Bureau</td>
<td>Registered Nurse</td>
<td>Not specified</td>
<td>No</td>
</tr>
<tr>
<td>05/08/2016</td>
<td>Credentialled Diabetes Educator</td>
<td>Not specified</td>
<td>Not specified</td>
<td>Not specified</td>
<td>No</td>
</tr>
<tr>
<td>05/08/2016</td>
<td>Clinical Nurse Specialist Diabetes</td>
<td>Burnie, Tasmania</td>
<td>Registered Nurse</td>
<td>Clinical Nurse Specialist</td>
<td>No</td>
</tr>
<tr>
<td>05/08/2016</td>
<td>Clinical Nurse Consultant Diabetes Education</td>
<td>Gippsland, Victoria</td>
<td>Registered Nurse</td>
<td>Clinical Nurse Consultant</td>
<td>Yes</td>
</tr>
<tr>
<td>30/09/2016</td>
<td>Diabetes Educator</td>
<td>Eastern Health</td>
<td>Registered Nurse</td>
<td>Grade 4B (Victorian Public Health Sector)</td>
<td>Yes</td>
</tr>
<tr>
<td>Date</td>
<td>Position</td>
<td>Organisation</td>
<td>Grade/Type</td>
<td>Agreement</td>
<td></td>
</tr>
<tr>
<td>------------</td>
<td>-----------------------------------------------</td>
<td>-----------------------------------------------</td>
<td>----------------------------</td>
<td>-----------</td>
<td></td>
</tr>
<tr>
<td>30/09/2016</td>
<td>Diabetes Team Leader</td>
<td>Bendigo Health</td>
<td>Registered Nurse</td>
<td>Clinical Nurse Consultant (Grade 5 – Victorian Public Health Sector Agreement)</td>
<td></td>
</tr>
<tr>
<td>14/10/16</td>
<td>Diabetes Educator</td>
<td>Eastern Access Community Health</td>
<td>Registered Nurse</td>
<td>Grade 4B</td>
<td></td>
</tr>
<tr>
<td>14/10/16</td>
<td>Diabetes Nurse Educator</td>
<td>Baker IDI Heart and Diabetes Institute</td>
<td>Registered Nurse</td>
<td>Not specified</td>
<td></td>
</tr>
<tr>
<td>11/11/16</td>
<td>Graduate Diabetes Educator David Symons</td>
<td>Diabetes Tasmania</td>
<td>Registered Nurse</td>
<td>Not specified</td>
<td></td>
</tr>
<tr>
<td>25/11/16</td>
<td>Credentialled Diabetes Educator</td>
<td>Diabetes NSW &amp; ACT</td>
<td>Registered Nurse</td>
<td>Not specified</td>
<td></td>
</tr>
<tr>
<td>27/01/17</td>
<td>Clinical Nurse Consultant - Diabetes</td>
<td>Hunter New England Local Health District / NSW Health</td>
<td>Registered Nurse</td>
<td>Clinical Consultant</td>
<td></td>
</tr>
<tr>
<td>27/01/17</td>
<td>Diabetes Nurse Educator</td>
<td>Hunter New England Local Health District / NSW Health</td>
<td>Registered Nurse</td>
<td>Not specified</td>
<td></td>
</tr>
<tr>
<td>10/02/17</td>
<td>Diabetes Educator (Nurse)</td>
<td>Diabetes WA</td>
<td>Registered Nurse</td>
<td>Not specified</td>
<td></td>
</tr>
<tr>
<td>24/02/17</td>
<td>Diabetes Nurse Educator</td>
<td>Diabetes Tasmania</td>
<td>Registered Nurse</td>
<td>Not specified</td>
<td></td>
</tr>
<tr>
<td>10/03/17</td>
<td>Diabetes Educator (contractor)</td>
<td>Carrum Downs Doctors (private clinic)</td>
<td>Not specified</td>
<td>Not specified</td>
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</tr>
<tr>
<td>24/03/17</td>
<td>Diabetes Educator</td>
<td>Amity Health</td>
<td>Not specified</td>
<td>Not specified</td>
<td></td>
</tr>
<tr>
<td>21/04/17</td>
<td>Registered Nurse – Diabetes Educator</td>
<td>St Vincent’s Health Network Sydney</td>
<td>Registered Nurse</td>
<td>Not specified</td>
<td></td>
</tr>
</tbody>
</table>

Total of 29 employment opportunities with the twelve month timeframe
### Appendix 12 List of documents included in the documentary analysis

<table>
<thead>
<tr>
<th>Title: Year</th>
<th>Author</th>
<th>URL (if available)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Superseded ADEA standards, position statements and guidelines</td>
<td>National Guidelines for the Safe Practice of Diabetes Nurse Educators, 1994</td>
<td>All authored by ADEA</td>
</tr>
<tr>
<td></td>
<td>National Standards of Practice for Diabetes Educators, 1991</td>
<td></td>
</tr>
<tr>
<td></td>
<td>National Standards of Practice for Diabetes Educators, 2003</td>
<td></td>
</tr>
<tr>
<td></td>
<td>National Core Competencies for Diabetes Educators, 1996</td>
<td></td>
</tr>
<tr>
<td></td>
<td>National Core Competencies for Diabetes Educators, 2001</td>
<td></td>
</tr>
<tr>
<td></td>
<td>National Core Competencies for Diabetes Educators, 2008</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Joint Statement on the Role of Accredited Practising Dietitians and Diabetes Educators in the Delivery of Nutrition and Diabetes Self-Management Education Services for People with Diabetes, 2005</td>
<td>ADEA and Dietitians Association of Australia</td>
</tr>
<tr>
<td>-----------------------------------------------</td>
<td>----------------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>The Credentialled Diabetes Educator in Australia Role and Scope of Practice, 2007</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Superseded clinical guidelines / guiding principles</td>
<td>The National Standards for Developing and assessing the Quality of Services: Initiating Insulin Therapy in Ambulatory Settings, 2004</td>
<td>ADEA</td>
</tr>
<tr>
<td>Category</td>
<td>Description</td>
<td>Source</td>
</tr>
<tr>
<td>----------------------------------------------</td>
<td>-----------------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Newsletters and other members communication</td>
<td>Working for All Members – Communiqué, 2016</td>
<td><a href="https://www.adea.com.au/members/working-for-all-members/">https://www.adea.com.au/members/working-for-all-members/</a></td>
</tr>
<tr>
<td>Medicare Benefits Schedule Book, 2005</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Australia’s Health Workforce, 2005</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overview of Commonwealth involvement in funding dental care, 2008</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Health Professionals Prescribing Pathway (HPPP) Project Final Report, 2013</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emails to clarify details</td>
<td>Email communication, 30/08/2016</td>
<td>ADEA employee #1</td>
</tr>
<tr>
<td></td>
<td>Email communication, 03/10/2016</td>
<td>ADEA employee #2</td>
</tr>
<tr>
<td></td>
<td>Email communication, 09/10/2017</td>
<td>ADEA employee #1</td>
</tr>
<tr>
<td>Written by</td>
<td>Diabetes education in Australia, 1984</td>
<td>Cusworth, L.</td>
</tr>
<tr>
<td>diabetes educators about diabetes education practice</td>
<td>All about diabetes educators -- a guide for general practitioners, 2005</td>
<td>Alford, J.</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td></td>
<td>Nursing roles in initiating and adjusting insulin, 2010</td>
<td>Giles, J.</td>
</tr>
<tr>
<td></td>
<td>Diabetes Educators Get Item Numbers, 2004</td>
<td>Australian Nursing &amp; Midwifery Federation</td>
</tr>
</tbody>
</table>

A modified version of this table is included in King et al. (2017)