



University of HUDDERSFIELD

University of Huddersfield Repository

Roberts, Peter James Joseph

The Role of Podiatry in the Early Identification and Prevention of Lower Limb Venous Disease: An Ethnographic Study

Original Citation

Roberts, Peter James Joseph (2020) The Role of Podiatry in the Early Identification and Prevention of Lower Limb Venous Disease: An Ethnographic Study. Doctoral thesis, University of Huddersfield.

This version is available at <http://eprints.hud.ac.uk/id/eprint/35277/>

The University Repository is a digital collection of the research output of the University, available on Open Access. Copyright and Moral Rights for the items on this site are retained by the individual author and/or other copyright owners. Users may access full items free of charge; copies of full text items generally can be reproduced, displayed or performed and given to third parties in any format or medium for personal research or study, educational or not-for-profit purposes without prior permission or charge, provided:

- The authors, title and full bibliographic details is credited in any copy;
- A hyperlink and/or URL is included for the original metadata page; and
- The content is not changed in any way.

For more information, including our policy and submission procedure, please contact the Repository Team at: E.mailbox@hud.ac.uk.

<http://eprints.hud.ac.uk/>

**THE ROLE OF PODIATRY IN THE EARLY
IDENTIFICATION AND PREVENTION OF LOWER
LIMB VENOUS DISEASE: AN ETHNOGRAPHIC
STUDY**

PETER JAMES JOSEPH ROBERTS

A thesis submitted to the University of Huddersfield in partial fulfilment of the requirements for the degree of Doctor of Philosophy

The University of Huddersfield

February, 2020

Copyright statement

- i. The author of this thesis (including any appendices and/or schedules to this thesis) owns any copyright in it (the "Copyright") and s/he has given The University of Huddersfield the right to use such copyright for any administrative, promotional, educational and/or teaching purposes.
- ii. Copies of this thesis, either in full or in extracts, may be made only in accordance with the regulations of the University Library. Details of these regulations may be obtained from the Librarian. This page must form part of any such copies made.
- iii. The ownership of any patents, designs, trademarks and any and all other intellectual property rights except for the Copyright (the "Intellectual Property Rights") and any reproductions of copyright works, for example graphs and tables ("Reproductions"), which may be described in this thesis, may not be owned by the author and may be owned by third parties. Such Intellectual Property Rights and Reproductions cannot and must not be made available for use without the prior written permission of the owner(s) of the relevant Intellectual Property Rights and/or Reproductions

Abstract

Lower limb venous disease can cause significant pain, loss of mobility, and can be detrimental to quality of life. Venous leg ulcers can occur in the most severe stages, and these pose substantial negative impact on patients and constitute a high demand on healthcare resources. The problem of lower limb venous disease is internationally recognised, but the majority of research and discourse has focussed on treatment of leg ulceration and prevention of recurrence, rather than prevention of lower limb venous disease progression to the first ulceration. The care of this condition appears to rest in the domain of medicine and nursing yet podiatry, a profession with responsibility for the lower limb and foot, is conspicuous by its absence from the literature.

This thesis explores the early identification and prevention role played by podiatrists. It investigates the role, its drivers and its limitations through the use of an ethnographic approach to embed the researcher in the culture of podiatry, and gain an understanding of practice from the viewpoint of participants. Twenty-three podiatrists and three registered nurses volunteered from a variety of settings. Data were gathered through observation, semi-structured interviews, and a focus group interview. Analysis was conducted using the framework approach.

The findings reveal an identity crisis within the podiatry profession. A foot-focussed and treatment-based identity clashes with a desire to care for people as a whole, and give good quality health promotion and public health messages. Lower limb venous disease features in the latter identity and is often marginalised in practice as a result. This also manifests in ritual and routine practices that did not include lower limb venous disease. There was evidence that external control over practice limited professional autonomy of podiatrists determining their own activities. Inter-professional relationships with nursing, and perceptions of boundaries that venous disease was a nursing role were also found to be limiting factors. From this in-depth qualitative study, it was evident that podiatry does not occupy a substantive role in contributing to the early identification and prevention of lower limb venous disease.

Table of Contents

Chapter 1 Introduction	14
1.1 Lower Limb Venous Disease.....	14
Table 1: CEAP classification system after Yam, Winokur and Khilnani (2016)	15
1.2 Crisis point.....	17
1.3 Prevention rising up the health agenda	19
1.4 13,031 UK podiatrists	20
1.5 Chapter Summary	21
Chapter 2 Literature Review.....	23
2.1 Literature Search	23
2.2 Search Results.....	25
2.3 Critical Appraisal	26
2.4 Review findings.....	26
2.4.1 Early identification and prevention of lower limb venous disease; current practice	26
2.4.2 Identifying the risk factors for lower limb venous disease progression.....	28
2.4.2.1 Cohort studies	28
2.4.2.2 Case-control studies.....	32
2.4.2.3 Cross-sectional studies	33
2.4.2.4 Broader scientific fields of enquiry.....	36
2.4.2.5 Qualitative studies	36
2.4.3 Methods to prevent lower limb venous disease progression	39
2.4.3.1 Compression therapy.....	39
2.4.3.2 Guidelines for primary prevention of lower limb venous disease and VLU	41
2.5 Review limitations	43
2.6 Chapter summary	43
2.7 Research Aim and Objectives.....	46

Chapter 3 Methodology	47
3.1 Qualitative Research Approach.....	47
3.2 An Ethnographic Study.....	48
3.2.1 Emic position	50
3.3 Alternative approaches	50
3.4 Philosophical Position	51
3.4.1 Ontology	51
3.4.2 Epistemology	53
3.4.3 Reflexivity	54
3.5 Chapter summary	55
Chapter 4 Methods	56
4.1 Data collection overview	56
4.2 Ethical approval	57
4.2.1 Ethical considerations	57
4.2.2 Informed Consent	57
4.3 Sampling.....	58
4.3.1 Participant selection and recruitment for observations with interviews	59
4.3.2 Participant selection and recruitment for interviews without observation	60
4.3.3 Participant selection and recruitment for the focus group interview.....	60
4.3.4 Sample size.....	61
4.4 Data Collection	61
4.4.1 Observations	61
4.4.2 Interviews.....	63
4.4.3 Focus group interview.....	66
4.5 Data analysis approach	67
4.5.1 Step by step analytic process.....	68
4.5.2 Developing descriptive and explanatory accounts	70
4.6 Chapter Summary	71
Chapter 5 Analysis.....	72

Sampling	72
5.1 Development of the thematic framework	75
5.2 Final thematic framework	76
5.3 Venous Disease: Current Practice	76
5.3.1 Talking the talk.....	80
5.3.2 Venous Disease is not in the Podiatry Veins	82
5.4 Identity.....	83
5.4.1 Foot Focussed.....	83
5.4.2 Life and Sole	84
5.4.3 Inter-professional identity	88
5.4.4 Priorities	92
5.5 Time.....	95
5.5.1 Constraint or Opportunity?	95
5.5.2 Time is routine.....	97
5.6 Autonomy	100
5.6.1 Money is power.....	100
5.6.2 Follow the guidelines	104
5.7 Education	106
5.7.1 Undergraduate education	106
5.7.2 Waiting for Champions.....	107
5.7.3 Theory-practice mis-match.....	108
5.8 Venous disease in health care	110
5.9 Chapter Summary	113
Chapter 6 Discussion	114
6.1 Professionalism	114
6.1.1 Quality.....	118
6.1.2 Autonomy	118
6.2 Culture	122
6.2.1 Ideal vs. Real Culture	122

6.2.2	Propositional vs. Tacit Knowledge.....	124
6.2.3	The culture of prevention	127
6.2.3.1	Cultural limitations in prevention of venous disease.....	127
6.2.3.2	Cultural limitations on lower limb venous disease prevention in podiatry	131
6.3	Identity.....	135
6.3.1	Foot-focussed	136
6.3.2	The confused health promotion and prevention identity	137
6.3.3	Inter-professional boundaries and identity.....	140
6.3.4	Cultural Priorities	141
6.4	Time.....	144
6.4.1	Time is routine.....	146
6.4.1.1	Structuration Theory and Normalisation Process Theory	148
6.5	Reflexivity	153
6.5.1	Reflection on the research journey	154
6.6	Study limitations	154
6.7	Conclusion and recommendations.....	156
6.7.1	Contribution to knowledge.....	156
6.8	Recommendations for practice, policy, education and research	158
6.8.1	Recommendations for practice	158
6.8.2	Recommendations for policy	158
6.8.3	Recommendations for education	159
6.8.4	Recommendations for research	159
Appendix 1	.....	161
Appendix 2	.....	167
Appendix 3	.....	179
Appendix 4	.....	182
Appendix 5	.....	184
Appendix 6	.....	190
Appendix 7	.....	191

Appendix 8	194
Appendix 9	196
Appendix 10	197
Appendix 11	200
Appendix 12	219
Appendix 13	230
Appendix 14	233
Sampling details.....	233
Sampling (individual interviews)	234
Sampling (focus group interview).....	235
Appendix 15	236
Bibliography	244

Word Count: 58,061

List of Figures

- Figure 1: Flowchart representing the literature selection process 25
- Figure 2: Example interview guide 65
- Figure 3: The process of framework analysis..... 68
- Figure 4: Excerpt from the framework matrix spreadsheet..... 70
- Figure 5: Number of participants according to work sector..... 73
- Figure 6: Number of consultations observed in private and NHS sectors 74
- Figure 7: Example of vascular assessment form used in the NHS..... 78
- Figure 8: College of podiatry national conference key note sessions for diabetes, PAD, venous disease and "vascular" 2013 – 2018143

List of Tables

Table 1: CEAP classification system after Yam, Winokur and Khilnani (2016) 15

Table 2: Databases and date ranges for literature search 23

Table 3: Search terms..... 24

Table 4: Inclusion and exclusion criteria 24

Table 5: The data collection process 56

Dedications and Acknowledgements

I acknowledge and thank my director of studies Prof. Karen Ousey, and co supervisors Dr. Caroline Barker and Dr. Sarah Reel for their expert guidance and support in completing this thesis. For their assistance in the early stages of this project, I also acknowledge and thank Dr. John Stephenson, and Dr. Christopher Davies.

I extend special thanks to everyone who participated in my study, without their involvement this project would not have been possible.

My wife Ruth and our children Laura and Joshua have supported me throughout this process and their love, patience and belief has meant everything. Finally, I dedicate this thesis to the memory of Grace Law Roberts, whose perseverance and determination through her own leg ulcer inspired this study.

List of abbreviations

APPG – All Party Parliamentary Group

AHP – Allied Health Professional

CEAP – Clinical Etiological Anatomical Pathophysiological

COP – College of Podiatry

CRD – Centre for Reviews and Dissemination

CVD – Chronic Venous Disease

DVT – Deep Vein Thrombosis

DFU – Diabetic Foot Ulcers

DHSC – Department for Health and Social Care

HCPC – Health and Care Professions Council

IRAS – Integrated Research Application System

JBI – Joanna Briggs Institute

KPI – Key Performance Indicator

MSK – Musculoskeletal

NHS – National Health Service

NICE – National Institute for Health and Care Excellence

NPT – Normalisation Process Theory

ONS – Office for National Statistics

PAD – Peripheral Arterial Disease

PCT – Primary Care Trust

PHE – Public Health England

REC – Research Ethics Council

VLU – Venous Leg Ulcer

WHO – World Health Organisation

Academic Biography

In presenting this biography, I intend to clarify any sources of bias that may have influenced this project.

I qualified as a podiatrist in 2001 from the University of Huddersfield. I developed an interest in education during my undergraduate course and my first professional employment was as a graduate clinical demonstrator running the student vacation clinics at the University. I joined the NHS in autumn 2001 as a Basic Grade podiatrist for St Helens and Knowsley Primary Care Trust (PCT), undertaking general podiatry practice. After 6 months I gained promotion to senior II which subsequently translated to a band 6 podiatrist at the inception of Agenda for Change. I worked in multiple settings including community and hospital clinics, nursing homes, and domiciliary visits. My caseload varied but I developed an interest in vascular assessment and care of patients with diabetes. During my time at St Helens, I studied for an MSc in Advancing Clinical Practice undertaking a systematic review for my dissertation to determine an evidence based protocol for Ankle: Brachial Pressure Index measurement.

In 2006, I moved to a band 7 role with Central Lancashire PCT to lead the podiatry team for diabetes care. In this role, I introduced a structured education programme for patients with diabetes and held regular staff education events and journal discussion meetings. I was heavily involved with auditing the service and forming links with district nurses and vascular surgical teams. My interest in education became a passion and in 2008, I moved to the University of Huddersfield as a senior lecturer in podiatry.

My teaching and research interests focus on medical conditions and their implications for podiatry; specifically, I am interested in how podiatry can enhance health and wellbeing by early recognition of conditions and appropriate advice and signposting. I have a varied teaching case-load from research methods to orthotic prescription and manufacture. In leading the final year research project module across podiatry, physiotherapy, occupational therapy, operating department practice, and adult, mental health, child and learning disability nursing for ten years I have developed excellent experience and understanding of inter-professional learning and working. It is my job to educate podiatrists and other professionals to do the right and best thing for their patients at all times.

Structure of the Thesis

This thesis is presented in six chapters.

Chapter one provides the context for the study. The background and need for the study are discussed with reference to the place of lower limb venous disease in current healthcare. Alongside this the case is presented for specific exploration into the role of podiatry.

Chapter two presents a critical exploration of current literature regarding early identification and prevention of venous disease. Current practice, the means of identifying patients at risk of disease progression, and the methods for delaying disease progression are discussed. The chapter culminates in identifying a gap in the literature leading to the aim and objectives for the study.

Chapter three discusses the rationale for the ethnographic approach to the study. The chapter includes the philosophical underpinnings of the study, my stance as a researcher, and the use of reflexivity.

Chapter four details the working methods of the study, the ethical issues, sampling strategy, and data analysis approach.

Chapter five presents the combined findings following analysis of observational, interview, and focus group interview data.

In Chapter six the findings are discussed in the context of existing literature and sociological theory to reveal how the findings contribute new knowledge. The limitations of the study are considered and recommendations are made for practice, policy, education, and research.

Chapter 1 Introduction

This thesis aims to explore the role of podiatrists in the early identification and prevention of lower limb venous disease. This chapter introduces contemporary contextual issues concerning lower limb venous disease and current podiatry practice in the United Kingdom (UK). Within a backdrop of the growing health care crisis for the UK National Health Service (NHS) (Maybin, Charles, & Honeyman, 2016; The Health Foundation, The King's Fund, & Nuffield Trust, 2018), the need for research into prevention of lower limb venous disease has been identified. Background detail provided in this chapter, combined with the researcher autobiography (page twelve) explains the origin and importance of this thesis to explore the early identification and prevention of lower limb venous disease by podiatrists.

1.1 Lower Limb Venous Disease

Lower limb venous disease can be painful and detrimental to mobility, self-esteem and quality of life with venous leg ulcers (VLU) in particular having a negative emotional impact and causing debilitating discomfort (Atkin, 2019a; Barnsbee et al., 2019; Green, Jester, McKinley and Pooler, 2013). Significantly, quality of life research reveals lower limb venous disease is comparable with higher profile conditions such as myocardial infarction, cardiac failure, and obstructive pulmonary disease (Carradice et al., 2011; Kahn, et al., 2004). Sickness absence from work because of lower limb venous disease is also considerable contributing to negative socio-economic impact, social isolation and loneliness (Brajesh, 2015). All stages of lower limb venous disease demonstrate negative quality of life implications, indicating that severe stages such as VLU should not be the sole priority (Carradice et al., 2011; Kahn, et al., 2004). Health care should include early attention to prevent disease deterioration, limit the complications associated with lower limb venous disease, and ultimately improve quality of life (Nicolaidis & Labropoulos, 2019).

There is a lack of consistency in the literature defining the terms venous disease, chronic venous insufficiency and chronic venous disease with overlapping meaning adding to the ambiguity (Beebe et al., 1996; Beebe-Dimmer, Pfeifer, Engle, & Schottenfeld, 2005). For clarity, I will use 'lower limb venous disease' henceforth in this thesis to encompass all forms and definitions of lower limb venous pathology. However, specific reference to VLU or other defined features of lower limb venous disease occur as required through the thesis.

Venous hypertension is the root cause of lower limb venous disease and results from either reflux or obstruction (Crawford, Lal, Duran, & Pappas, 2017). Venous reflux denotes backflow of blood from central to peripheral veins and from deep to superficial due to failure

of the foot or calf muscle pump, ineffectiveness of the respiratory pump, or valve incompetence (Horwood, 2019). In obstructive disease, venous thrombi prevent the movement of blood through the veins resulting in peripheral pooling of blood (Raju, Knight, Lamanilao, Pace, & Jones, 2019). Pathological changes of lower limb venous disease occur in peripheral vessels and tissues because of venous hypertension.

Theories regarding venous pathology suggest skin changes arise when vessels dilate under increased venous pressure, forcing red blood cells into interstitial spaces (Nicholls, 2005). Conversion of haemoglobin to haemociderin results in a brown discolouration of the skin that provides observable evidence of venous dysfunction (Nicholls, 2005). As venous disease progresses hypertension leads to local inflammation causing fluid leakage from capillaries and vessel dilation to produce a further observable sign (Etufugh & Phillips, 2007). Dilation of veins renders them less able to reabsorb fluid from peripheral tissues leading to accumulation of interstitial fluid and consequently oedema (Etufugh & Phillips, 2007). Venous hypertension can lead to VLU, yet the precise cause of breakdown is unclear. Meissener et al. (2007) suggest that extravasation of red blood cells and accumulation of extra cellular matrix, both inhibit diffusion of oxygen and nutrients but also stimulate growth factors and presence of mast cells. The consequence is a chronic inflammatory state leaving tissues in the lower limb more likely to ulcerate as a result.

Lower limb venous disease is classified according to the Clinical Etiological Anatomical Pathophysiological (CEAP) system, developed through expert consensus to unify terminology in venous research and clinical practice (Beebe et al., 1996). CEAP contextualises the pathologies of venous disease and features in the majority of relevant research. Table 1 presents the full CEAP system in its most recent form adapted from Yam, Winokur & Khilnani, (2016) (p.326).

Table 1: CEAP classification system after Yam, Winokur and Khilnani (2016)

Clinical classification	
C0	No visible or palpable signs of venous disease
C1	Telangiectasias or reticular veins
C2	Varicose veins
C3	Oedema
C4a	Pigmentation and eczema
C4b	Lipodermatosclerosis and atrophie blanche

C5	Healed venous ulcer
C6	Active venous ulcer
S	Symptoms including ache, pain, tightness, skin irritation, heaviness, muscle cramps, as well as other complaints attributable to venous dysfunction
A	Asymptomatic
Etiologic classification	
Ec	Congenital
Ep	Primary
Es	Secondary
Anatomical classification	
S	Superficial
P	Perforator
D	Deep
Pathophysiologic classification	
Pr	Reflux
Po	Obstruction
Pr,o	Reflux and Obstruction
Pn	No venous pathophysiology identifiable

Data suggests that a significant proportion of the global population have the condition, and figures are set to increase and place ever greater demand on health resources (Davies, 2019; Nicolaidis & Labropoulos, 2019). The vein consult program (Pitsch, 2012) screened 69,866 patients opportunistically for signs of lower limb venous disease across Eastern Europe, Western Europe, South and Latin America, and the Middle and Far East. The total percentage of lower limb venous disease was 61.2%. According to CEAP 'C' classification, the proportions were C1 – 21.6%, C2 – 16.0%, C3 – 14.6%, C4 – 7.1%, C5 – 1.4%, and C6 – 0.5%. In America, McLafferty et al, (2008) revealed in comparison that 80% of 2,234-screened individuals demonstrated C1 – C6 disease. Similarly, studies in Germany, Italy and the UK confirmed high prevalence with C3 – C6 disease ranging from 7% to 15.8% of 3,082; 5,187; and 1,556 participants respectively (Chiesa et al., 2005; Evans, Fowkes, Ruckley, & Lee, 1999; Wrona et al., 2015). Lower limb venous disease is an important, large scale condition with substantial negative impact for individuals and health services making it worthy of improved care and prevention.

1.2 Crisis point

Morale amongst healthcare professionals in the UK National Health Service (NHS) has been reported as low with a danger of service quality deteriorating under the strain of increased demand (Maybin, Charles, & Honeyman, 2016). General Practitioners (GPs) faced a rise of 13% in face-to-face contacts between 2011 and 2015 yet recruitment and retention has not grown to meet that demand (Baird et al., 2016). Staff shortfall across the NHS in medicine, nursing and the allied health professions is significant with 100,000 current vacancies and projections of a rise to 250,000 by 2030 (The Health Foundation, The King's Fund, & Nuffield Trust, 2018).

The UK population is ageing, currently 1.6 million people are aged eighty-five or over and this figure is set to double by 2041 and treble by 2066 (Office for National Statistics (ONS), 2018). Furthermore, the ONS (2017) project that 21.8% of the population will be sixty-five or over by 2030. Kingston, Robinson, Booth, Knapp and Jagger (2018) predict a significant rise in the sixty-five to seventy-four age group who have four or more diseases, from 45.6% in 2015 to 52.8% in 2035. Multi-morbidity of this level reduces quality of life and escalates requirements for healthcare appointments, prescriptions, and potentially hospital admissions (Kingston et al., 2018). It is a danger facing the UK that demand on health services will increase greatly due to poor health and disability resulting from advanced age (ONS, 2018).

Social deprivation and poverty have negative effects on health and wellbeing, leading people to use health services more frequently and exacerbate demand (Public Health England (PHE), 2018). Public Health England (PHE, 2018) revealed healthy life expectancy to differ by nineteen years between the least deprived and most deprived areas of the UK. Social deprivation is associated with higher rates of lifestyle risk factors: smoking, alcohol abuse, and infrequent exercise. These in turn increase incidence of disease and requirements for health service use. The inequality in healthy life expectancy associated with social deprivation did not increase between 2013 and 2018, but neither has there been a trend to show a reduction (PHE, 2018). Significant negative impact on health and wellbeing because of this gap therefore continues and contributes to the strain on health services.

Obesity is a strong risk factor for developing cancer, heart disease, stroke, musculoskeletal disorders (MSK), respiratory disorders, peripheral vascular diseases, and diabetes mellitus (Kopelman, 2007). Obesity is a significant demand on health services and levels have increased from 14.9% adult obesity in 1993 to 28.7% in 2017 suggesting the demand is

rising (NHS Digital, 2018). And in 2017 64% of adults were found to be overweight or obese (NHS Digital, 2018). Co-morbidities of being overweight or obese incur costs to health services of £6.1 billion and lead to prioritisation of services which may distract resources from other needs in society (Public Health England (PHE), 2017). Obesity related hospital admissions rose from 617,000 in 2016/17 to 711,000 by 2017/18 causing a significant strain on NHS staff time and resources (NHS Digital, 2019).

A significant consequence of being overweight or obese is the increased risk of developing type 2 diabetes. Diabetes prevalence of 8% in men and 5% in women now represents such a demand as to cause inequality in availability and access to appropriate care for people who do not have the condition (Ahmad, Udderley, Ionac, & Bowling, 2019; NHS Digital, 2018). The concentration of funding and care for diabetes related complications diverts attention from other conditions such as peripheral arterial disease (PAD) and lower limb venous disease (All Party Parliamentary Group for Vascular and Venous Disease (APPG), 2019a). Care for PAD and lower limb venous disease do not share the same multi-professional approach established for diabetes, therefore quality of services for people with these conditions does not have the same national consistency (APPG, 2019b; National Institute for Health and Care Excellence (NICE), 2015).

Wounds and wound care are a growing burden on society. The House of Lords debate on wound care (UK Parliament, 2017) highlighted that wounds had surpassed obesity as a cause of cost to the NHS. Guest et al. (2015) estimate annual NHS wound management costs of between £5.1 and £4.5 billion without including co-morbidities associated with those wounds. Moreover, 40.6 million home visits and out-patient appointments provided by community nurses, practice nurses, General Practitioners (GPs), and Allied Health Professionals (AHPs) constitutes an enormous burden on staff time and resources (Guest et al., 2015). Lower limb wounds constitute approximately £2.4 million of the annual cost of wound care to the NHS, making them a priority for prevention to alleviate some contribution to the current healthcare crisis (Guest et al., 2017). Amongst lower limb wounds, the majority of cost is incurred in managing venous leg ulceration (VLU) with current mean cost estimated at £7,600 for twelve months' management of each VLU (Guest et al., 2015; Guest, Fuller, & Vowden, 2018). These figures were derived from detailed analysis of available health data and whilst the findings depended on the quality of available data they represent the most trustworthy estimates of current resource use.

Negative impacts of increasing age, obesity, diabetes, wounds, social deprivation and smoking, necessitate greater emphasis on prevention and wider input across health care

provision. Lower limb venous disease is both consequence and contributor to the current health care crisis and more preventative action is required to diminish the effects of this devastating condition (Green, Jester, McKinley, & Pooler, 2013; Guest et al., 2015; McLafferty et al., 2008). The greatest risk factors for developing lower limb venous disease, namely increasing age and obesity (Nicolaidis & Labropoulos, 2019), are highly significant to the growing health care crisis. The impact of the condition may therefore be felt more profoundly in the near future unless preventative action is taken.

1.3 Prevention rising up the health agenda

Preventative healthcare comprises identification of patients at risk of disease progression followed by health education or treatment to minimise that risk (World Health Organisation (WHO), 2017). Preventative healthcare is not new, but rising costs of wound care and increases in risks for ill health make it a priority (Guest et al, 2017; Kingston et al, 2018; PHE, 2018; UK Parliament, 2017). The Department for Health and Social Care green paper 'Prevention is better than cure' (DHSC, 2018) suggests all healthcare providers focus on prevention to reduce the burden of managing and living with poor health. The NHS long term plan (DH, 2019) aims to encourage prevention through targeting smoking, obesity and alcohol as causes of ill health. Past policies 'Making Every Contact Count' and the NHS 'Five Year Forward View' (NHS England, 2014; Public Health England, 2016) were created to address these issues. The addition of supplementary advances in policy emphasises the growing importance of preventative care and public health campaigns. Health professionals should be engaged in preventing major conditions such as diabetes, cardiovascular disease, and cancer through giving advice to reduce smoking, increase exercise and eat healthily (Chadwick & Ahmed, 2017). However, impetus must also focus on specific conditions such as lower limb venous disease to reduce the burden for patients and decrease strain on health services (Nicolaidis & Labropoulos, 2019).

Prevention of wounds is prominent on the agenda of healthcare policy and practice, yet specific attention to prevention of lower limb venous disease is secondary to the management of its consequences (APPG, 2019b; Doliner, Jaller, Lopez, & Lev-Tov, 2018). The National Wound Care Strategy Programme (2019) has prevention intrinsically linked to its underpinning principles, providing a multi-professional impetus to improve wound management and prevention. It has a core focus on lower limb wounds including VLU and its associated co-morbidities. Prevention of lower limb venous disease and VLU in particular is divided into primary and secondary prevention categories. Primary prevention refers to the avoidance of lower limb venous disease deteriorating to a first VLU, whereas secondary prevention is focussed on preventing recurrence of a healed VLU (Ratliffe, Yates, McNichol, 19

& Gray, 2016). Primary prevention through early identification of lower limb venous disease is the focus of this thesis. Specifically, this thesis recognises the importance of moving towards primary prevention and explores the role of a particular professional group in that movement; namely podiatry.

1.4 13,031 UK podiatrists

There are 13,031 podiatrists registered with the Health and Care Professions Council (HCPC) in the UK (HCPC, 2019). Definitions of podiatry commonly portray a foot focus, the title derives from the Greek words *podos* meaning foot and *iatros* meaning physician. The HCPC (2013) state that a "chiroprapist/podiatrist diagnoses and treats disorders, deformities and diseases of the feet"; yet the College of Podiatry (COP, 2019) suggests a wider reaching definition as "the branch of medicine devoted to the study, diagnosis and treatment of disorders of the foot, ankle and associated structures." Scope of podiatric practice is variable, Farndon et al. defined core podiatry as: "treatment of the nails, corns and callus and also giving footwear and foot health advice" (Farndon et al., 2009, p.7). However, podiatrists also contribute significantly to the care of people with diabetes mellitus, peripheral arterial disease, MSK conditions, neurological conditions and rheumatology (Farndon, 2016). For these conditions, they have established significant roles in early identification, prevention and management (Farndon, Stephenson, Binns-Hall, Knight, & Fowler-Davis, 2018; Tehan & Chuter, 2016; Woodburn, Hennessy, Steultjens, McInnes, & Turner, 2010). Similarly, promoting public health agendas is becoming embedded in podiatry where work to support smoking cessation and falls prevention, for example, has supplemented core clinical activities (Gray, Eden, & Williams, 2007; Vernon, 2011). In these terms, podiatry is concerned more with the lower limb and whole person than it is isolated to the foot. Indeed, regulatory standards of proficiency state podiatrists should: "Know and be able to interpret the signs and symptoms of systemic disorders as they manifest in the lower limb and foot..." (HCPC, 2013, pg. 12). Due to this expertise in preventative medicine and observation of the lower limb, it is appropriate to question what role the profession takes in early identification and prevention of lower limb venous disease.

Podiatry has pursued a 'professional project'; a process of developing a unique set of skills to control the market for that expertise (Hotho, 2008; Larson, 1977). The professional project of podiatry has included recognition for independent and supplementary prescribing rights, the development of podiatric surgery, and growth of named specialist roles in areas such as diabetes (Bacon & Borthwick, 2013; Borthwick, 2000a; Borthwick, Short, Nancarrow & Boyce, 2010). Professionalisation has been essential in distancing podiatry from connotations of the term chiropody, to enhance the perception of podiatry as having higher order skills and a more in-depth curative scope of practice (Borthwick, 2000a).

Podiatrists register with the HCPC under the dual protected titles chiropodist/podiatrist (HCPC, 2013). This results in confusion amongst the public and other health professionals and is a cause for concern amongst podiatrists due to the low status chiropody implies (Vernon, Borthwick, Farndon, Nancarrow, & Walker, 2005). Through the process of professionalisation, podiatrists are attempting to gain independence and autonomy with a view to being recognised as lower-limb and not just foot experts.

Given the current state of crisis in UK health care; coupled with an increased demand and negative impact of lower limb venous disease, it is imperative to investigate means of enhancing its prevention (Nicolaides & Labropoulos, 2019). Currently the podiatrists' role in early identification and prevention of lower limb venous disease is unknown. According to Farndon (2016) the majority of patients treated by podiatrists in the UK are aged 62 years and over, significantly this is the age group most at risk of developing lower limb venous disease (Davies, 2019). A critical exploration of the role these 13,031 podiatrists play in lower limb venous disease prevention is overdue, as care of people with lower limb venous disease appears to be solely in the domain of registered nurses and GPs (APPG, 2019b). Indeed, despite publication of evidence-based guidelines and care pathways (Atkin & Tickle, 2016; NICE, 2013) there is disparity nationally regarding pathways and multidisciplinary care at all levels of the disease (APPG, 2019b). Consequently, with GPs and registered nurses facing mounting strain and staff shortfall, other professional groups must recognise and use opportunities to contribute time and expertise to combat the growing burden of the disease and its complications. NHS England (2017) suggests AHPs are in a prime position for public health promotion and preventative care. Podiatry is one such profession and given its proximity to the lower limb is conspicuous by its absence in lower limb venous disease discourse.

1.5 Chapter Summary

In this chapter, I have constructed the premise for this study: venous disease is a substantial problem to society in the UK and worldwide through its detrimental impact on quality of life and expense to health care systems (Guest et al., 2017; Nicolaides & Labropoulos, 2019). Wound prevention is now a high priority in the UK and reform has been suggested both nationally and internationally to reduce the incidence of lower limb wounds including VLU (National Wound Care Strategy Programme, 2019). I have contextualised podiatry in the UK to demonstrate its professional status, scope of practice, and growing activities in early identification and prevention practices across a range of medical conditions. Linking the two and considering my practice and academic background

led to a desire to explore the podiatry role in the early identification and prevention of lower limb venous disease.

Chapter 2 Literature Review

Chapter one discussed the negative impact of lower limb venous disease on individuals and its cost to health services amidst the backdrop of a growing health care crisis in the UK NHS. This chapter presents a critical review of the literature regarding early identification of risk and prevention of lower limb venous disease progression.

2.1 Literature Search

Searches were undertaken initially in October 2013 and then repeated annually until January 2020, to ensure that all contemporary literature had been considered during the writing process. The following databases were searched: - Cumulative Index for Nursing and Allied Health Literature (CINAHL), PubMed, Embase, Medline, Cochrane database, NHS Evidence Search and MAG Online. Additional hand searches of reference lists were undertaken to find further sources and grey literature. Table 2 shows the databases searched and date ranges for each search.

Table 2: Databases and date ranges for literature search

Database	Date range
CINAHL	1982 - 2020
Embase	1947 - 2020
MAG Online	1995 - 2020
Cochrane	2002 - 2020
Medline	1970 - 2020
PubMed	1970 - 2020
NHS Evidence Search	2003 - 2020

Extensive reading of material relevant to the study topic identified important concepts to generate search terms. Discussion with a health sciences academic librarian to explore efficient methods of combining the terms using Boolean operators ensured an exhaustive search of equal breadth and depth across all databases. Professional and patient demographic groups were not predefined within the search string thereby allowing an open approach to identify papers from, and relevant to, all groups. Similarly, the search was not restricted to predefined treatments or a date range and whilst this enabled an open and

inclusive search strategy, it greatly increased the number of initial results and titles for screening. Table 3 shows the search terms used and Boolean operators, and Table 4 shows the inclusion and exclusion criteria.

Table 3: Search terms

Disease descriptors combined with OR	AND	Activity combined with OR
Lower limb venous disease Chronic venous disease Chronic venous insufficiency Venous disease Venous insufficiency Varicose* (*denotes "wildcard") Venous leg ulcer VLU Venous disease progression		Primary prevention Early identification Early assessment Early intervention Prevention

Table 4: Inclusion and exclusion criteria

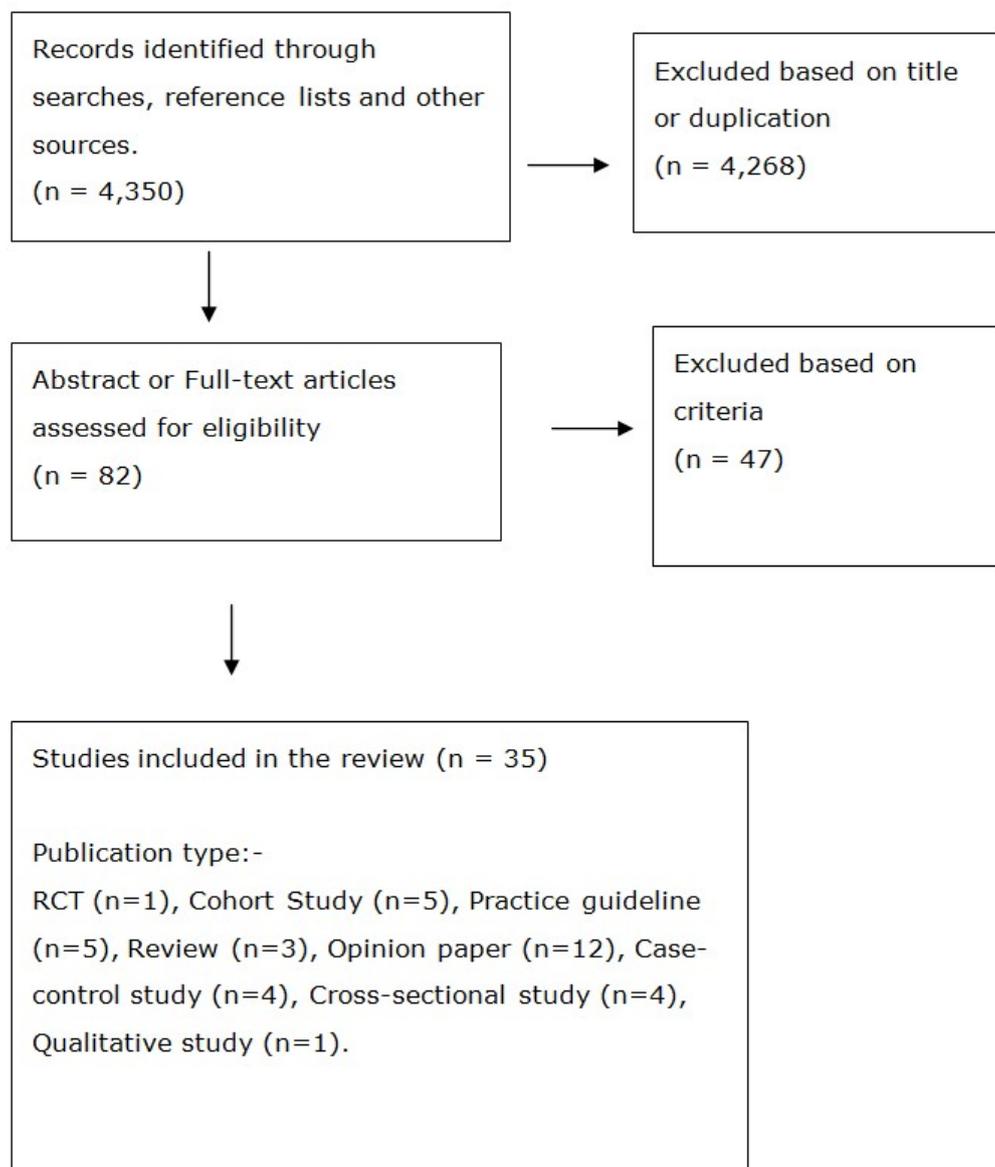
Inclusion Criteria
Papers concerned with professional roles in primary prevention of venous leg ulcer, early identification of lower limb venous disease or prevention of lower limb venous disease progression.
Studies exploring risk factors for lower limb venous disease progression
Studies investigating methods of preventing lower limb venous disease progression.
Early identification or primary prevention of VLU or lower limb venous disease guidelines
Papers published in the English language.

Exclusion Criteria
Papers concerning treatment of varicose veins alone unless for purposes of primary VLU prevention or preventing lower limb venous disease progression
Papers about secondary prevention or prevention of recurrence of VLU
Papers relating to management of VLU
Studies exploring venous disease assessment unless explicitly linked to early identification or prevention

2.2 Search Results

Figure 1 shows a flowchart of the selection process in line with the Preferred Reporting Items for Systematic Reviews with Meta Analysis (PRISMA) guidance (Moher et al., 2009). 4,350 results were returned due to the sensitivity of the databases and open nature of the search, however a high proportion were duplicates or irrelevant to this study and excluded on screening of titles.

Figure 1: Flowchart representing the literature selection process



2.3 Critical Appraisal

The trustworthiness of qualitative research is enhanced when the context of related literature is known (Shenton, 2004). Mathieson and Upton (2008) discuss how critical appraisal of published literature provides detail about that context and is central in deciding whether literature or research results are applicable to practice. Limitations in availability and quality of research identified through critical appraisal fed into decisions regarding the influence of sources. For example, the absence of empirical research on a topic means that lower quality sources such as opinion pieces may become influential and lead to new studies with inductive exploratory epistemologies (Bassett, 2004). The Centre for Reviews and Dissemination (CRD) (CRD, 2009) state that quality appraisal is a key step to ensure higher quality papers carry greater consideration when formulating review findings. Appraisal checklists designed by the Joanna Briggs Institute (JBI) (2017) were used throughout this review allowing for appraisal of all major research approaches including opinion pieces. Alternative methods included the Critical Appraisal Skills Program (CASP) checklists. However, the CASP range does not include a tool for opinion pieces and could not be applied to a considerable proportion of papers in this review, and therefore JBI was more applicable. Appraisal results for included papers are shown in Appendix one.

2.4 Review findings

A narrative review was undertaken identifying themes within the literature and synthesising findings to form a critical overview. Papers were grouped and appraised according to their focus revealing three distinct areas; current practice of early identification and prevention of lower limb venous disease; identifying the risk factors for lower limb venous disease progression; and methods to prevent lower limb venous disease progression.

2.4.1 Early identification and prevention of lower limb venous disease; current practice

Of the thirty-five papers included, twelve were opinion papers aiming to increase clinician awareness of early identification and prevention of lower limb venous disease, and debate professional practice in the field. Opinion papers rank as low quality evidence in comparison to empirical research studies and are not primary research evidence (McArthur, Klugarova, & Florescu, 2015; CRD, 2009; Polit & Beck, 2017). Statements in opinion papers are potentially biased and misleading because they reflect a single perspective rather than the culmination of a systematic process to identify and review supporting literature (CRD, 2009). However, opinion papers do contain detailed information from field experts about the delivery of health care, therefore review and synthesis of multiple opinions can locate

gaps in service provision and knowledge, and identify areas for further empirical research (McArthur, Klugarova, & Florescu, 2015). Furthermore, the absence of primary research relating to professional role and practice in early identification and prevention of lower limb venous disease suggests experiences and tacit knowledge form the baseline understanding of this topic (McArthur, Klugarova, & Florescu, 2015). Consequently, they constitute a significant body of literature relevant to this thesis and require critical discussion.

Twelve opinion based papers identified the importance of early identification to promote prevention of lower limb venous disease deterioration and especially the avoidance of VLU (Anderson, 2012; Atkin, 2019a, 2019b, 2019c; Capeheart, 1996; Henke, 2010; Iwuji, 2008; Labropoulos, 2019; Porter, 2018; Timmons & Bianchi, 2008; Todd, 2012; Yam, Winnoker and Khilnani, 2016). Quality of opinion papers can vary dependent upon authors' use of extant literature, the analytical process taken to form the opinion, and the discussion of alternative views (JBI, 2017; McArthur, Klugarova, & Florescu, 2015). However, all papers showed similar quality, basing opinions on logical analysis of available evidence and clinical knowledge. Overall, there was no divergence in opinion and the range of quality did not have an adverse impact on the review.

Eight papers were UK based and four originated in the USA depicting an international impetus to change practice and include proactive, opportunistic preventative strategies. All papers were authored by nurses or medical doctors with some specifically targeted at or discussing the nursing profession (Anderson, 2012; Atkin, 2019a, 2019b, 2019c; Capeheart, 1996; Iwuji, 2008; Porter, 2018; Todd, 2012). The remaining papers (Henke, 2010; Labropoulos, 2019; Timmons & Bianchi, 2008) appear intended for a general healthcare audience, however, no papers made explicit reference to the potential role of podiatry. Moreover, UK based papers speculated only on opportunities nursing staff and GPs had to undertake prevention with no suggestion that other named professional groups had similar opportunities.

Evidence regarding professional roles in lower limb venous disease prevention is low quality and does not comprise original empirical research. This is an opportunity missed, considering the twenty-four-year period from the first opinion paper included (Capeheart, 1996) to the last (Labropoulos, 2019). Whilst not empirical these expert opinions and logical, literature based assumptions, promote early identification and prevention of lower limb venous disease. More research is required to explore these opinions through empirical exploration of current practice of early identification and prevention for patients at risk of lower limb venous disease progression and VLU. The combined opinions demonstrate tacit,

anecdotal beliefs that early identification and prevention practices occur but that they require enhancement and formalising (McArthur, Klugarova, & Florescu, 2015). These papers indicate a gap in respect of other professional groups with podiatry being particularly problematic due to their focus on the lower limb and foot and the reputed time they have to engage patients in preventative healthcare discussions (Chadwick & Ahmad, 2017; NHS England, 2017). Podiatry, as a profession responsible for the leg and foot, is conspicuous by its absence from the collective opinion suggesting greater vigilance, opportunistic screening, and earlier targeting of preventative advice for patients at risk of lower limb venous disease progression.

2.4.2 Identifying the risk factors for lower limb venous disease progression

Expert opinion suggests that the progression of lower limb venous disease can be delayed when signs of the disease are identified early and the appropriate treatment commenced (see sub-section 2.4.1) (Anderson, 2012; Atkin, 2019a, 2019b, 2019c; Capeheart, 1996; Henke, 2010; Iwuji, 2008; Labropoulos, 2019; Porter, 2018; Timmons & Bianchi, 2008; Todd, 2012). The literature review identified papers investigating risk factors for progression from the early stages of the disease to the more advanced stages such as VLU. Risk factors for lower limb venous disease progression are of key interest in this study because they can indicate groups of patients who may benefit from preventative action. Thirteen papers were included for review comprising a range of international prognostic studies using cohort, case-control, cross-sectional, and qualitative study designs. Prognostic study designs allow causes of disease progression to be investigated however they can only identify associations between variables and disease status and not causality or direction of any associations (Polit & Beck, 2017). In addition, confounding variables may not always be identifiable or measurable and this has a significant impact on results particularly where lifestyle and behaviour are confounding factors (JBI, 2017; Mathieson & Upton, 2008).

2.4.2.1 Cohort studies

Four cohort studies relating to risks for lower limb venous disease progression were identified (Kim et al, 2015; Kostas et al 2010; Lee et al., 2015; Mervis, Kirsner, & Lev-Tov, 2018). Cohort studies are considered a strong research design to investigate prognostic factors in diseases when randomised controlled trials are not plausible (Polit & Beck, 2017). Prospective designs and data collection periods of several months or years mean cohort studies can provide data about real life that experimental designs with artificial control of

variables do not (Greenhalgh, 2006). However, because recruitment is mostly non-randomised and opportunistic, selection bias can skew study results suggesting strong associations that may not accurately reflect occurrences in target populations (JBI, 2017). Lee et al (2015), a group of epidemiologists and vascular surgeons, performed a longitudinal, prospective cohort study of randomly selected participants in Edinburgh, UK. This research was a follow up of the Edinburgh Vein Study (Evans, Fowkes, Ruckley, & Lee, 1999) including 880 of the original 1566 participants for re-examination to determine lower limb venous disease progression and its risk factors. Three hundred and thirty-four participants presented evidence of lower limb venous disease at baseline whilst 566 showed no evidence. 57.8% of 334 patients with disease at baseline progressed to more severe clinical presentation. Internal validity appears high by the use of inter and intra-observer reliability measures to ensure quality of clinical assessments and reduce observer bias to detect progression of disease. Similarly, whilst the re-called sample was smaller due to non-response, it retained a similar demographic make-up thereby maintaining generalisability. Risk factor data collected at baseline and follow up was age, gender, family history of varicose veins, smoking status, body mass index (BMI), number of pregnancies, history of DVT, bowel habits, and mobility at work in percentage of time sitting, standing or heavy lifting. Participants with a family history of varicose veins and previous DVT proved to have the highest risk of lower limb venous disease progression alongside increasing age. Adjusted odds ratios (OR) for family history of varicose veins (OR 1.85), age above 55 years (OR 2.32), and history of DVT (OR 4.10) suggest associations between those factors in lower limb venous disease progression. However, no data indicated current or past treatment of lower limb venous disease, which could be a significant confounding variable producing a difference between those whose condition deteriorated and those who remained stable. Absence of data on compression hosiery and mobility outside of work environments, for example, as advocated preventative methods, could negatively skew the direction of results and present false claims of association between risk factors and disease progression (Atkin, 2019b; Capeheart, 1996; Horwood, 2019; JBI, 2017; Robson et al., 2008; Timmons & Bianchi, 2008).

Kostas et al. (2010) examined risk factors for progression in the contra-lateral and 'venous disease free' limb of patients undergoing varicose vein surgery. Undertaken in Greece by vascular surgeons, this study used a prospective design with a five-year follow-up period and convenience sampling of patients listed for uni-lateral varicose vein surgery. The research aimed to determine progression of disease in the un-treated and asymptomatic contra-lateral limb. Total sample was 73, with an age range of 24-78 (mean – 48) and gender distribution of 69 females to 4 males. Venous status, obesity, and CEAP

classifications at base-line and five-year follow-up were analysed alongside patient reported elastic stocking use (compression therapy), estrogen therapy, prolonged periods of standing, and multiple pregnancies. Results revealed clinical classification progression was most influenced by obesity, long periods of standing and non-compliance with compression hosiery advice. Disease progressed in the previously healthy limb of approximately half of patients during the follow-up period, a finding that indicated rapidity of change in the absence of preventative intervention. However, the small sample size (73) and selection bias of gender imbalance limit generalisability. Adequate detail is lacking as to personnel undertaking assessments and there is no account of inter- or intra-rater reliability therefore internal validity is reduced. In addition, the reliance on patient reported levels of standing and elastic stocking use risk recall bias potentially skewing the results due to over or under reporting by participants. For these reasons both the measurement of disease levels and the exposure to risk factors are low quality therefore strong associations between obesity, prolonged standing, low compression stocking use and disease progression should be read with caution.

Limited ankle joint range of motion is a theoretical risk factor for lower limb venous disease progression because of the physiological function of the calf muscle pump in maintaining venous return (Dix, Brooke, & McCollum, 2003; Horwood, 2019). Although research data suggest such an association exists (Belczak et al., 2014; Robertson et al., 2009), one large cohort study in the USA produced contradictory evidence (Kim, Forbang, Criqui & Allison, 2015). One thousand and twenty-five participants, randomly selected from retired and current employees at a USA university, completed the eleven-year study period. Baseline data included BMI, ankle joint range of motion, arch height, socio-economic background, activity levels, smoking habits, and lower limb venous status assessment by CEAP classification. Findings suggested that lower limb venous disease is more likely to progress in patients with excessive rather than restricted ankle range of motion. Participants whose lower limb venous disease remained stable (n= 685) had a mean ankle joint dorsiflexion of 12.8 degrees, those whose disease progressed (n = 340) had a mean of 14.4. Kim et al. (2015) argue that laxity of connective tissue, as evidenced by excessive ankle joint motion, is predictive of deterioration and question current theories of the calf muscle pump. However, although the difference in dorsiflexion between the stable and progression groups was statistically significant ($p = 0.02$) the difference of two degrees could legitimately arise through variation in measurement technique between researchers. In addition, data regarding compression therapy use is not included despite being a significant confounding variable and potential means of slowing lower limb venous disease progression (Atkin, 2019b; Capeheart, 1996; Robson et al., 2008; Timmons & Bianchi, 2008). Despite this,

Kim et al. (2015) cast doubt over the assessment of ankle joint range of motion to predict deterioration of lower limb venous disease, supporting the uncertainty of Flour (2012) as to reduced ankle joint motion being a cause or effect of the condition. Horwood (2019) asserted ankle joint restriction is a cause of lower limb venous disease that podiatrists could be more involved in identifying and treating. Whilst his comments were not made in respect of lower limb venous disease prevention and were not supported by literature, they suggest a link to practice. However, uncertainty in the epidemiological literature appears to reduce the validity of his claim.

Recognising the weakness in previous studies, Mervis, Kirsner and Lev-Tov (2018) commenced a longitudinal cohort study to determine risk factors for deterioration in lower limb venous disease to the point of first VLU. Their five-year follow-up period meant results were unavailable at the time of writing this thesis, however a projected representative sample size of five thousand suggests potentially generalisable results. Base-line recruitment assessment consisted of venous duplex ultrasound, observational assessment of venous signs, and medical history take. Follow-up data, collected via three-monthly telephone interviews, surveyed participants' use of compression hosiery, exercise levels, elevation of legs, smoking status and other changes to medical history. Mervis, Kirsner and Lev-Tov (2018) incorporate major behavioural variables for venous disease progression previously omitted by other cohort studies (Kostas et al., 2010; Lee et al., 2015) making the data less open to confounding. However, their method is weak in two significant aspects. Firstly, their design does not account for progression of disease other than to the development of a first VLU, therefore if a participant does not develop VLU within five years of follow up they are not considered a case of deterioration. This is in contrast to previous epidemiological data suggesting a time of up to twenty-five years from first presentation of lower limb venous disease to development of a VLU (Heit et al., 2001). Results are potentially skewed therefore and the impact of some risk factors could be negatively reported if participants develop their first VLU after the five-year follow-up period. CEAP classification is not used therefore deterioration other than to VLU will not be monitored in an internally valid or externally meaningful manner. Secondly, a Hawthorne effect is likely where three-monthly telephone interviews assessing participant health status, lifestyle and behavioural factors could increase engagement with compression therapy and reduce the incidence of VLU. The impact on participant behaviour due to their recruitment in the study, known as the Hawthorne effect, negates some of the real-world advantages of cohort studies (Polit & Beck, 2017).

2.4.2.2 Case-control studies

Three case-control studies (Abelyan, Abrhamyan, & Yenokyan, 2018; Berard et al., 2002; Robertson et al., 2009) explored risk factors for developing VLU. Case-control studies use retrospective health data and patient-reported information to determine associations between a disease and other variables. However, on hierarchies of evidence, they rank below cohort studies but can provide generalisable data, linking risk factors to disease presentation by the use of matched case and control groups (Greenhalgh, 2006; Polit & Beck, 2017). According to JBI (2017), significant weakness arises where behaviour and lifestyle factors are potential confounders because they are difficult to identify and adjust during sampling or analysis. Berard et al. (2002) attempted to mitigate chance associations occurring by matching two control participants with each 'case' participant. Participants diagnosed with their first VLU matched against two control participants had data on primary factors of family history and physical activity collected. This study, undertaken in the USA by medical physicians, had a particular focus on heredity and physical exercise. Smoking, body mass index, constipation, type of occupation and previous history of lower limb venous disease treatment were also considered. The results revealed that family history of maternal venous leg ulceration, previous DVT, and vigorous exercise were significant predictors of VLU along with number of pregnancies in females. Berard et al. (2002) constructed their checklist of risk factors by conducting a critical review of the literature and holding consensus discussions with vascular surgeons on the research team. By doing so, they retained consistency with contemporary clinical opinion and research rather than imposing their own *a priori* concepts onto the study. However, data collection relied on self-reporting from participants against questionnaires and therefore risked recall bias and reduced external validity (Kjellsson, Clarke, & Gerdtham, 2014). Similarly, risk of misclassification of exercise levels in the study limits reliability of the findings. Participants were asked to state their exercise habits over the preceding twenty years and these were then interpreted according to levels of exertion. The tool used in the study was validated but not for recall of exercise over a twenty-year period thereby reducing its internal validity and risking false association between exercise level and progression to VLU.

Similar weakness limited a UK based case-control study that aimed to determine which patients with varicose veins were at increased risk of lower limb venous disease progressing to VLU (Robertson et al., 2009). The sample was 120 patients with varicose veins and concurrent open or healed VLU of longer than eight weeks' duration, and 120 control participants with varicose veins but no history of VLU. Data included clinical examination of skin condition, venous reflux and ankle joint range of motion, collected using a clear protocol with evidence of high inter-rater reliability. A questionnaire of lifestyle factors

including smoking status, physical exercise and daily activities completed the data set. Deep vein reflux and skin changes consistent with chronic venous insufficiency (C4 disease) had a strong association and predictive value for VLU in patients with varicose veins. Smoking, obesity, decreased ankle joint range of motion and low muscle pump effectiveness also increased the risk of VLU. This was a high-quality study with objective measures of disease status and a sample reflective of a diverse population and minimal evidence of bias. However, lifestyle and behavioural variables, measured by questionnaire, were subject to potential recall bias and no evidence of questionnaire internal validity was included. Use of restrictive categories of exercise and the requirement for participants to recall activities over both the preceding twelve months and periods when they were thirty-five to forty-five exemplify the potential for skewed data. Nevertheless, inclusion of both open and healed ulcer patients with varicose veins, unlike the case group of incident ulceration used by Berard et al. (2002), contributed important data about risk factors for lower limb venous disease progression, rather than solely about risk for VLU.

Similarly, an Armenian study examined risk factors for VLU in patients with varicose veins comparing eighty cases with VLU against eighty without from a sample of patients with past attendance for varicose vein surgery (Abelyan, Ahrhamyan, & Yenokyan, 2018). Data regarding medical and lower limb venous disease status were extracted from medical records by a single researcher. Telephone interviews with participants determined; work history; history of DVT; family history of lower limb venous disease; physical activity, alcohol consumption and smoking status. Whilst the telephone interview used a validated questionnaire, data remains open to recall bias and significantly does not include consideration of compression therapy or other purposeful efforts to prevent VLU. The findings suggest association between deep venous reflux, history of DVT, physical inactivity, and history of injury to the leg. Increased physical activity was associated with lower risk of VLU but the absence of other data on preventative measures means these findings are not based on full consideration of known potentially confounding variables. Applying these findings in practice is therefore problematic and may not lead to successful identification of increased risk.

2.4.2.3 Cross-sectional studies

Cross-sectional studies estimate disease prevalence and investigate associations of risk factors and prognosis amongst populations at a specific time (Polit & Beck, 2017). One-time data collection and lack of prospective, longitudinal analyses make them weaker forms of evidence than both cohort, and case-control studies (Polit & Beck, 2017). They do not indicate disease prognosis other than by associating the presence of risk factors against

varying degrees of disease severity, because such associations could arise due to other variables (JBI, 2017; Mathieson & Upton, 2008). However, cross sectional studies can be undertaken rapidly and provide data of how risk factors and disease status cluster, thereby providing information for clinicians indicating potential risk factors associated with disease deterioration (Polit & Beck, 2017).

A Serbian cross-sectional study of 1,679 patients with lower limb venous disease compared risk factor profiles of patients with VLU to those with less severe venous disease (Vlajinac, Marinkovic, Maksimovic, & Radik, 2014). Data collection was intended to include clinical examination, ultrasound assessment and collection of demographic and health details. However, the data does not match the intended variables for collection; missing data for many variables including height and weight meant several sub-groups for regression analysis were required to adjust for missing confounding data. Standard protocols for physical examination are not reported, and health status categories are vague, for example, 'skeletal or joint disease in legs' could be interpreted in several ways by the assessing clinicians, thereby reducing the internal validity of the study. Indeed, there is no report of current or previous lower limb venous disease treatment despite this being an intended part of the data collection. The results suggest associations between risk factors and presence of VLU, but without considering treatment and in the absence of internally valid measures of many variables. Further, the study encapsulates many of the problems encountered in predicting risk of deterioration to VLU, because a long and varied list of associated factors is identified but without evidence of causality. Associated risk factors included; male gender, increasing age, history of superficial or deep vein thrombosis, diabetes, hypertension, joint immobility in the lower limb, respiratory disease, high body mass index, physical inactivity, family history of VLU, reflux, or combined reflux and obstruction in deep and perforator veins. Vlajinac et al. (2014) suggest paying special preventative attention to patients with these risk factors despite being unable to prove causation and without reference to practical application of such activity across healthcare.

A cross-sectional study (Belczak, deGodoy, Belczak, Ramos, & Caffaro, 2014) found an association between increased BMI, increased CEAP classification, and reduction in ankle joint range of motion. A convenience sample of one hundred obese patients attending a hospital in Brazil underwent grading of lower limb venous disease status using the clinical classification from the CEAP system. Ankle joint range of motion was measured using a standard goniometry assessment and BMI was confirmed as being over 30kg/m². The results suggest that both obesity and limited ankle joint range of motion are risk factors for lower limb venous disease progression, with CEAP severity increasing with both greater BMI

and limited ankle joint range of motion. The paper indicates an association but does not confirm whether ankle joint assessment or recording of BMI would help to predict patients at increased risk of lower limb venous disease deterioration. No other confounding variables were collected or reported and the gender bias of 86% female to 14% male limits generalisability and usefulness as a means of predicting patients at increased risk of disease deterioration.

Karahan et al. (2016) explored the relationship between haematological inflammatory markers and clinical severity of chronic venous insufficiency through a cross-sectional study. Eighty patients with lower limb venous disease underwent blood tests and CEAP classification assessments. Unfortunately, the researchers created arbitrary groupings based on CEAP classifications but without creating a distinct group for patients with healed or current VLU. Instead, these patients were included in a larger group with C4 patients who had skin changes but no ulceration. This weakens the study results because comparison with other epidemiological research, generally using a case grouping of C5 and C6 patients, is not straightforward. Similarly, their management of confounding factors by exclusion of patients with diabetes, or previous venous thrombosis removed an opportunity to assess previously identified risk factors for progression. However, raised fibrinogen to albumin ratio had high sensitivity and specificity for predicting clinical classification and disease severity. This suggested that regular blood monitoring could aid in identifying patients at increased risk of disease progression. Nevertheless, confounding variables as causes of deviation from normal fibrinogen and albumin levels had not fully been accounted for, nor had behavioural influences on lower limb venous disease status therefore the results again only show association rather than a predictive value.

Focussing on imminent risk factors for venous leg ulceration, Shai and Helevy (2005) surveyed 64 patients to explore the direct triggers of 110 leg ulcers treated in Israel. The ulcers were diagnosed as venous in origin but with specific triggers including cellulitis (15.4%), penetrating injury (11.8%), rapidly developing oedema (10.9%) burn wounds (6.3%), blunt trauma (4.5%) and insect bites (1.8%). This suggests prevention needs to include more than modification of venous circulation alone, and to raise awareness of risk factors immediately preceding ulceration. Progression from non-ulcerated to ulcerated-limb could be avoided by assessment of immediate risk factors such as varicose eczema and by identification of patients at increased risk of trauma. However, data collection relied on history taking therefore recall bias may account for 26.3% of ulcers having no identifiable trigger, and a large proportion of ulcers starting from no discernible cause. The small

sample and single location reduce the generalisability of the results to the UK, but this paper raises awareness of factors indicating imminent ulceration risk.

2.4.2.4 Broader scientific fields of enquiry

Predicting individuals at risk of deteriorating venous disease has attracted input from wider scientific fields such as genetics and mathematics. Review papers from Grzela and Bialoszewska (2010), and Stana, Maver and Potocnik (2019) highlighted that whilst genetic techniques to support the identification and prevention of lower limb venous disease were costly, they could be effective. Genetic markers do not currently feature within CEAP or Venous Clinical Severity Score (VCSS) (Passman et al. 2011) systems and application would require standardisation. As such, current influence of genetic screening on practice appears minimal and no further literature pertaining to practical application could be located. The mathematical principle of fuzzy logic to develop a prediction system for venous leg ulceration has been explored through a retrospective, multi-centre, case-control study based in Italy (De Franciscis et al., 2015). They compared small groups of patients (n= 27 per group) to determine a fuzzy logic system to predict disease progression from CEAP C1 – C4 (control group) to C5 –C6 (case group). The calculation system correctly identified the increased risk associated with the case group of patients with healed or current VLU. This research aligns to the clinical assessment of risk built on expert experiences and mirrors human reasoning processes. However, the process relies on the data entered for computation that consequentially comprises the existing limited epidemiologic data. The small sample size and retrospective, static nature of the data used to test the prediction system limit its immediate generalisability for practice.

2.4.2.5 Qualitative studies

Quantitative approaches to investigating disease prognosis do not reveal patient understanding or perceptions of the progression of their disease. One qualitative study was included for review (Meulendijks et al., 2019) which aimed to collect narratives from patients in the Netherlands regarding progression of lower limb venous disease to their first VLU. Researchers from varied clinical backgrounds, including physiotherapy, nursing and dermatology conducted the study, providing clear evidence of efforts to reduce bias. Two researchers derived and agreed the themes supporting evidence of reflexivity and trustworthiness throughout the paper, contributing to relevant and transferable findings (Polit & Beck, 2017; JBI, 2017). Themes of comorbidity; mobility; work and lifestyle; and acknowledgement of chronic venous disease (CVD) emerged from eleven semi-structured interviews from a purposive sample of patients with VLUs, an age range of forty-eight to eighty-nine years and male: female ratio of five: six. Meulendijks et al. (2019) modelled

participants' interlinking of themes to interpret their understanding of significant factors in development of the first VLU. Timelines of events towards progression constructed from the narratives of participants, revealed beliefs that reduced mobility and long periods of standing contribute to VLU development, suggesting some agreement with quantitative epidemiological data (Belczac et al., 2014; Kostas et al., 2010; Vlajinic et al., 2014). However, participants' lack of acknowledgement that lower limb venous disease caused VLU had not explicitly emerged in quantitative research other than from vague suggestion in a small-scale cross-sectional study on direct triggers of VLU (Shai & Helevy, 2005).

Significantly, Meulendijks et al. (2019) noted that participants did not receive regular follow up of lower limb venous disease status, despite regular contact with healthcare professionals regarding comorbidities. Participants and healthcare professionals prioritised comorbidities ahead of lower limb venous disease indicating both parties lacked awareness of the potential for progression to VLU. Whilst small scale qualitative research does not generalise to larger populations, findings can identify topics with importance and meaning to those involved. In this case suggesting further exploration is required regarding the place of lower limb venous disease and VLU prevention in healthcare (Flick, 2011; Ormston, Spencer, Barnard, & Snape, 2014). These data are indicative of an important gap in knowledge for both patient and practitioner supporting previous research regarding patients' low knowledge of VLU (Van Hecke, Beeckman, & Grypdonck, 2013), and practitioners' lack of early identification and referral in line with NICE guidelines (Davies et al., 2018; NICE, 2013). Meulendijks et al's. (2019) depiction of low healthcare professional involvement in preventing progression to VLU highlights the importance of enhancing public and professional awareness of lower limb venous disease. In line with previous literature it indicates a strong need to explore the perception and practice of professionals (McLafferty et al., 2008; Passman, 2010). Indeed, some participants, recognising that compression therapy was an integral treatment for their VLU, expressed regret that it had not been used as a preventative measure. This resulted in speculation that greater awareness amongst participants and professionals may have interrupted the timeline to ulceration (Meulendijks et al., 2019).

Aside from the flaws in individual studies, prognostic evidence regarding lower limb venous disease suffers from the impossibility of proving causal relationships between exposure to risk and occurrence of disease (Rothman & Greenland, 2005). As stated, associations between risk and disease identified through cohort, case-control or cross-sectional studies do not prove the direction of the association (Polit & Beck, 2017). Nevertheless, criteria to test for causality can help determine if hypothesised relationships are plausible (Mathieson

& Upton, 2008). Bradford Hill (1965) proposed nine criteria for inferring causality: strength; consistency; specificity; temporality; biological gradient; plausibility; coherence; experiment; and analogy. Whilst subject to debate these criteria support the examination of associations for directional relationships, allowing researchers to rationalise claims of causation (Rothman & Greenland, 2005). No papers in this review referred explicitly to such criteria; instead, many acknowledged the limitation of finding association rather than causation, yet continued to speculate on application of findings to preventative practice (Belczac et al., 2014; Kim et al., 2015; Robertson et al., 2009; Vlajinac et al., 2014). Although not stated explicitly, authors suggesting changes to practice appeared to argue these because of plausibility, despite this being considered the weakest of Bradford Hill's criteria due to its reliance on current biological knowledge and lack of objectivity (Bradford Hill, 1965; Rothman & Greenland, 2005). Kim et al. (2015) argued that increased ankle joint range of motion was a biologically plausible risk for progressive lower limb venous disease because it indicated a broader laxity of connective tissues. Conversely, Belczac et al. (2014) speculated that reduced ankle joint range of motion would restrict fluid dynamics and inhibit the calf muscle pump thereby limiting venous return. This body of literature should be read with caution because disagreement within it demonstrates definitive indicators of risk for lower limb venous disease progression are not currently known. This lack of clarity is problematic for clinicians and indicates a gap in knowledge that contributes to a poor overall understanding of lower limb venous disease identification and prevention.

Identifying risk factors and indicative clinical signs of lower limb venous disease should enable targeting of preventative measures (Anderson, 2012; Atkin, 2019a, 2019b, 2019c; Capeheart, 1996; Henke, 2010; Iwuji, 2008; Labropoulos, 2019; Porter, 2018; Timmons & Bianchi, 2008; Todd, 2012). History of DVT, overt signs of skin changes, increasing age, obesity, immobility, deep venous reflux, being female, and family history of venous disease were associated with lower limb venous disease deterioration. Despite physiological theories however, it is apparent that cause and effect data regarding lower limb venous disease are widely contradictory with few, if any, clear lines of causation. Whilst the data are not conclusive and inconsistencies are evident, there are distinct patterns and corroboration of results to support the early identification and prevention of lower limb venous disease by recognising the factors associated with progressive disease severity. These data echo expert opinions from medicine and nursing urging professionals to be proactive and opportunistic in noting and acting upon such signs (Anderson, 2012; Atkin, 2019a, 2019b, 2019c; Capeheart, 1996; Henke, 2010; Iwuji, 2008; Labropoulos, 2019; Porter, 2018; Timmons & Bianchi, 2008; Todd, 2012). The array of risk factors and increasing numbers of people in categories such as increasing age and obesity indicates a

significant implication for healthcare professionals and must be a driver for further research (NHS digital, 2018; ONS, 2018).

2.4.3 Methods to prevent lower limb venous disease progression

Practice guidelines, research, and opinion papers were included regarding prevention of lower limb venous disease progression and primary prevention of VLU. Neglen (2010) suggested that the low quality and quantity of literature regarding the effectiveness of primary prevention strategies is due to the difficulties of performing such research. Lack of consistent data regarding lower limb venous disease progression and development of VLU hampers the evaluation of preventative measures (Neglen, 2010). Not all patients with lower limb venous disease progress to severe stages or VLU and any such progression can be slow, therefore much of the available literature comprises lower quality studies, expert opinion from clinicians, and inference from secondary prevention studies (Meulendijks et al., 2019; Neglen, 2010).

2.4.3.1 Compression therapy

Compression therapy through either bandaging or hosiery was cited in the general opinion-based literature in sub-section 2.4.1 as a means of preventing venous disease deterioration (Atkin, 2019b; Capeheart, 1996; Robson et al., 2008; Timmons & Bianchi, 2008). Robson et al. promoted that "Patients with signs of increased ambulatory venous pressure and/or postphlebotic syndrome should use compression stockings constantly and forever" (Robson et al., 2008, p. 148). Robson et al. (2008) drew on evidence from secondary prevention and post-thrombotic research to formulate guidelines for primary prevention.

Unfortunately, the guidance does not elaborate on a definition of "signs of increased ambulatory venous pressure" despite availability of the CEAP classification system and reference to it in the paper. The guidance is therefore not specific to any recognised stage of venous disease or classification system and as such is open to interpretation with limited applicability to practice. Having combined expert consensus with a systematic literature review, Ratliff et al. (2016) supported Robson et al.'s (2008) recommendations providing algorithms for compression therapy across phases of primary prevention, treatment of VLU and secondary prevention. Independent, face and content validity checks enhanced the expert consensus and ensured that tacit knowledge from practice had been considered. The process from Ratliff et al. (2016) was of a high quality, despite the lack of supporting evidence available for primary prevention, with guidance framed against CEAP classifications for greater clinical applicability.

However, suggestions that primary prevention can be achieved through compression therapy are made with minimal supporting evidence and authors are universal in their promotion of numerous methods rather than sole use of compression. A Cochrane review (Robertson, Yeoh, & Kolbach, 2013) of the prevention of venous insufficiency in at-risk standing workers, found insufficient high quality evidence to conclude the efficacy of compression stockings, therefore this cannot be viewed as a silver bullet strategy. Similarly, Rabe et al. (2018) conducted a comprehensive review of evidence relating to compression stockings and recommended that additional research was needed to determine the effectiveness of stockings in preventing lower limb venous disease progression.

Additionally, Serra et al. (2016) conducted a multi-centre prospective cohort study over 14 years to observe the preventative effect of superficial vein surgery and compression. The findings suggested that no preventative benefit was gained from any clinical decisions or level of adherence with treatments. However, the patient numbers reported as compliant with the treatment protocol (59.4%) does not reflect the general difficulties experienced with gaining adherence to compression. For example, Ziaja, Chudek and Ziaja (2011) studied 16,770 participants with chronic venous insufficiency and found compression use was consistent in only a quarter of the sample. Indeed, there is no detail from Serra et al. (2016) on how compliance with compression was monitored other than through participant reporting and therefore, the conclusion that it is ineffective in preventing venous leg ulcers must be treated with caution because of potential recall bias (Kjellsson, Clarke, & Gerdtham, 2014). In an audit of compression hosiery use, 24 of 42 tissue viability nurses in a UK NHS trust, indicated that they had used compression for primary prevention of VLU (Stephen-Haynes & Sykes, 2013). This emphasises the expert opinions expressed within the literature regarding approaches to prevention and supports the notion used by Ratliff et al. (2016) that limited research evidence should not wholly dictate practice.

Post-thrombotic syndrome has been associated with progressive lower limb venous disease and venous leg ulceration indicating greater need for primary preventative care to avoid progression (Lee et al., 2015). Flour (2012) stressed that compression and patient education are essential elements of primary prevention regardless of the source of risk. However, a systematic review (Doliner, Jaller, Lopez, & Lev-Tov, 2018) of treatments for primary prevention of VLU post-DVT echoed findings from research into broader primary prevention approaches (Kelechi et al., 2016; Robertson, Yeoh, & Kolbach, 2013). Namely, there was insufficient evidence to establish effectiveness of compression or other techniques and recommendations were made for more research into the prevention of VLU.

Kelechi et al. (2016) conducted a double blind placebo randomised controlled trial, examining the combined preventative effects of cryotherapy as an adjunct to compression and elevation. Over-standardisation of data collection methods to the extent that they no longer reflected normal clinical use of equipment reduced external validity. There was a clear protocol for determining and promoting compliance with compression, elevation and the independent variables of cryotherapy and placebo treatments. Participants were given standard video instructions for the application of treatments and periodic phone calls from clinical research staff were used to reaffirm understanding and compliance. Results demonstrated two key findings; firstly, that cryotherapy had no statistically significant benefit compared to the placebo, and secondly that incidence of venous leg ulcer was lower than expected according to the author's interpretation of the literature and clinical opinion of their colleagues. Given the sampling strategy to include patients at greatly increased risk of venous leg ulcer, C4 and C5 stages of CEAP classification, suggests that compression and elevation was effective at reducing primary and recurrent ulceration, but that cryotherapy made little difference. This contradicts the findings of Serra et al. (2016) but complements the suggestions made in guidelines and opinions that compression and elevation should be included in primary preventative measures (Robson et al., 2008).

Kostas et al. (2010) monitored progression of venous disease and the risk factors influencing progression in a small-scale cohort study of patients undergoing unilateral varicose vein surgery. Seventy-three participants were given risk factor modification advice and treatment to prevent progression of lower limb venous disease in the contralateral, healthy limb. Generalisability of results was limited by the small sample and the effect of recall bias in relation to risk factor control behaviour (Kjellsson, Clarke, & Gerdtham 2014). However, findings tentatively suggested that reduced time standing and prescribed use of compression stockings might decelerate lower limb venous disease progression. More certain from the results was that maintaining a healthy weight was a means of reducing progression in line with associations found in epidemiological literature (Belczak et al, 2014; Lee et al., 2015).

2.4.3.2 Guidelines for primary prevention of lower limb venous disease and VLU

Two guideline documents were identified with specific focus on primary prevention of VLU (Robson et al, 2008; Wound Healing and Management Node Group, 2012). Alongside compression as a mainstay of preventative treatment, guidelines also recommend actions including:-

- Early identification of signs and symptoms

Education of patients about aetiology of leg ulcers and self-management e.g. leg elevation, weight loss, skin care, smoking cessation
Ankle exercises to improve calf muscle pump function
Management of varicose eczema and cellulitis
Early identification and management of DVT

The recommendations are based on scrutiny of expert opinion or extrapolation of data relating to secondary prevention strategies, therefore both guidelines are valid and reliable according to the best available evidence (Greenhalgh, 2006). Both address the practical problems individual patients might face when adopting self-management recommendations such as compression therapy and exercise. Ziaja, Chudek and Ziaja (2011) and Atkin (2019c) assert that patient concordance with compression therapy is notoriously difficult to achieve, therefore recognition of such practical difficulty strengthens the guidelines (Greenhalgh, 2006). However, the extent of guidance given is to educate patients on the importance of adhering to compression therapy with no specific techniques suggested to encourage behaviour change. In contrast, recent discussion from Atkin (2019c) states that motivational interviewing could be a positive addition to clinical practice, enabling professionals to help patients maximise compression hosiery use. Neither guideline details how implementation should occur, by which professional groups, or how effectiveness should be evaluated. With no review or update timetable published with either guideline, healthcare practitioners have no frame against which they can update their practice and evaluate the impact of adhering to the guidance. Regular update and review of guidelines is essential to ensure contemporary clinical techniques are reaching at-risk populations to achieve positive results. Neither guideline includes reference to neuromuscular stimulation for example, which was explored by way of a well-structured literature review (Williams et al., 2017). They demonstrated that venous return can be enhanced in patients with reflux or history of DVT. However, the clinical availability and cost of equipment was questionable as to its applicability in practice, as was the concordance shown by patients for the treatment. Lack of up-to-date guidance becomes problematic however, when data of this type, or recommendations to optimise patient concordance (Atkin, 2019c), are not presented to clinicians for them to consider as options.

Guidance included referral for appropriate venous surgery; an action that is detailed and supported by broader guidance than that used solely for primary prevention. Referral for vascular surgical consultation at early disease stages was advised by Berridge et al. (2010) on behalf of the Venous Forum of the Royal Society of Medicine, and the National Institute for Health and Care Excellence (NICE guideline CG168) (2013). Specifically, Berridge et al.,

(2010) and NICE (2013) encourage referral to a vascular surgeon for patients with skin changes and oedema (CEAP C3 – C4 disease). Vascular surgical teams are subsequently recommended to undertake duplex ultrasound assessment and consider treatments to reduce venous reflux. Berridge et al. (2010) and NICE (2013) do not state which healthcare professionals should follow the recommendations and as such they broadly apply to any health care professional encountering lower limb venous disease. However, a review of the health information network database revealed that management of leg ulceration in the UK had not significantly changed following the release of NICE guidelines (Davies et al., 2018). Whilst focussed on VLU management and not prevention, Davies et al.'s (2018) finding that introduction of CG168 did not increase early referral to vascular services as intended, suggests either the guidelines are not effective or that they have not been appropriately promoted for implementation in practice. Significantly, for this thesis the disparity between guidance and practice indicates a need to explore the constitution of current early identification and prevention practice. The negative impact of lower limb venous disease on patients and health services is such that the contribution healthcare professions make to reducing that burden needs to be explored in order to identify areas for improvement. However, the absence of named groups in prevention guidelines means there is no ownership of responsibility for the large group of patients at risk of disease progression and attention appears to be focussed on GPs and registered nurses (APPG, 2019b; Davies et al., 2018). Podiatry, as a profession with a lower limb focus, would have a presumed interest regarding a lower limb condition with readily identifiable dermatological features, yet discussion or empirical investigation of their role does not exist in the published literature.

2.5 Review limitations

The Centre for Reviews and Dissemination (2009) recommended the use of teams of reviewers to enhance trustworthiness. Efforts to demonstrate rigour and transparency have been provided through the design of this review, to protect quality despite being undertaken by a single researcher. Exclusion of foreign language papers means some literature may have been missed thereby limiting the opportunity to incorporate the full international context.

2.6 Chapter summary

This chapter has provided a critical narrative review of the literature pertinent to the early identification and prevention of lower limb venous disease. International expert opinion suggests that health care practice should include early identification and prevention of lower limb venous disease (Anderson, 2012; Atkin, 2019a, 2019b, 2019c; Capeheart, 1996;

Henke, 2010; Iwuji, 2008; Labropoulos, 2019; Porter, 2018; Timmons & Bianchi, 2008; Todd, 2012). These opinions constitute evidence of growing impetus to reduce the burden of this disease, however they are based in nursing and medicine giving no indication of the role other healthcare professionals take. In addition, there is some consensus, through an expanding research base, as to the risk factors associated with progression of lower limb venous disease (Abelyan, Abrhamyan, & Yenokyan, 2018; Belczac et al., 2014; Berard et al., 2002 Kim et al., 2015; Kostas et al., 2010; Lee et al., 2015; Mervis, Kirsner, & Lev-Tov, 2018; Robertson et al., 2009; Vlajinac et al., 2014). Although current data does not wholly infer causality, it does support opinions that early identification of risk factors can aid in targeting preventative strategies. In turn, guidance and research into prevention of lower limb venous disease progression and primary prevention of VLU demonstrate a move towards prevention rather than cure for this condition. These three areas of literature are significant because they suggest lower limb venous disease early identification and prevention is a growing and plausible direction for healthcare; however, the range of professionals implicated appears to be highly limited. There are limitations in the research for each element and additional exploration is required to inform risk factor identification, methods of prevention, and professional role and practice. The focus in this thesis is the role of podiatry in the early identification and prevention of lower limb venous disease because this was an important gap in the professional literature.

The problem of lower limb venous disease is considerable and in need of redress. Figures demonstrate venous leg ulceration as the costliest lower limb wound within the NHS (Guest et al., 2015). The House of Lords debate on wound care (UK Parliament, 2017) revealed how the cost of wounds in the NHS had now surpassed obesity costs. The questions posed to the Under Secretary for Health included direct calls for prevention strategies, yet his reply omitted any reference to prevention and concentrated solely on treatment of existing wounds. At the forefront of much of this debate was the question of venous leg ulceration. The contextual discussion in Chapter one, and the critical narrative review in this chapter have demonstrated an emerging focus on the prevention of venous disease, however, there is a dearth of quality papers addressing the means by which primary prevention might be achieved.

There is a contradiction in the literature and a lack of evidence from randomised controlled trials and longitudinal studies to confirm strategies for prevention of venous deterioration. Evidence from RCTs and quantitative approaches does not define all clinical practice; as Sacket et al. (1996) stated, evidence-based practice combines clinical expertise with findings from systematic research. The algorithm from Ratcliffe et al. (2016) exemplifies the

use of a blend of evidence to guide practice. Moreover, the literature demonstrates that current opinion does not discount the possibility of preventing lower limb venous disease deterioration per se. Guidelines from Robson et al. (2008) and Wound Healing and Management Node Group (2012), however flawed by their lack of supporting evidence, were significant in their specific focus on primary prevention rather than prevention of recurrence. The drive towards prevention matches the growing impetus for preventative medicine (DHSC, 2018) despite the absence of undisputed evidence of efficacy. Primary prevention guidelines provide an overview of available approaches so that clinicians could make informed attempts to prevent at-risk patients from deteriorating to ulcerative stages.

However, there is no clarity as to which professions should implement the guidelines to identify patients at an early stage and commence preventative care. The absence of reference to podiatry as a profession in a position to do so is noticeable, despite their lower limb speciality and role in preventative care (Farndon et al., 2018; Gray, Eden, & Williams 2007; Tehan & Chuter, 2016; Vernon, 2011; Woodburn et al., 2010). The literature has described a more defined role for nursing and medical practitioners in lower limb venous disease, but as neither claim specific lower limb speciality there is potential for involvement of more professionals. The review has identified a gap in the literature pertaining to the role of the podiatrist in the early identification and prevention of lower limb venous disease. The profession of podiatry sits distinctly outside the literature reviewed in this chapter, an absence that is significant given some of the core proficiencies listed by the HCPC that podiatrists should: -

“understand, in the context of chiropody and podiatry...foot health promotion and education” (HCPC, 2013, pg. 11)

“be able to formulate specific and appropriate management plans including the setting of timescales.” (HCPC, 2013, pg. 12)

“...be able to conduct neurological, vascular, biomechanical, dermatological and podiatric assessments in the context of chiropody/podiatry.” (HCPC, 2013, pg. 12)

“Know and be able to interpret the signs and symptoms of systemic disorders as they manifest in the lower limb and foot...” (HCPC, 2013, pg. 12).

Each of these statements highlight that podiatrists should have a role in identifying and formulating preventative management for the most expensive and one of the most

debilitating lower limb pathologies. Consequently, this emphasises questions raised over the lack of literature pertaining to podiatry and lower limb venous disease. There is a seemingly missed opportunity, from the evidence in the literature, to use podiatrists more effectively in the fight to prevent the rising negative effects of lower limb venous disease. This study was designed to explore and investigate the current role podiatrists take in the early identification and prevention of lower limb venous disease. It addresses the specific gap in the literature relating to the podiatry role and contributes knowledge to a growing paradigm shift from VLU treatment to prevention (Doliner, Jaller, Lopez, & Lev-Tov, 2018; Labropoulos, 2019; Mervis, Kirsner, & Lev-Tov, 2018; Meulendijks et al., 2019; Yam, Winnoker and Khilnani, 2016).

2.7 Research Aim and Objectives

It is apparent from the literature that there is little research investigating the role of the podiatrist in early identification and prevention of venous disease. There is evidence of gaps in the literature relating to identifying patients at risk of disease progression and methods of prevention suggesting the topic as a whole is under-explored. The aim and objectives are broad to incorporate exploration of whether these gaps influence the podiatry role. This study aims to explore the current role of podiatrists in the North of England in the early identification and prevention of lower limb venous disease. The specific research objectives are: -

- 1) To explore the role of podiatrists in the early identification of lower limb venous disease
- 2) To explore the role of podiatrists in the prevention of lower limb venous disease
- 3) To critically investigate drivers and limitations on podiatrists undertaking early identification and prevention of lower limb venous disease.

Chapter 3 Methodology

The previous chapter presented a critical review of the literature relating to the role of the podiatrist in the early identification and prevention of lower limb venous disease, which identified a gap in the literature requiring investigation. This chapter provides an explanation of the methodological position of the research including the rationale for using a qualitative, ethnographic approach and considers the philosophical stance and reflexive role of the researcher.

3.1 Qualitative Research Approach

A qualitative research approach was deemed appropriate for this study as it seeks the subjective perspective of those involved in a setting to develop understanding rather than to test hypotheses and make statistical inference (Flick, 2011). The use of a qualitative approach enabled an in-depth exploration of the podiatrists' role in the early identification and prevention of lower limb venous disease by considering their actions, meanings, attitudes and beliefs. A qualitative approach is considered ideal for investigations where there is a lack of existing data or theories (Flick, 2011). The literature review identified no empirical research relating to the role of podiatrists in lower limb venous disease. There are several valid approaches to conducting research. Primary research through qualitative or quantitative enquiry and secondary research through systematic literature reviews offer different perspectives and opportunities to gain knowledge (Polit & Beck, 2017). Qualitative research seeks to develop an understanding of knowledge gaps through exploration of the subject from the perspectives of those involved (Ormston et al., 2014; Robson, 2002). Qualitative research was a reasonable choice of approach based on the absence of literature and the opportunity to explore the topic from within the culture.

The wide range of available qualitative frameworks makes design choices challenging, with no algorithm to determine the most appropriate strategy (Hansen, 2006). An ethnographic design was chosen to allow exploration of the culture of podiatry by immersion and engagement in the field. This choice was driven by the pragmatic flexibility of ethnography to gain data from appropriate participants and environments, to fully explore the research topic (Lewis & McNaughton Nicholls, 2014). Alternative designs were considered, sections 3.2 and 3.3 explain the rationale for the use of an ethnographic approach.

3.2 An Ethnographic Study

Ethnography embeds the researcher in natural settings focusing on small scale but in-depth investigation and using analyses which describe and explain rather than draw statistical inference (Madden, 2010; Polit & Beck, 2017). Ethnography is not bound by a strict definition, however some attempts to define the approach have been made, Spradley (1979) suggested a wide view that ethnography is about learning from people rather than simply studying them. Brewer attempted a more encompassing definition: -

Ethnography is the study of people in naturally occurring settings or 'fields' by methods of data collection which capture their social meaning and ordinary activities, involving the researcher participating directly in the setting, if not also the activities, in order to collect data in a systematic manner but without meaning being imposed on them externally. (Brewer, 2000, p.6)

Despite attempted definitions, there remains variety in ethnographic practice and no universality in application or style (Gobo, 2008). Indeed, to label a study ethnographic does not require a prescribed set of essential features. This is likely due to its mixed origins in anthropology and sociology and its positive use as a flexible research approach (Gobo, 2008; Robson, 2002). An ethnographic approach is responsive to emerging needs of a study by specifically allowing combinations of methods that retain focus on exploring the lives of those involved in the setting or culture (Polit & Beck, 2017). Many ethnographic studies frequently share the following characteristics as identified by Hammersley and Atkinson:-

- 1) Participants are studied in everyday contexts
- 2) Data are captured using a variety of means, generally inclusive of participant observations and interviews
- 3) Collection of data is relatively unstructured with little *a priori* influence on analysis
- 4) Studies are usually small scale and in-depth rather than broad.
- 5) Data analysis involves interpretation of the meanings, functions and consequences of human actions and institutional practice, and how these are interpreted in local and perhaps also wider contexts. (Hammersley & Atkinson, 2007, p. 3)

These definitions and features of ethnography are congruent with the exploratory aim and objectives of this study, facilitating exploration from the perspective of those involved in the topic of interest by embedding the researcher within their culture (Madden, 2010). This enables the researcher to gain deep understanding of the issues surrounding a topic of interest through experience of a culture, rather than solely hearing individual perspectives, which is essential to obtain rounded and rich data. However, these objectives can be achieved using a variety of qualitative approaches with specific examples discussed in section 3.3. A particular advantage of ethnography was to concentrate on the culture by gaining data from being within that culture. Whilst this meant the aim and objectives could be met it also required careful consideration of trustworthiness because being situated in the cultural setting has inevitable impact on that setting (Hammersley & Atkinson, 2007). Data in ethnography is gathered from the perspective of the researcher but with the intention of gaining the perspective of the participant (Madden, 2010). This was an aspect of the research that required careful attention as explained throughout this chapter.

Culture is central to ethnographic research; a group of people with shared knowledge, beliefs, values and practices generally constitutes a culture (Grbich, 1999). Podiatry constitutes a culture because, at a minimum, it consists of a group of people with shared knowledge and practices, as evidenced by regulatory body codes of conduct and ethics (HCPC, 2013). Culture fosters cultural meanings, and it is these which potentially influence practice and are explored through ethnography (Cutler, 2004). Consequently, it was by exploring the cultural meanings or “how they interpret and evaluate the situations they face and their own identities” (Hammersley & Atkinson, 2007, p. 168) that this research sought to explore the role podiatrists take in the early identification and prevention of lower limb venous disease. Ethnographic research aims to reveal and explain the actions of members of a culture, thereby making explicit that which is otherwise implicit to the culture (Polit & Beck, 2017). Without recognising implicit behaviour, there can be no understanding of that behaviour and therefore no foundation from which to change or improve practice. For this study to be worthwhile, it had to yield findings that could inform decisions around early identification and prevention of venous disease and potentially identify further research requirements (Bassett, 2004; Newell & Burnard, 2011).

Ethnographic research uses descriptive and explanatory theoretical analyses to develop understanding of cultures (Hammersley & Atkinson, 2007; van Maanen, 2011). Descriptive analysis, or thick description in the tradition of Geertz (1973), is a contextual representation of culture that enables interpretation, beyond simply reporting events, by analysing those events against the full cultural backdrop. Explanatory theoretical analysis is the more

advanced process by which patterns, regularities and themes are explained and accounted for (Hammersley & Atkinson, 2007). This ethnographic approach allowed exploration and identification of implicit cultural behaviour as a means to advance the understanding of current podiatry practice.

3.2.1 Emic position

An insider or 'emic' position was adopted to take advantage of my position as a member of the culture of podiatry. This appears at odds with early anthropological forms of ethnography, which sought to understand cultures from the external, or 'etic,' position believing that naivety could enhance objectivity (Gobo, 2011; Madden, 2010). Indeed, Spradley stated that "the less familiar you are with a social situation, the more you are able to see the tacit rules at work" (Spradley, 1979, p. 62). However, adopting an outsider position has been challenged; Crang and Cook (2007) suggested detachment of researchers from a culture is not possible because ethnographers become part of the culture of interest thereby influencing and being influenced by the setting. In healthcare, using ethnography within native or familiar settings can aid in gaining access and developing relationships suitable for attaining rich data (Cutler, 2004; Simmons, 2007). Employment as a senior lecturer in podiatry and being embedded in the culture makes it difficult to claim objective detachment. Hammersley and Atkinson (2007) suggest making the culture "anthropologically strange" with Gobo (2008) recommending two practical solutions to achieving this task. Firstly, for the researcher to adopt a childlike stance of asking himself "why?" about all occurrences or asking "what if?" These questions forced consideration of what tacit behaviours meant rather than viewing them as normal events of little significance. Additionally, Gobo (2008) advised recruitment of participants marginal to the culture who appear to break normal or expected conventions. Seeking participants who stand outside normal practice aids in the recognition of normal rules and practices within a culture (Gobo, 2008). The means of preventing researcher pre-suppositions from influencing the study too greatly, but also recognising and understanding where the influence has occurred are discussed throughout this chapter and the next.

3.3 Alternative approaches

Phenomenology was considered as a potential methodological approach as it allows the participant voice to be heard through focus on the lived experience of individuals in relation to a phenomenon (Polit & Beck, 2017). Through phenomenology the lived experiences of podiatrists would have been captured but the influence of clinical surroundings, interactions with patients and tacit occurrences might not have been revealed (Cutler, 2004; Gobo,

2011). Although important, the data for this study were required to capture more than the experiences and perspectives of participants, they needed to include activities within the setting and experience of the influencing factors. The flexible nature of ethnography was advantageous as it gave voice to participants via individual interviews and a focus group interview, whilst facilitating immersion in and experience of a culture through observations (Gobo, 2011).

Action research was a possible option as an iterative approach whereby a change is introduced to practice and the impact of that change is explored (Wolfram Cox, 2012). It is a method strongly linked to change management and has applications in healthcare due to improvements in care that can result (Rigg, 2004). However, the method relies on a degree of baseline knowledge against which evaluation of the changed practice can be undertaken (Holloway & Wheeler, 2010). The literature pertaining to podiatrists' early identification and prevention of lower limb venous disease was insufficient to assign a baseline for action research in this instance.

3.4 Philosophical Position

3.4.1 Ontology

This study is built on an ontological perspective that an external reality exists and therefore it sits in a realist position (Mol, 2002; Ormston et al., 2014), allowing sharing of information and assisting in developing a common understanding of the role of podiatry in lower limb venous disease. An ethnographic approach was underpinned by considering my assumptions about the nature of knowledge and its acquisition as a researcher. The aim and objectives of the study sought to explore practice of podiatrists in the UK therefore it was necessary to consider that such a reality does exist and is a knowable entity.

The position of subtle realism where "an external reality exists but is only known through the human mind and socially constructed meanings" (Ormston et al., 2014, p. 5) lends itself to ethnographic work as it negates the infinite constructions of reality risked by idealism. However, it appreciates that a knowable version of reality can be sought through research (Hammersley, 1992). It is a joining of realism and constructivism meaning a truth exists but that the truth is viewed and understood differently by those involved (Ormston et al., 2014). The realist element aligns to the research objectives, recognising that there is an external reality within which podiatry operates that can be observed and enquired about. The constructivist element recognises the influence social actors have on the reality they act within (Ormston et al., 2014). Giddens (1984) draws the distinction that social actors do not bring social activities into being but that they recreate them by the way they express

themselves within those activities. This view is potentially problematic because the expression of individuals is variable, making the agency and individuality of podiatrists key elements to recognise when exploring their practice. Agency in this context refers to the capacity of individuals to act with autonomy and to make their own choices (Barker, 2012). Seeking to explore what happens in podiatry practice and why it happens is at the core of the research aim and objectives. Subtle realism suggests knowledge of a reality is accessible from the perspective of those involved (Hammersley, 1990). It is therefore an appropriate ontological basis for this study and the 'emic' approach to exploring the culture of podiatry.

Conversely, naive realism suggests that reality exists independently of human beliefs and understanding; it assumes that reality can be viewed and the truth of a reality can be known accurately (Ormston et al., 2014). Naive realism was rejected as an ontological position for this study because it fails to recognise that podiatrists could act through their own volition to know and shape the reality through their perceptions and actions. Without tempering naive realism with subtlety, the actions of podiatrists would be reduced to quantifiable data with no acceptance of individual perceptions or volition. However, without a realist core there could be no finite answer to the research question because all perspectives and data would be relative to the individual view of each participant and the researcher.

Hammersley summarised the key elements of subtle realism:

- a) No knowledge is certain, but knowledge claims can be judged reasonably accurately in terms of their likely truth.
- b) There are phenomena independent of us as researchers or readers of which we can have knowledge (but only in the sense defined above). (Hammersley, 1990, p.61)

In this study, the methodological focus was to enhance the likely truth of any knowledge surrounding the role of podiatrists in the early identification and prevention of lower limb venous disease. Subtle realism is the integration of realism and constructivism; the truth of podiatry practice is a single, knowable reality that is constructed in multiple ways by those involved in it. However, this position is difficult to achieve because it relies on being able to judge the likelihood of a knowledge claim, or research finding being true. To do this would require an accepted definition of that knowledge, and agreement of how its truth can be evidenced as plausible (Seale, 1999). Hammersley asserted subtle realism can help

researchers move away from naively reporting on a 'reality', to reporting a joint construction of reality from the perspective of both researcher and participant (Hammersley, 1990). According to Seale (1999), this depends on research communities having shared assumptions about the judgement of knowledge claims. Despite the criticism of subtle realism, accepted criteria for judging quality in qualitative research represent a means of assessing plausibility. If a study is considered high quality in terms of overall trustworthiness then the truth of its findings can be considered more likely (Holloway & Wheeler, 2010; Shenton, 2004; Tracy, 2010). This best of both worlds ontology is potentially problematic because of concerns of plausibility of truths. However, when seeking to obtain appropriate data it is a strong supporting factor for using a flexible ethnographic design. Indeed, ontological concerns over the constructivist element and subsequent risk of relativity and multiplicity guided many of the design choices for the study.

3.4.2 Epistemology

An inductive epistemology was suitable given the exploratory aim and objectives, the distinct gap in the literature, and the ontological requirement to consider participant constructions of the reality. The intention of induction is to develop knowledge of a topic or situation from within rather than imposing pre-existing theories to it and testing their fit (Blaikie, 2007). Inductive reasoning seeks to identify patterns and develop understanding without pre-determined theory as a guide (Ormston et al., 2014). For this study, the lack of literature meant induction was appropriate; however, arguments from Blaikie (2007) who suggested no induction can be pure, and free from *a priori* knowledge, were taken into consideration. For example, approaching this research with an aim and objectives, removed the purity of induction because they were derived from professional experience and critical evaluation of surrounding literature. Presuppositions shaped the construction of all elements of the research meaning that the derived knowledge was likewise shaped by those presuppositions. Induction, despite the impurities, is an epistemology of exploration and theory development that aligns to the aim and objectives of this study. Crucially the perspective of participants and embedded observers is required in inductive enquiry; these are the tenets of qualitative, ethnographic approaches (Ormston et al., 2014).

The rejected naive realist ontology would require quantification and remote objectivity where the researcher manipulates variables, observes cause and effect relationships and limits other influences on the setting. The intention of such a position would be to discover truth from a positivistic stance, claiming absence of bias and complete reproducibility of process and findings (Mathieson & Upton, 2008). This epistemological position of deduction is reductive and does not allow for deeper understanding of human actions within settings

(Bassett, 2004). Deduction cannot account for the knowing of external realities through the human mind because it is focussed on natural science-led concerns regarding cause and effect relationships (Mathieson & Upton, 2008). As a result, a deductive epistemology was not appropriate alongside the subtle realist ontology.

Deductive, quantitative approaches require clearly defined variables for control, measurement and the formation of hypotheses for testing. The lack of literature and data pertaining to podiatry involvement in venous disease meant that this form of hypothetico-deductive epistemology was not appropriate. Such an approach would not enable the participants to voice the reality of their role in venous disease. Instead, it would impose an external framework to understand their view according to *a priori* concepts or models.

3.4.3 Reflexivity

To deny subjectivity in ethnography is, as Madden states "ignoring the elephant in the corner" (Madden, 2010, p. 23). This is true of most qualitative methods where the researcher is the data collection instrument (Hammersley & Atkinson, 2007; Madden, 2010), but is particularly pertinent in ethnographic studies such as this where an 'emic' stance was adopted. Reflexivity recognises that the position, history and perspective of a researcher will influence their research (Finlay, 2003, Madden, 2010). A reflexive approach, according to Madden (2010), is an unquestioned requirement for qualitative research where the impact of the researcher as designer, data collection tool, and participant in the field should be considered throughout. There is no definitive guide to being reflexive. Finlay (2003) suggests five styles: Introspection, inter-subjective reflection, mutual collaboration, social critique and ironic deconstruction. Inter-subjective reflection and social critique underpinned this study with clear focus on the relationship with participants and the rapport developed, whilst recognising and seeking to manage the balance of power between myself and the participants (Finlay, 2003). Introspection was essential to all reflexivity, to consider my own experiences and provide insight into interpretations and explanations of the process and data (Finlay, 2003). Whilst it was not the intention to eliminate the effects of being a podiatrist on the research, reflexivity has been used throughout to understand those effects and make them transparent to the reader. In doing so I aimed to create a level of trustworthiness of the data and the conclusions I drew from them (Holloway & Wheeler, 2010).

Reflexivity enabled a self-critical approach whilst reducing bias and maintaining focus on the reality as experienced by the participant and the researcher. Acknowledging presuppositions and previous experience contributed to making the familiar strange and

identifying tacit cultural behaviour and meanings more clearly (Gobo, 2008). Reflection was ongoing throughout the study. During data collection, I considered how the participant had responded to my presence as a researcher, academic and podiatrist. Following each interview and observation, I recorded notes in a diary that I later incorporated into field notes. This enabled me to identify and reflect on instances where I considered my presence to alter 'normal' clinical activity. Such reflexive notes were significant throughout the data analysis as they increased my awareness of my pre-suppositions and reduced the risk of such being imposed in the data. As the data collection process went on, reflexivity and reflection also influenced my learning as a researcher. Reflexive action was generated and I became more adept at recognising my influence and considering this in data collection and analysis. The influence of reflexivity is addressed in more detail in Chapters four and six.

3.5 Chapter summary

In this chapter I defended the use of a qualitative, ethnographic methodological approach and detailed my 'emic' and reflexive stances. Alternative methodological approaches were discussed alongside my philosophical assumptions. I provided a clear rationale for my chosen methodology to meet the aim and objectives of the study. The next chapter presents the methods used for data collection and analysis.

Chapter 4 Methods

In the previous chapter the philosophical assumptions, choice of qualitative approach and researcher position were discussed. This chapter details ethical approval, sampling, data collection and analysis processes. Observations, individual interviews and a focus group interview were used for data collection.

4.1 Data collection overview

As discussed in the previous chapter, an ethnographic approach does not limit a study to a prescribed set of methods. To meet the aims of this study a combination of three distinct sub-sets of sampling, recruitment and data collection methods were used. Combining methods enhanced the precision and quality of research findings by identifying themes and patterns across practice and between practitioners (Hammersley, 1990; Lewis, Ritchie, Ormston, & Morrell, 2014; Ormston et al., 2014). Triangulating data collection methods and considering accounts from multiple sources increases the reliability and trustworthiness of a study, whilst limiting potential negative effects of subjectivity (Holloway & Wheeler, 2010; Miles & Huberman, 1994). Table 5 shows an overview of the data collection process.

Table 5: The data collection process

Data sub-set	Stages of data collection
Observations and interviews with practising podiatrists	December 2014 to May 2015
Individual semi-structured interviews with podiatry managers, academics and pre-practice graduates	February 2015 to July 2015
Focus group interview with podiatrists, podiatry managers, district nurses, a vascular nurse and pre-practice graduates	June 2018

4.2 Ethical approval

Ethical approval was gained from the University of Huddersfield School of Human and Health Sciences Research Ethics Panel, and the NHS Integrated Research Application System. Reference numbers: - Research Ethics Council (REC) reference: 15/NW/0137; IRAS project ID: 124438. Appendix two contains copies of ethics committee approvals.

4.2.1 Ethical considerations

Protecting participants from harm whilst ensuring their accounts were heard was the overarching ethical concern (Webster, Lewis, & Brown, 2014), in line with Beauchamp and Childress (2019) and the HCPC (2013) the tenets of autonomy, justice, beneficence and non-maleficence were respected. Anonymity of participants and their locations were protected by use of pseudonyms and confidentiality was assured by adhering to the University of Huddersfield's policy on the storage of data. For the transcription of interviews, a professional transcribing service, well versed in research ethics protocols was used. Participants were informed of my professional obligation to report poor or dangerous practice that may have endangered patients observed during this study. Likewise, should any participants have revealed professional practice issues of concern throughout the interviews I was bound by an ethical and professional responsibility to report such practice to the HCPC.

4.2.2 Informed Consent

Informed consent was gained from all participants prior to data collection. To minimise the potential Hawthorne effect during observations (Bloomer, Cross, Endacott, O'Connor, & Moss, 2012; Fernald, Coombs, DeAlleaume, West, & Parnes, 2012) the participant information sheet for the observational stage of data collection did not include reference to venous disease or the aim and objectives of the study. Instead, participants consented to have their "professional practice" observed. This did not remove the Hawthorne effect altogether because the experience of being watched may still have influenced their actions (Lee, Huber, & Davidson, 2008). However, this approach to gaining consent was considered to minimise the possibility of participants acting in a specific way to provide the data they thought was expected.

Whilst patients did not participate in the study as research participants their presence was essential to experience the practice of podiatry throughout each observation. Notices were placed in all waiting areas and treatment rooms to inform patients that they would be observed and advised of their right to refuse to have their appointment observed. For

participants in the focus group and individual interviews without observation, full information about the topic was provided in advance before gaining consent. All participants were advised of their right to withdraw up to the point of data analysis. Participant information sheets and consent forms can be found in appendices three to seven for each stage of data collection.

4.3 Sampling

Purposive sampling was used in line with ethnographic practice to seek participants who had knowledge and experience of podiatry from a range of positions (Polit & Beck, 2017), and to provide data relevant to the research aim and objectives (Braun & Clarke, 2013; Ritchie, Lewis, Elam, Tennant, & Rahim, 2014). Purposive sampling can be sub-categorised to include multiple variations and lacks a universally recognised meaning (Polit & Beck, 2017). This study adopted a maximum variance purposive sampling technique, albeit via a small sample in one local geographical area, whereby both the settings and participants represented variation within the culture of podiatry (Gobo, 2008). The strategy was to identify and explore patterns of discord, corroboration and variation via accounts from multiple perspectives to gain deeper understanding of the topic (Cutler, 2004; Gobo, 2008). This was advantageous because settings and individuals, broadly representative of podiatry in the UK could be identified and invited to participate rather than relying on interested parties to step forward from unspecified perspectives (Gobo, 2008).

My 'emic' stance and experience of podiatry enabled me to judge which areas required representation and constituted appropriate multiple perspectives (Adler & Adler, 2003; Fetterman, 1998; Gobo, 2008). Whilst Hammersley and Gomm (2000) suggest such subjectivity is a potential source of bias, judgements were made reflexively and with the intention of achieving a rich balance of accounts and environments. Indeed, Polit and Beck (2017) suggest that sampling decisions in ethnographic studies are often based on what the researcher knows in advance about a culture. Snowball and opportunistic sampling supplemented the maximum variation approach to add to the credibility of the study (Holloway & Wheeler, 2010). This made use of the subjective, inside knowledge of existing participants who made suggestions as to other individuals likely to provide rich data (Ritchie et al., 2014). Likewise, ongoing data analysis prompted opportunistic sampling of individuals or groups likely to illuminate emergent ideas (Polit & Beck, 2017).

Sampling on this basis was ethnographic because all participants had insight into being part of, or close to, the culture of podiatry and could discuss how that culture influenced activity around venous disease (Polit & Beck, 2017). Mol (2002) suggested that gathering data from

participants such as these is akin to recruiting supplementary ethnographers, by way of being informants, to contribute to a study. This concept was particularly evident through recruitment of pre-practice graduate podiatry students. These students had received theoretical and practical teaching at university but had also spent considerable time working alongside or shadowing podiatrists in the NHS. Their view of practice was developed as naive participant observers; undertaking the duties associated with the culture and learning how to be a podiatrist by spending time in practice (Gold, 1958). Interviewing these individuals gave the opportunity to probe the differences between theory and practice, hear their accounts of observing podiatrists and thereby obtain a different view of the subject (Mol, 2002).

As previously outlined, the selection and recruitment of participants was undertaken in three phases for the three distinct sub-sets of data collection; observations with interviews; interviews without observation, and the focus group interview. The selection and recruitment processes for each stage is explained below.

4.3.1 Participant selection and recruitment for observations with interviews

Participant selection for the observations with interviews sought to include podiatrists from a range of specialities; duration of practice; qualification levels; blend of practice between NHS and private sectors; age and gender. Inclusion was intentionally broad to obtain a wide variety of participant credentials, opinions and experiences. The research was undertaken in the North of England allowing HCPC registered podiatrists practising in this area to be eligible for inclusion. To reduce power imbalance between researcher and participant a sole exclusion criterion was applied that participants had not been taught by the lead researcher at University. As a senior lecturer in podiatry, I regularly examine students by observing and assessing their practice, to go through this same process, particularly the observation of practice, as part of my research study may have led former students to perceive the situation to be like an examination. This exclusion criterion was used to increase the likelihood of observing participants acting as they normally would in the natural setting of the culture (Adler & Adler, 2003; Brewer, 2000).

Podiatrists in private practice were contacted directly or via blanket e-mail invitations distributed by secretaries of College of Podiatry branches in the North of England. Three hundred private podiatry clinics were contacted and six responses were received, all of whom met the inclusion criteria and represented variation in socio-economic locations and practice type. Such a low response rate could be explained in a number of ways including

reticence on the part of podiatrists to have their practice observed, their desire to protect patients from observation, concerns over time constraints on practice, or even their apathy towards research. In-depth exploration of the low response was not undertaken however, and the points made here are conjecture. It is important to note that private practice participants also had NHS experience and their accounts contributed to exploring both private practice and NHS podiatry. Podiatrists practising in one NHS trust in the North West of England were informed about the study at a staff meeting and invited to participate via e-mail. Three practising NHS podiatrists responded from the department of 35 whole time equivalents and each was eligible to participate. An additional NHS podiatrist was recruited through snowballing. Full details of the recruited sample are presented in chapter 5.

4.3.2 Participant selection and recruitment for interviews without observation

The inclusion criteria for participants to take part in individual interviews included experience of podiatry practice, management or academia. Graduating students were pre-practice and only eligible if they had successfully passed their course. Pre-practice graduates, invited via a blanket e-mail to graduating students from the researcher's own institution, were eligible for inclusion as there was no observation element in this sub-set of data collection. A range of academic staff and NHS podiatry managers, along with institutions across the North West and Yorkshire were contacted via e-mail inviting them to participate.

4.3.3 Participant selection and recruitment for the focus group interview

Sampling for the focus group interview was again purposive to gain a multi-professional perspective on the research topic. The sample included NHS podiatry service managers, educationalists, podiatrists with specialist expertise in high-risk care, a vascular nurse specialist, two band 6 district nurses and two pre-practice graduate podiatry students. The intention of this sample was to generate discussion of the topic amongst a multi-disciplinary group that had experience in lower limb venous disease. An emergent theme from initial data collection was that nurses were the health professionals most closely involved both with podiatrists on an inter-professional basis, and with venous disease. The selection criteria for podiatrists was the same as the interviews without observation whilst the criteria for Nursing and Midwifery Council (NMC) registered nurses was to have experience of inter-professional working with podiatrists, and care of patients with lower limb venous disease. E-mails were distributed across a range of North West and Yorkshire institutions to invite nurses and podiatrists to participate.

Extensive attempts were made to recruit a general medical practitioner by e-mailing invitations to practices and by contacting the local clinical commissioning group practice support team and asking for an invitation e-mail to be sent. Unfortunately, no GPs volunteered to participate. Following this failure to recruit, the inclusion criteria for GPs was relaxed to allow inclusion of a retired GP however, despite contacting such individuals there were no volunteers.

4.3.4 Sample size

Determining a sample size in qualitative research is an ambiguous process and in some respects, the question of sample size is antithetical to the principles of qualitative enquiry (Flick, 2006; Gray, 2009; Hansen, 2006; Robson, 2002). For this study, the sample consisted of 18 individual participants and a focus group interview with eight individuals. Hammersley (1990) defends small samples in ethnographic research and recommends the research to seek depth of subject matter rather than breadth as an influence on sample size. Sample size was guided by the concept of data saturation because it is seen as a marker of credibility and transferability in qualitative research (Polit & Beck, 2017). This is said to occur when new themes or ideas cease to emerge during data collection and analysis (O'Reilly & Parker, 2012). Estimates, based on empirical investigation, have suggested between 12 and 17 one to one interviews would yield saturation (Francis et al. 2010; Guest, Bunce, & Johnson, 2006). However, both Guest et al. (2006) and Francis et al. (2010) only considered individual interviews therefore their findings cannot wholly inform this study due to the additional sample of participants for observations and the focus group interview. Nevertheless, saturation was reached in this study with no new themes arising therefore it was judged that a sufficient sample size had been achieved.

4.4 Data Collection

A combination of methods was used to collect data through three different groups of participants, consisting of: observations combined with interviews; interviews without observation and a focus group interview.

4.4.1 Observations

Firstly, observations of clinical practice were undertaken with each of ten participants followed by a semi-structured face-to-face interview, undertaken on the same day or within one week proceeding observation dependent on the work load of the podiatrist. The observations were completed in podiatrists' clinics on dates of their choice for a minimum

period of one working day. Whilst all clinical activities and podiatrists' discussions with patients were observed, a focus on lower limb venous disease was maintained and potential factors contributing to discussions surrounding early identification and prevention were noted. The understanding of actions requires observation of that action rather than solely hearing accounts from actors, therefore the observations were critical in gaining rich data (Gobo, 2008). The potential contradictions between what people do, and what they say they do necessitate observational data to contextualise the blend of facts and idealism obtained in subsequent interviews (Flick, 2006). In addition to generating data, observing practice was a means of sensitising to the environment and pertinent issues prior to undertaking interviews, an advantage that linked to the inductive epistemology in seeking to build knowledge from the setting rather than to impose pre-conceived ideas. Embedding in the culture through observing in excess of 10 days of clinical practice meant that recurring events could be noted, discussed in interviews, and their importance considered across the sample.

A predominantly non-participatory observation position was adopted; I explained to participants that my presence was for research purposes and that I was not participating in clinical activities (McNaughton Nicholls, Mills, & Kotecha, 2014). Gold (1958) described how the advantage of partial participatory observation roles was the opportunity to ask questions as they arose in the field. In contrast, a complete observer role would require techniques to remain detached from the scene, for example two-way mirrors or video recording. Whilst the latter techniques could be considered more objective, this study was based on developing an 'emic' or insider view, therefore immersion in clinical practice was essential. Moreover, the flexibility to ask ad-hoc questions and develop a rapport with participants over the course of an observation session, for example in between patient appointments, enabled exposure of the setting from the participants' perspective. Being within the setting, rather than separate from it provided better means of understanding the tacit knowledge of podiatry practice; the hidden assumptions and meanings that underpinned participants' activities (Polanyi, 1967; Tracy, 2010).

The predominantly non-participatory position enabled me to capture what was actually happening and the everyday detail of podiatry practice (McNaughton et al., 2014). I provided a structured means of collecting data which increased dependability and trustworthiness and, through structured field notes, enhanced repeatability (Flick, 2006). An observation tool was designed to focus data collection on the research aim and objectives whilst allowing broader field notes to be taken (Appendix Nine). Pilot observations, completed through the course of clinical teaching at University, informed the

composition of the tool and ensured it was practical for use in the field. The tool comprised two elements; a checklist of actions and a space to record events during patient consultations. The checklist maintained a focus on lower limb venous disease, keeping the research grounded in the topic area of interest. All directly relevant occurrences were noted and described in the free notes section. Noting descriptive data such as conversation topics, approach to patient care and general activities fed into what Spradley (1979) defined as the phases of focussed observation and selective observation. Describing everything enabled the study to follow Hammersley and Atkinson (2007) and funnel attention progressively onto the particular topic of interest. The process of making detailed field notes was integral to providing thick description and enhancing the credibility of the study (Geertz, 1973). Describing the context, including the physical environment as well as the clinical activity, was essential to rationalise actions. It was also necessary from a credibility and transparency perspective to give sufficient clear detail that would enable readers to recognise how conclusions had been reached and to form their own ideas (Polit & Beck, 2017; Tracy, 2010). Reflexivity was essential in this process to guard against the drawbacks identified by Gold (1958) of misunderstanding observed activities or recording practice from my clinical experience and memory, rather than as observed during the research.

4.4.2 Interviews

Ten semi-structured interviews were conducted with participants who had been observed lasting between 20 minutes to 38 minutes and were held in locations convenient to the participant. Eight additional semi-structured interviews, with participants who were not observed, ranged from 13 minutes to 70 minutes in duration and were held either at university premises or at the participant's place of work. Each interview was audio recorded and transcribed verbatim by a professional transcriptionist.

Gathering accounts and explanations of behaviours from participants was the aim of the ethnographic interviews (Bassett, 2004; Madden, 2010; Spradely, 1979). Consequently, a semi-structured approach was adopted rather than a structured interview to allow an exploratory, conversational tone (Madden, 2010). Rubin and Rubin (1995), Oppenheim (2005) and King and Horrocks (2010) advocate interview styles which allow participant voices to be heard whilst retaining a core topic of interest. The research aim and objectives remained central to the interviews to gain relevant accounts and explanations but without adherence to a strict list of questions. An interview guide was developed to ensure relevant discussion, however to gain rapport and allow participants to feel able to give their opinion freely the interviews had a conversational feel. This was reflected in the guide by not

asking leading questions and by beginning with a broad but relevant topic before focusing the questions onto venous disease. An advantage of this semi-structured approach was to avoid a restrictive list of questions that would prevent participants from sharing their views of the reality (Brewer, 2000; Spradley, 1979; Yeo, Legard, Keegan, & Ward, 2014). Using a guide meant the core topic could be resumed if the conversation had strayed too far, this protected repeatability because the same issues were addressed with each participant (Newell & Burnard, 2011; Holloway & Wheeler, 2010). Semi-structured interviews were advantageous because of the flexibility they allowed for interviewer and participant. The interviewer could incorporate occurrences from the observations and ensure that participants had the opportunity to explain their actions (Bassett, 2004; Madden, 2010) thus enabling access to the "cultural knowledge of the informant" (Spradley, 1979, p.58). Participants could also offer their own views, outside pre-determined criteria of the topic guide, and therefore reveal their true perspective and view of the factors that they believed influenced their practice (Yeo et al., 2014).

Having recognised a potential power imbalance, I acted reflexively to design and undertake the interviews in such a way to reduce that imbalance. The interviews for those not being observed were conducted in a friendly and conversational manner to limit the sense that this may be an examination. Power imbalance may be a perception in any research process particularly where there may be an epistemological privilege such as the perceived difference between academics and practitioners (Griffith, 1998). It was essential to reassure participants that the interview was for research purposes, to gain their views and hear their accounts rather than to test knowledge.

Interview guides, appropriate to the different sub-sets of data collection, were developed to capture relevant data in line with the aim and objectives of the study. The interview technique and guide were tested in two pilot interviews with academic colleagues and changes were made to specifically improve the flow of the interview and to allow the topic of venous disease to emerge more naturally. Polit and Beck (2017) recommend piloting in advance of undertaking large scale research to prevent costly mistakes, the pilot process in this study enabled more effective data collection through a tested topic guide and practise at undertaking the planned interview style. The final guides are presented in Appendix Ten and an example of the guide for participants who had also been observed can be found in figure two below.

Figure 2: Example interview guide

<p style="text-align: center;">Interview guide</p> <p>The interviews will start with an opportunity for the participants to introduce themselves, their educational background and give an overview of their current practice.</p> <p>I will re-introduce the project and remind participants that the interview will be recorded and transcribed but that their name will be replaced with a pseudonym and that all data will be treated confidentially. They will have an opportunity to ask me any questions and then I will commence the interview using the following topic areas as a guide: -</p> <ol style="list-style-type: none">1) Opening question asking their views on preventative / health promotion / public health role of a podiatrist2) The observations and their views on the vascular assessments undertaken2) Understanding of Venous Disease and discussion around any instances from the observation3) Prioritisation of venous disease as part of their role4) Care of patients with venous diseases – views on prevention, management and interdisciplinary working.
--

4.4.3 Focus group interview

A focus group interview of eight participants provided an alternative perspective on the research topic and concluded data collection. It provided an opportunity for representative members of the population in question (podiatry), and other health professionals with insight into the research area to discuss the topic and potentially raise issues that may not have emerged from the research to that point (Lewis & McNaughton Nicholls, 2014). Discussion and synergy are key features of focus group interviews and although made up of individuals, the output of the discussion is a result of collaborative thinking. For this reason, the focus group interview, speaking as one voice, was a valuable means of enriching the data collection process and exploring corroboration or contrasting views on the topic (Finch, Lewis, & Turley, 2014). Initial analysis of the first two sub-sets of data had been completed and emergent themes were used to formulate questions for the focus group but without biasing discussions by making themes known to group participants. Lewis and McNaughton Nicholls suggest using focus groups "to 'validate' or enrich understanding of research findings" (Lewis & McNaughton Nicholls, 2014, p. 58). By this process, confirmation could be sought across the data set to provide triangulation and support the identification of data saturation. The advantage of including the focus group was to obtain a conversation to deepen the exploration of the podiatry role in venous disease whilst testing my initial analyses.

The focus group was held at the university and lasted 1 hour and 46 minutes. The group were asked to discuss the role of podiatrists in the early identification and prevention of venous disease. The intention was to gather the opinions and perceptions of the group regarding the role of podiatrists in this field as a current state of practice, but also as a concept. The focus group was moderated using techniques suggested by Finch, Lewis and Turley (2014) to gain clarification of meaning by using the language of participants and probing for explanations. Questions and subsequent probes were planned in advance and based on the aim and objectives of the study and to explore key emergent themes from interviews and observations. Four main questions were used to generate discussion: -

- 1) What do you think is the current role of the podiatrist in the early identification of venous disease?
- 2) What do you think is the current role of the podiatrist in the prevention of venous disease?
- 3) How do you think that role is driven or limited?
- 4) How does the role for venous disease compare with other aspects of broader podiatry practice?

King and Horrocks (2010) suggest, focus group interviews can be a dynamic method of data collection. However, this dynamism or changing and positive discussion does not occur by chance. I was flexible in leading and encouraging the discussion to flow in whatever relevant direction it took. For example, policy, research, education and wider social care all arose as topics of discussion within the group. A prime concern when moderating was to retain relevance to the aim and objectives of the study therefore prompts were employed to address lower limb venous disease within wider topics. Crucially, focus group interviews seek a synergy of views rather than individual opinions, and therefore it was important to moderate the group in a manner that encouraged discussion rather than individual answers (Finch, Lewis, & Turley, 2014). A challenge to running the focus group interview was the variation in professional level and qualifications, and managing that disparity to ensure each participant had equal opportunity to contribute to the discussion. Without the opportunity to speak, valuable data and discussion may not have emerged. A variety of techniques were used to invite responses from all members including the use of pre-planned prompts such as "what does anyone else think about that?"

A member of my supervisory team attended the focus group interview as an independent observer to take notes and observe the dynamics of group interaction. Their report was important as it was an opportunity to highlight if specific individuals had over-powered others in the group or if certain views had been disregarded more quickly than others. The independent academic reported no significant problems with balance within the group and the notes they provided were used during the process of analysis.

4.5 Data analysis approach

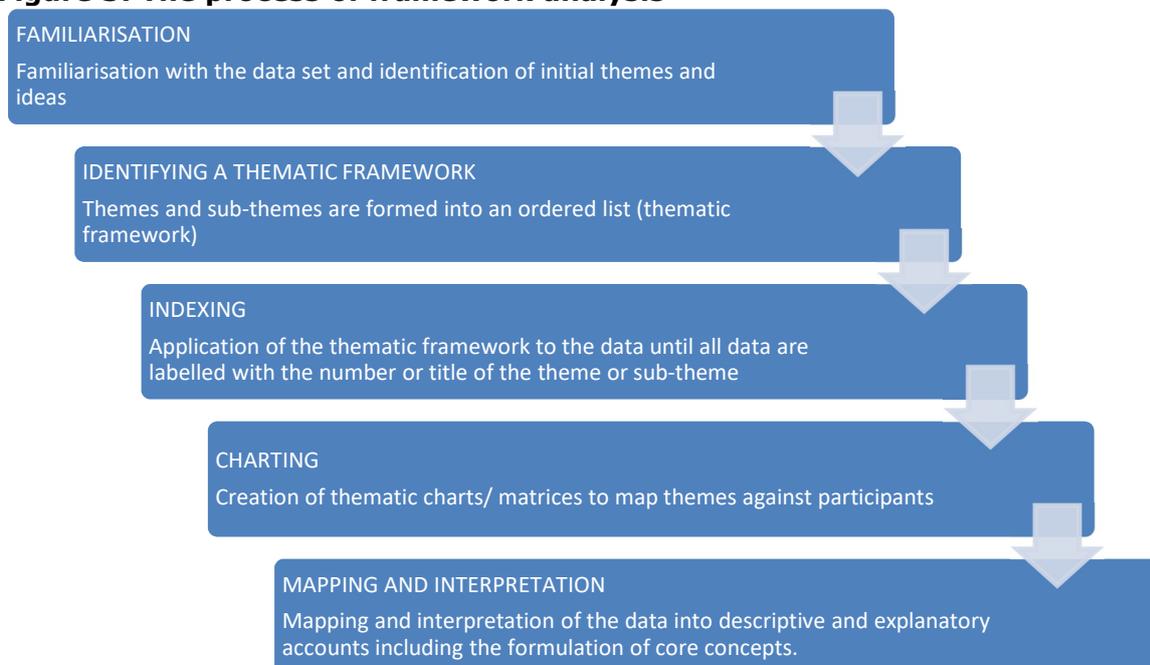
Data were analysed using the framework approach developed in the 1980s by the National Centre for Social Research (Spencer, Ritchie, Ormston, O'Connor, & Barnard, 2014), it is a variant of thematic analysis characterised by the use of linked stages and continuous inclusion of raw data. Systematisation and inclusion of raw data at each stage provided rigour and transparency (Ward, Furber, Tierney, & Swallow, 2013) whilst facilitating the management of the large quantity of data obtained in this study. Parkinson, Eatough, Holmes, Stapely, and Midgely (2016) highlighted that the process is iterative and flexible requiring researchers to move back and forth between stages. This was in keeping with qualitative analysis as it enabled me to be more receptive to ideas emerging from the data at different stages (Rapely, 2011). Whilst flexibility in the framework approach was beneficial to allow consideration of observation and interview data there was a recognised potential for shortcuts and superficial analysis (Ward et al., 2013). Additionally, Gale,

Heath, Cameron, Rashid, and Redwood (2013) suggested a formulaic misuse of the framework structure to attempt quantification of qualitative data could misrepresent the richness of what has been collected. Nevertheless, using the framework approach in this study did not reduce engagement with the data, instead it facilitated a qualitative exploration to embrace and explain one aspect of podiatric clinical practice to meet the research aim and objectives. The structured format allowed management and manipulation of the data for transparency and rigour but with the understanding that "...it is not enough merely to manage and manipulate the data. Data are materials to think with." (Hammerlsey & Atkinson, 2007, p.158).

4.5.1 Step by step analytic process

Spencer et al. (2014) list five key stages in framework analysis to manage data and formulate interpretations and explanations. The process outlined in Figure 3 was used in this study in line with methods reported in contemporary research literature (Gale et al., 2013; Parkinson et al., 2016; Swallow, Newton, & Van Lottum, 2003; Ward et al., 2013). Whilst presented here as a linear process, framework is like any qualitative analysis whereby constant immersion within the data and reflexive discussion with my supervisory team encouraged a flexible and iterative approach (Rapely, 2011). I constantly worked backwards and forwards through the process to ensure a robust analysis.

Figure 3: The process of framework analysis



The familiarisation stage entailed complete immersion in the data by reading transcripts multiple times and simultaneously listening to recorded interviews. Field notes were read, summarised and expanded immediately after observation sessions to form complete descriptions of events. At this stage lists of initial themes and ideas about the data were jotted directly onto transcripts and on post-it notes. Interview transcripts from four participants, that appeared to represent the range of views emerging during data collection, were entered into coding tables to develop preliminary ideas of themes and codes (Smith & Firth, 2011). These early stages are illustrated in Appendix 11 with an excerpt from a coding table, and Appendix 12 with an example of an annotated field note.

Identifying a thematic framework involved listing recurrent or strong themes from the data and grouping those themes into categories of similar ideas. The aim of creating a thematic framework was to identify labelled sections of data to themes and thereby make them retrievable and available to form the findings. Emergent themes were ordered hierarchically to develop overarching concepts and enable descriptive and explanatory accounts to be produced later in the process. Early categorisations changed with the processes of deeper familiarisation and consideration of meaning across the data set. Multiple iterations of the thematic framework emerged and reflexivity guided decisions to return to the data and revise themes or groupings. Reflexivity served to question whether the researcher had given full attention to the data when allocating themes. The analysis was discussed in supervision meetings where advice and prompts from more experienced researchers were invaluable in ensuring a rigorous and complete approach. The final thematic framework is shown in section 5.2 of the next chapter. Appendix 13 includes a precursor version of the thematic framework with a table charting reasons for some of the final changes. This was developed as part of the analysis process to aid in reflexivity and to ensure an audit trail was evident.

Indexing all data to a specific code on the thematic framework enabled data to be retrieved and also provided a further opportunity to test the suitability of the thematic framework. This process was undertaken for all data. Charting the data in a thematic matrix involved cutting labelled data from transcripts and entering it onto an Excel spreadsheet comprising a row for each participant and a column for each theme and its sub- themes. Figure four shows a screen shot of part of the matrix.

Figure 4: Excerpt from the framework matrix spreadsheet

File Home Insert Page Layout Formulas Data Review View Tell me what you want to do...			
A1			
	A	B	C
2		Current Practice	Talking the talk
	Alice (interview)	Yeah, yeah, I mean obviously if... if I can't, there's a potential problem erm, developing then, yeah, usually give advice erm, even things, you know, like maybe suggest they ask about the support stockings, things like that (142 - 145)////// how often would you say you, you did that, with patients venous problems particularly? Erm, ... it's hard to say but... I mean fairly often, I'd say we see one or two maybe a week, you know, that we would perhaps mention that there's, you know, they perhaps need to think about long-term problems (159 - 165)//////Erm, ... yeah there's, there's been one or two who, that just instantly have come to mind with a vast improvement with wearing erm, the surgical stockings, you know, the support stockings (364 - 368)//////Yeah, yeah. And I think er, since we, we had erm, a, a sort of a CPD session with er, forgotten who it was, but it was a couple of ladies who, they're, they're actual specialists in this field erm and when you see how they've progressed, 'cos I think a lot of people think of the, the more old-fashioned type where I mean now people are measured and, and have a proper fit and they're a lot more comfortable than they used to be, so I think that's, that's a big plus so I can comment on that and say well, things have improved and you'll find they're a lot more comfortable and you will be measured et cetera so they're usually a bit more willing then to give it a go. (check lines)	Venous disease is not in the podiatry veins
3	Alice (obs)		Several patients present with signs of lower limb venous disease including oedema and varicosities however the podiatrist takes no opportunity to undertake further assessment, make comment about them or to give advice about preventing deterioration. On one occasion she asks the patient about their diuretic medication because of their oedema but this is not accompanied by advice on physical steps the patient could take.
4	Beryl (interview)	erm, PIL I'll follow through with them as a long-term view, 'cos on my treatment and I, it's got the colour of their skin, telangiectasia and then any other comments, so I can't personally, I couldn't write that down and then not follow it up with the patient and if they, if they are getting problems there then it does need to be addressed or else it's neglectful isn't it. I don't, do I sound like a swot? [laughs] I hope so. (203 - 209)	I do know about veins, they don't respond well to being overheated and in, and, and have it sitting with their feet, your feet down for long periods...so that's what I was talking to the bloke about with the erm, he's a rugby player and he had varicosities on one side, d'you get problems when you're sitting down for a long period at work, he was like a draughtsman, he said no it's only ever when I start exercising. So, and that, and combined with testing his calf muscles I kinda thought yeah, this is definitely muscular, so I ruled it out. And I do with, yeah, I think I do... (422 - 431)//////D'you know, if they come in and they've got varicose eczema I am really hot on tellin' 'em to keep their feet up erm, making sure they put plenty moisturising cream, that they're referred for stockings if it's a potential wound I do (517 - 522)
5	Beryl (obs)	Beryl narrates the nurse of a patient whilst asking about current foot problems and	Beryl narrates the nurse of a patient whilst asking about current

At this stage a clear advantage of the framework approach was evident in the use of data summarisation for the observation notes. Summaries of events observed were entered into relevant cells to depict what had been observed relating to each theme. The matrix stage of the framework approach facilitated pattern recognition, through the final spreadsheet presenting data from each participant against the emergent themes. Pattern recognition is a strength that is key in describing and explaining cultural activity (Fetterman, 1998). Similarly, by allowing clear identification of views at odds with the majority, the matrix design facilitated the method suggested by Gobo (2008) regarding the consideration of marginal views to reduce researcher bias and familiarity. Identifying the range of views and repetition of themes as they occurred across the thematic chart also enabled determination of data saturation (Rapely, 2011).

4.5.2 Developing descriptive and explanatory accounts

Whilst the framework approach provided a structured means of organising and ordering data, there remained a requirement to interpret participant accounts and actions and thus describe and explain the data. Abstracting and inferring meaning from descriptive themes and categories was a challenge because the research needed to reflect the participants' accounts rather than simply state the interpretation of the researcher (Holloway & Wheeler, 2010). Smith and Firth suggested using the flexibility of framework by moving freely

backwards and forwards through the stages and asking “what are participants really trying to describe?” (Smith & Firth, 2011, p. 60). Applying this level of in-depth consideration and producing multiple iterations of the final themes and concepts ensured analysis was reflexive and true to what participants had provided. Descriptive accounts were formed from the synthesis of individual interviews, observational data, focus group interview data and researcher interpretation and analysis. These are presented in Chapter five. Explanatory accounts sought to examine linkages and patterns identified within the data and to explore what these meant in relation to research literature, social theory and philosophy. This discussion is presented in Chapter six.

4.6 Chapter Summary

In this chapter, the methods of sampling, recruitment, data collection and analysis have been discussed. I have provided in-depth detail and rationale to allow replication and to demonstrate how this study satisfies generally accepted markers of quality in qualitative research. The process of ensuring that ethical principles were upheld throughout has also been presented.

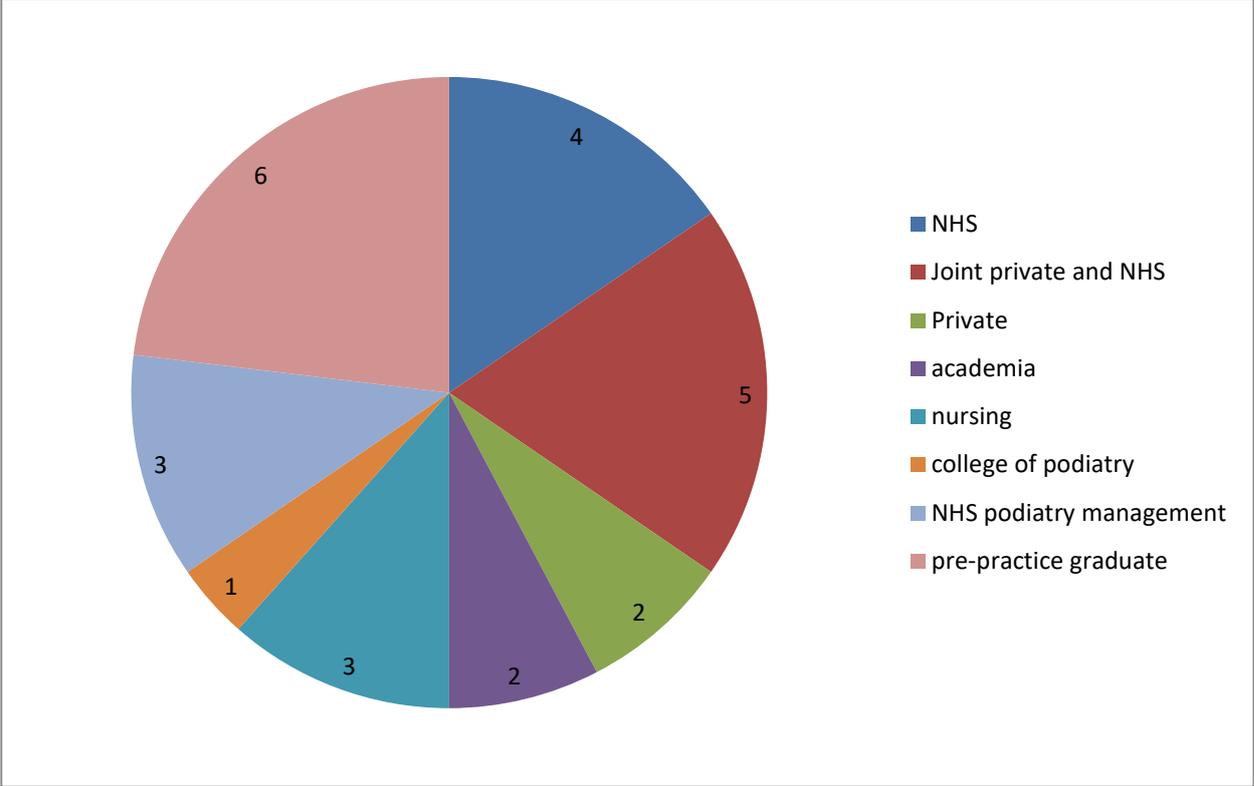
Chapter 5 Analysis

The previous chapter outlined the methods and process of data analysis in this study. This chapter presents the thematic findings from analysis of observations; individual interviews and focus group interview data. The chapter commences with sample details for the study including the three elements of combined observation and interview, interview only and focus group interview. White, Woodfield, Ritchie and Ormston (2014) described the need for balance when presenting qualitative findings because of the requirement to describe, explain, represent, re-present, engage and enlighten. In order to deliver a balanced report, the philosophical underpinnings and design of this study were considered when writing the findings. Ontologically, this study was founded in subtle realism; recognising a single reality through the constructions of those involved. Data extracts are included to illustrate themes in the words of participants and from the observations of their reality as it occurred (Lewis & McNaughton Nicholls, 2014). Furthermore, presenting the findings in this way enables their credibility to be judged (Holloway & Wheeler, 2010; Madden, 2010).

Sampling

Twenty-six individuals were recruited to the study, including representation from three different sectors of podiatry practice: podiatrists with combined private and NHS employment; podiatrists employed in private practice, and podiatrists employed within the NHS. It also incorporated podiatry students who had completed their studies but had not yet commenced in clinical practice (these participants will be referred to as pre-practice graduates from here); NHS podiatry managers; podiatry academics, registered nurses and a representative from the College of Podiatry. This ensured variation of experience and practice settings offering a rich account of podiatric practice. Figure five presents the demographics:-

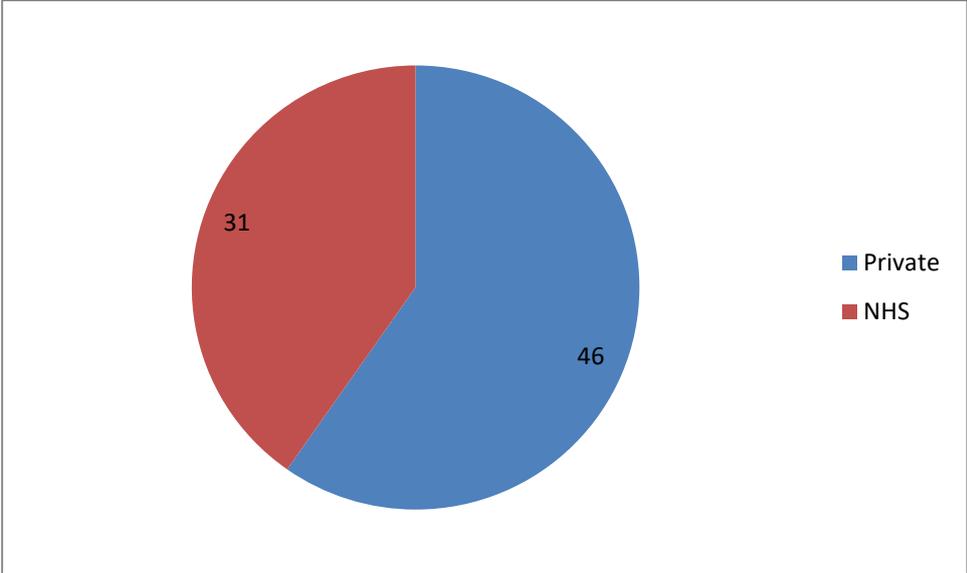
Figure 5: Number of participants according to work sector



Amongst podiatry participants ages ranged from 22 - 57 and the number of years practising as a podiatrist ranged from 5 - 36. Sampling captured podiatrists with experience in a range of specialist clinical areas including high-risk care, MSK, health promotion, paediatrics and research. All participants had elements of general podiatry practice in their historical or current roles. Appendix fourteen contains a table with details of each participant’s clinical; management; academic or research practice.

Observation was undertaken in both NHS and private settings and included 77 podiatry appointments, the distribution between private and NHS is shown in figure six.

Figure 6: Number of consultations observed in private and NHS sectors



5.1 Development of the thematic framework

In line with the process of framework analysis (section 4.4) themes emerged. Emergent themes were discussed with the researcher's supervisory team to test rationales and explore the grouping of concepts. The analysis progressed to the final main themes and provided a means of describing and explaining the clinical observations and participant accounts. Each main theme was considered in relation to the aim and objectives of the study, to maintain clear focus on why the data were being interrogated. The process was undertaken reflexively and included discussion with my supervisors about emerging themes. The framework progressed from initial superficial clinical differences to considering deeper concepts of professionalism and use of time. Appendix thirteen includes a precursor version of the thematic framework demonstrating development to the final version. There were multiple versions of the framework with multiple minor iterations of each substantial version. Analysis started with the observation and interview undertaken with the first participant, and progressed in chronological order culminating with the focus group interview.

From a reflexive perspective I considered how my experience in practice, employment as an educator and aims as a researcher were shaping my view of the data. The use of multiple methods and sources allowed me to seek confirmation or discord in the data to gain an understanding from the overall participant perspective, rather than just my own. Embedding in practice and considering the impact I made in the setting was also a key reflexive process throughout analysis. Data saturation was achieved by the absence of new themes emerging in the later interviews and analyses (O'Reilly & Parker, 2012). Six main themes were identified: venous disease current practice, identity, time, autonomy, education and venous disease in health care. Sub-themes allowed description and explanation of practice and are listed in sub section 5.2.

5.2 Final thematic framework

Main Themes	Current practice	Identity	Time
Sub themes	Talking the talk Venous disease is not in the podiatry veins	Foot focussed Life and sole Inter-professional identity Priorities	Constraint or opportunity? Time is routine
Main Themes	Autonomy	Education	Venous disease in health care
Sub themes	Money is power Follow the guidelines	Undergraduate education Waiting for champions Theory-practice mis-match	

5.3 Venous Disease: Current Practice

Analysis revealed a difference between interview accounts and observed actions. Throughout the interviews, podiatrists provided accounts of their approach to venous disease identification and prevention but these were not substantiated by observation. This was evident during observations when podiatrists did not routinely or overtly assess or examine those patients who were at risk of venous disease or with signs of the condition. The data suggested a lack of knowledge and confidence in performing venous disease assessment and management. During the interviews participants listed observation and patient reported symptoms as their means of identifying venous disease. Olivia provided a succinct account of her assessment consistent with all podiatry participants:

I'd be looking for firstly swelling, oedema, haemosiderosis, so obviously brown, iron staining, I'd be looking for small thread veins. To touch it'd be very warm, and it would be, quite red. Also, if the patient complained of achy legs, varicose veins, all those kind of symptoms. (Olivia, pre-practice podiatry graduate, interview lines 98-102)

However, participants suggested they did not possess objective assessment techniques to confirm venous disease or quantify its extent. Donna and Georgina explained:

We don't do any tests for that as such but if they've got bad skin or venous changes I still give them advice, (Georgina, NHS podiatrist, interview lines 148 - 150)

I would refer if I thought there could be something done but that's only because I'd see things like that, there's no test that I know of (Donna, private podiatrist, interview lines 294 - 298)

A contrast with arterial disease assessment was apparent. Participants spoke confidently about their use of Dopplers and referral for Ankle: Brachial Pressure Index (ABPI) testing but stated venous assessment was limited to observation. Donna and Georgina suggested they would continue with venous related referral or advice based on observation alone implying they relied on experience to assist in diagnosis in the absence of a quantifiable test process. Podiatry academic Rachel outlined her unease about this and explained her adoption of a tape measure to record calf circumference when she suspected progressive oedema. This was the only example reported in the data of a podiatrist assessing in this way and Rachel stated her solo use of it within her NHS trust.

NHS podiatrists were prompted by SystmOne, the electronic records system, to ask patients about varicose veins. Despite SystmOne prompting clinicians to examine for the existence of varicose veins, I observed little evidence of appropriate interventions following this:

I noted SystmOne prompted Georgina to ask whether patients had varicose veins, however it was observed that there was no advice given or questions asked about venous disease (Georgina, NHS podiatrist, observation notes)

Such action was persistent across observations of NHS staff, contrasting with their verbal accounts of identifying venous changes and providing advice or referral. Kate gave the following explanation for the inclusion of the varicose veins question on SystmOne:

They have always been on there from what I understand. They didn't come through from a KPI (Key performance indicator), they've always been part of the practice standard questions. (Kate, NHS podiatry services manager, interview lines 298 - 300)

Figure seven below is a screen shot of the vascular assessment section of SystmOne.

Figure 7: Example of vascular assessment form used in the NHS

BW Podiatry Assessment (Clinic)V2

Other Details... Exact date & time Tue 28 Feb 2017 10:28

Changing the consultation date will affect all other data entered. To avoid this, cancel and press the 'Next' button [Hide Warning](#)

Patient Overview | Consent to Share & Treat | Family Hx & Medication | Patient Medical History | History & Social | **Vascular Exam 1** | Vascular Exam 2 | Doppler & ABPI | Neuro Assessment

Vascular Foot Examination Pg 1 Foot Colour & Skin Observations

O/E - cyanosis Cold foot
 Hot Foot Observation of temperature of foot

Left Foot Colour: Right Foot Colour:

Feet Plantar Feet Dorsal

For all data fields where Left or Right is not specified ONLY:
 Use the "pencil note" to specify Left side, Right side or Bilateral.
 If Not Applicable - Do Not Tick

Capillary Refill
 Capillary refill left: seconds
 Capillary refill right: seconds

Claudication
 H/O: Intermittent claudication
 Claudication distance: m

Left Foot Pulse Assessment **Right Foot Pulse Assessment**

Left Dorsalis Pulse: Right Dorsalis Pulse:
 Left Posterior Tibial Pulse: Right Posterior Tibial P...:

O/E - cyanosis: Date: Checked:

No previous values

Show recordings from other templates
 Show empty recordings

Information | Print | Suspend | | Cancel | Show Incomplete Fields

BW Podiatry Assessment (Clinic)V2

Other Details... Exact date & time Tue 28 Feb 2017 10:28

Changing the consultation date will affect all other data entered. To avoid this, cancel and press the 'Next' button [Hide Warning](#)

Patient Overview | Consent to Share & Treat | Family Hx & Medication | Patient Medical History | History & Social | Vascular Exam 1 | **Vascular Exam 2** | Doppler & ABPI | Neuro Assessment

Other Ischaemic Symptoms

Left foot Ischaemic Pain: Right foot Ischaemic Pain:

Ischaemic Pain when:
 Ischaemic pain - walking (Y2284)
 Ischaemic pain - at night (Y2285)
 Ischaemic pain - walking and at night (Y3064)
 Ischaemic lower limb pain at rest (XaZJa)

Night cramps:

Varicose Veins
 Varicose veins present:
 Telangiectasia:

Oedema
 O/E - oedema of legs:
 O/E - oedema of ankles:
 O/E - oedema of feet:

O/E - vascular system:

Examine the patient for all of the conditions in the list but only tick each of the boxes were the patient has the condition present.
 Use the "Pencil icon" to record 'Left', 'Right', or 'Bilateral' AND 'Pitting' or 'Non Pitting' ONLY.
 If Not Applicable, DO NOT Tick the box!
 Other observations free text in the notes field.

Left foot Ischaemic Pain
 Date: 23 Jan 2014 Selection: No Ischaemic pain: left foot (Y3756)

Show recordings from other templates
 Show empty recordings

Information | Print | Suspend | | Cancel | Show Incomplete Fields

This suggested follow up may not have been a priority as it was not a KPI and there was no consensus as to what follow up should consist of. The influence of financial incentives such as KPIs is discussed later in subsection 5.6 'Money is Power'.

Podiatrists explained a range of prevention techniques for venous disease that included early identification, giving specific advice, referring to other professionals for compression therapy or suggesting patients try compression hosiery for themselves. Alice explained:

I mean obviously if there's a potential problem developing then (I) usually give advice, even things like maybe suggest they ask about the support stockings, things like that (Alice, private podiatrist, interview lines 142 - 145)

Alice stated that advice and early interventions including elevating the limbs, maintaining skin health through moisturising, keeping mobile and avoiding extremes of temperature were essential. However, delivery of such advice was not observed despite the frequent attendance of patients currently with, or at increased risk of, venous disease. From a reflexive perspective my interest in the subject may have exaggerated the contradiction through my focus on observing practice for venous related occurrences. It was significant therefore, that pre-practice graduates also reported minimal attention to venous disease from their placement experience. Naomi stated:

I think from the advice that I've heard, like put your legs up, but no, nothing that's structured that I could take away and think "oh that, that were really good" (Naomi, pre-practice podiatry graduate, interview lines 150 - 153)

A feature of Naomi's statement was her surprise at the lack of structured practice she could learn from and that the advice she had witnessed was superficial. Superficiality and minimal venous prevention was also noted by Fran who demonstrated cynicism about her peers:

I think probably minimal amount of podiatrists would even be giving health promotion or advice on venous disease. I bet you a lot of our podiatry colleagues, you wonder if they even talked with their patients about it and how serious it is, that it's just, "oh just a bit of haemosiderin don't worry about it," and the fact that that's showing major signs here and maybe you should have your legs measured and have some hosiery fitted. I just think it's a big waste, missed opportunity for health promotion and how that impacts on patients' long-term health outcomes doesn't it. (Fran, private podiatrist, interview lines 315 - 324)

Despite this, podiatrists repeatedly stated that they included preventative advice in consultations with patients. Advice and referral for compression hosiery were believed to be basic elements of the podiatry role, yet they were not observed to occur in practice. Indeed, Beryl provided explicit illustration of the contrast between assertions in interviews and observed actions:

I'll follow through with them as a long-term view, because on my treatment card it's got the colour of their skin, telangiectasia and then any other comments, so I can't personally, I couldn't write that down and then not follow it up with the patient, if they are getting problems there then it needs to be addressed or else it's neglectful isn't it. (Beryl, private podiatrist, interview lines 203 – 209)

Despite asserting this, observation of Beryl and others in practice demonstrated a clear contrast:

Beryl palpated the pulses of patients whilst asking about current foot problems and preparing to start treatment. For many patients there were signs of venous disease in the form of telangiectasia and oedema yet this was not commented on or apparently investigated any further. (Beryl, private podiatrist, observation notes)

Conflicting data between interviews and observations revealed current practice in venous disease was not clearly discernible or defined. As explained in Chapter four, participants were observed in practice prior to interview and they did not know the research topic therefore reducing the risk of a Hawthorne effect. In interviews the research topic was revealed gradually therefore accounts of venous disease practice may have been made with the unconscious intention to provide answers they perceived as being 'correct'. Corroboration from pre-practice graduates suggested accounts from interviews with practising podiatrists did not reflect real practice. Indeed, themes arising from interview data suggested that participants were uncertain of their position in identifying venous disease. This study's findings suggest that current podiatry practice in early identification and prevention of lower limb venous disease is minimal.

5.3.1 Talking the talk

During the interviews participants claimed they would observe for lower limb venous disease yet during the observation this rarely occurred. Observing for signs that podiatrists undertook such checks was of prime importance during data collection. This applied to other areas than venous disease and indicated a far reaching limitation on podiatry involvement with identification and prevention practices. For example, Eddie stated that his approach to practice included prevention of wounds however this was not evident during observation:

Eddie performed annual diabetic foot reviews by completing all the screening tests but without providing relevant health promotion. (Eddie, private podiatrist, observation notes)

Similarly, pre-practice podiatry graduates reported a lack of health promotion activity performed by podiatrists on placement: Naomi explained:

it was interesting to spend some time with one particular podiatrist who went into a real big spiel about the diabetic patients, how you should interact with them, treat them as an individual not just give them information and you should tailor (care)...then his patient came in, sit down, (the podiatrist) didn't talk to them, (the podiatrist) threw a leaflet at them and out they went. (Naomi, pre-practice podiatry graduate 30 - 37)

The data further revealed a gap between the theory of health promotion and application. During the focus group Trevor stated:

We did a 'diabetes evening' and we asked for a show of hands of people that'd had their foot check and I think all but one had out of about thirty, we asked them if they knew what their risk status was and not one person put their hand up. So they'd had the check, whether it was in primary care, whether it was with podiatry but did they know their risk status? (Trevor, NHS podiatry services manager, focus group lines 1379 - 1384)

The focus group revealed that although screening was undertaken there was a definite gap between undertaking the task and applying the results to interventions and preventative action. For this reason, the focus group participants were wary of integrating venous assessment into the podiatry role. Steve and Ursula shared their concerns:

Steve: but the key issue is it doesn't become a tick-box because the issue I think you see at the moment in, for example, diabetic foot-screening is, it's done, but nothing's done with the result and your patients don't know about the risk.

Ursula: Yeah. And that's my same worry with venous disease... (focus group lines - 1600 - 1604)

Disparity between actions and statements regarding identification and prevention of venous disease was a constant theme when analysing the data. This was consistent with the concerns raised by the focus group discussion. Donna exemplified this occurrence across private and NHS practice:

For me, a venous assessment is seeing if... the legs are swollen, they've got the haemosiderosis, sometimes they get the psoriatic plaques on the skin but that's my full assessment. (Donna, private podiatrist, interview lines 277 - 280)

A number of patients seen by Donna displayed skin changes and risk factors for venous progression which would suggest that ongoing discussion or prevention and or referral for treatment would be advised. These things were not done. (Donna, private podiatrist, observation notes)

5.3.2 Venous Disease is not in the Podiatry Veins

There was little evidence in the data highlighting the podiatry role in identification and prevention of lower limb venous disease; rather the data indicated that identification and prevention of venous disease was not a priority. Identification and prevention of venous disease was not seen as core or traditional podiatry and was not embedded within the podiatry role. Martin described the manner in which lower limb venous disease was neglected by podiatry as a profession.

This is the sleeping giant and actually proportionately, it is probably a major amount of our patients, but it's not being reviewed, looked at or otherwise. (Martin, podiatry academic, interview lines - 733 - 735)

The sense that venous disease was a low priority and not central to the identity of podiatry, emerged strongly when participants acknowledged their lack of knowledge and understanding. Podiatrists portrayed a sense of guilt at their lack of knowledge and awareness about this prominent lower limb pathology. India described how the interview had prompted her to consider reading around the subject. She defended her practice by suggesting her caseload did not include many patients with venous disease:

No. [Laughs]. No, it's obviously one of my failings, I need to go and read about it a bit more. I don't concentrate enough on that because, well I don't think I get a lot of patients in with that kind of problem, but maybe I do and I don't realise. (India, NHS podiatrist, interview lines 575 - 578)

Her lack of realisation was typical of participant accounts and was substantiated through observational data that evidenced signs of venous disease, or risk factors for venous disease in patients, were not acted on by participants. Ursula explained her perspective, as a vascular nurse specialist, on the scale of missed opportunities to incorporate lower limb venous disease identification and prevention within podiatry practice:

They've done a fantastic movement in the line of solving, or helping to solve a problem of peripheral arterial disease. Well that's tiny numbers compared to venous disease and soft oedema. So, you know, are they dealing with this tiny little piece of rubbish in the corner and ignoring this great dragon that's going to eat them over here and maybe the College needs to put the same emphasis on lower leg oedema and venous disease as what they've put on peripheral arterial disease. (Ursula, Vascular nurse specialist and academic, focus group lines - 308 - 316)

The data suggests podiatrists were in some ways ignoring the venous disease "dragon" and in others completely unaware of its presence in the room.

5.4 Identity

Data revealed the role identity of podiatrists to be complex and ill-defined amongst the participants, this was evident through the various terms used to describe their role: foot-specialist; counsellor; friend; educator; business-person and team worker. In several instances data relating to identity contradicted the priorities exposed through observation and participant accounts. These contradictions and the complexities of identity are described below. The emerging role identities demonstrated an opportunity for a more overt and active podiatry role in lower limb venous disease yet there was no evidence from observation to corroborate that the opportunity was acted on.

5.4.1 Foot Focussed

All participants agreed that prioritisation of the foot was as a significant feature of the podiatrist's role and identity. This identity often led to a lack of attention to any structure above the foot and evidence of a poor understanding of lower limb venous disease. Participants recognised that focussing on the feet did limit practice; it portrayed an identity to other professionals of a restricted scope and therefore reduced opportunity for involvement further up the limb. Paul and Yvonne stated:

...it seems to be as well that other people leave it to podiatrists, other healthcare professionals, if it's anything below the knee, even though we cover further up but, "oh podiatrist'll sort that out" (Paul, Pre-practice podiatry graduate, interview lines 191 - 194)

...we just associate podiatrists with feet, we don't see what other skills you've got. (Yvonne, District Nurse, focus group lines 638)

Lower limb venous disease was not aligned with the foot focussed identity, it was perceived as a nursing responsibility and not part of the podiatry role. Georgina and Rachel explain:

...sometimes if they needed some stockings or anything, I might tell them to see their nurse. So I still look at venous, and still be aware of them. (Georgina, NHS podiatrist, interview lines 151 - 153)

...but it's like when you're faced with a patient with venous problems, I think, other than observational signs, and referrals, what are we doing? (Rachel, podiatry academic, interview lines 493 - 496)

A physical divide in the lower limb that assisted in determining and demarcating professional roles was explained by Leonard:

...because it's gone beyond the ankle that's something that somebody else is dealing with and the question may not go beyond, "ah has the nurse put this on, yeah okay,

and she's seeing you every week, yeah, right that's fine." (Leonard, NHS podiatry services manager and academic, interview lines 241 - 244)

5.4.2 Life and Sole

The narrow clinical focus in practice inhibited podiatrists' attention to identification and prevention of venous disease. However, a contradiction to the foot focussed identity occurred when participants described the multi-factorial nature of their role and identity. Participants frequently adopted roles beyond that of an allied health professional by extending into psychological, social care or even social worker roles. Beryl described herself as being a point of human contact and listening service for patients stating:

(I am) The counsellor (Beryl, private podiatrist, interview line 42)

Indeed, participants from both private practice and the NHS provided similar accounts depicting two distinct areas of identity; the foot focus and the wider caring role:

In between appointments Fran told me, "the other nice thing in private practice is that patients come for a chat and are coming for counselling really." (Fran, private podiatrist, observation notes)

Sometimes some patients come in and pour everything out to us and you do end up talking more about different things (Georgina, NHS podiatrist, interview lines 68 - 69)

The counsellor role sometimes dominated an appointment allowing for an understanding of the patients' mood and personal issues that may be affecting their wellbeing. Participants described their role in broader health and social needs as well as linking these factors to foot and lower limb health. Martin suggested:

We're a kind of jobbing psychologist, trying to find the right angle and lever by which we can change behaviour (Martin, Podiatry academic, interview lines 343 - 345)

Participants felt that to care for patients effectively there had to be close rapport, it had to be part of the podiatry role to develop relationships to improve social as well as physical health. Donna explained the importance of gaining rapport:

I do give preventative health education, smoking, footwear advice, disease, advice on diabetes and things like that but I think you need to get to know your patient and see what's a priority to them and what else they've got going on in their life, like more of a holistic approach rather than just focusing on "you need to stop that". And I think by getting that rapport you'll be more successful in getting them on-board and in getting the compliance from them. (Donna, private podiatrist, interview lines 63 - 69)

This role was evident during observations when socially oriented topics of conversation were used to develop meaningful and effective health-based interactions with patients:

Heather would ask patients about the health of their pets and explained to me between appointments that she was checking on how active they were likely to be. For example if their dog was still well enough to go for walks that would mean the patients were walking too. (Heather, NHS podiatrist, observation notes)

However, there was limited evidence to suggest how podiatrists linked these social interactions and their wider health conversations to venous disease identification and prevention. For example, Eddie was clear in his account of managing social care needs, yet there was little indication of how he considered health education or venous disease as priorities:

I know I'm bound by, duty of care, information governance and things like that but there's the other side of things where, as I say, it's more of a different relationship with the patients that I see here, it's more of a friendship and it works that way. I end up going to gigs with some of them, I end up ordering CDs for that lady this morning because she can't get on the computer. She knows that she'd be waiting forever if WH Smiths ever try to get it for her or something like that so she just keeps tearing things out of papers, "can you get me that?", "yeah okay, no problem." I'll do it for her and she gives me the money and everyone's happy. Yeah, there's all sorts of things coming in. (Eddie, Private podiatrist, interview lines 66-77)

This presented itself as a contrast to the clinical identity in which conversations were health focussed and treatments prioritised to the foot. Trevor was unconvinced that social conversation beyond health topics was required:

I think it's something that should be different with podiatry because in a community 20 minute appointment ... the argument we use to our staff, there is more time in that than the time you need just to talk about the feet so not go off on, "did you have a nice holiday?", go off on the other health (advice)...(Trevor, NHS podiatry services manager, focus group lines 1400 - 1406)

Trevor was explicit that podiatrists should use their contact time to deliver and reinforce health advice rather than engage in social conversation. However, interview and observation data revealed that social conversations were useful to build rapport, gain information, and to deliver health advice.

There was considerable disparity between podiatrists' role as health promoter/educator and application to venous disease. Delivering health promotion on a wide array of topics was considered to be a strong feature of how podiatrists identified their role. Olivia stated:

Basically, to start with I think it's really important to give health promotion advice, I think that's the main important thing to start with. Not that every patient might take your advice, but if you've given it, it makes me personally feel good that I've actually been able to give that advice to that patient to let them go away to know what they've got to do next to actually help themselves. (Olivia, pre-practice podiatry graduate, interview lines 60 - 65)

Indeed, podiatrists were confident in offering advice across a range of other medical conditions from dermatological conditions of the foot through to systemic circulatory diseases such as stroke. They promoted self-care through a variety of means:

Fran used humour to reinforce health promotion messages and gain rapport with patients. For example, she made exaggerated inhalation noises when a patient revealed she has not been creaming her feet in between appointments. (Fran, private podiatrist, observation notes)

India uses the doppler on all patients, as part of her routine. She used headphones initially until she was happy with the signal and then she removed the headphone plug and allowed the patient to hear what their pulse sounded like. India then used this as a way of explaining how healthy the circulation was or wasn't in the patients' legs. (India, NHS podiatrist, observation notes)

The importance of promoting self-care and providing health promotion advice emerged as an identifying feature of the podiatry role, despite this being difficult due to time restrictions. Cathy shared her academic experiences:

I used to always say to my lot (students), "remember you've actually got someone sat in the chair and whatever you're working on down here is actually attached to somebody with a working brain and everything's connected. A lot of the time what you see down here has got a lot to do with what's going on up there. So just tie it all together and yes, you might've read all about the circulatory system and the heart problems and pulmonary problems and whatever, but then tie it into what you're seeing in front of you." Once you get into that there's nothing beyond the scope if the person is open to just watching and absorbing what's going on from that patient. (Cathy, private podiatrist, interview lines 502 - 512)

Cathy suggested podiatrists should be confident in promoting health and wellbeing. She explained the potential for podiatrists to use their exposure to the lower limb to identify and aid in an unlimited scope of health problems. Confidence at this level suggested venous disease would also be included, yet this was not evidenced throughout the data. Indeed, data were contradictory; podiatrists held reservations about the health promoter identity, lacked confidence and found patients were resistant to this part of their role. This data is crucial when seeking to understand why podiatrists did not overtly engage in early identification and prevention of venous disease. Participants highlighted that some patients did not wish to receive health promotion advice, as India described:

When people ask for podiatry they want treatment, they don't want health promotion so it's kind of meeting what the expectations are of the public, as opposed to what podiatry can provide. (India, NHS podiatrist, interview lines 43 - 47)

Podiatrists expressed their worries about patients' understanding of health promotion advice and were concerned that people did not act on the advice. Participants articulated that patients could become overloaded with advice from multiple agencies or simply they decided not to change their behaviour. India and Georgina explained:

And, trouble is they get bombarded from so many different people and so many services and a lot of the information overlaps, and a lot of the information just goes over their head it's [phewwww] they're fed-up hearing about it, so, you just try your best. (India, NHS podiatrist, interview lines 216 - 220)

...but putting it in practise is a different story, because say this, this and this to a patient and they don't always want to hear it do they? (Georgina, NHS podiatrist, interview lines 286 - 288)

Practice settings influenced podiatrists' delivery of health promotion and therefore adoption of the identity. Commissioned public health topics were addressed strongly in the NHS due to prompts from SystmOne, whereas in private practice podiatrists were less inclined to engage in health promotion and public health. Beryl explained the difference:

I must be honest though, I don't push it as much here as I do NHS because...people are volunteering to come if they've got problems with their feet. I suggest it, I don't, don't hammer it, because we're not seeing high-risk patients as a general rule, I don't push it as much as I do in the NHS. I do mention when I'm doing the checks on their first time when they're new patients, I'm feeling for a pulse and "did they know that smoking would affect the way that the blood's transported to the end of their feet and that can result in problems...such as?", so I do mention it but I don't put them in touch with anybody, no. Where I do in the NHS. (Beryl, private podiatrist, interview lines 108 - 123)

Beryl was self-conscious of the difference between her NHS and private practice roles. She strenuously defended her position indicting differences between caseloads and the volition of patients to attend. Currently there is no regulation compelling patients to attend NHS rather than private podiatry treatment and vice versa. Indeed, HCPC (2013) regulations require podiatrists to treat patients the same in terms of health promotion regardless of NHS or private settings. Beryl was not proud of the difference in her actions but demonstrated her commitment to delivering health promotion messages when required. Her reluctance to "push it" in private practice reflected the dominance of other identities of friendship and maintaining her business clientele.

Whilst many podiatrists described their attempts to encourage health promotion activities; Fran suggested that podiatrists were ineffective health promoters. She suggested that

podiatrists' engagement was superficial and limited to brief instructive statements, intimating that a GP would need to be involved for necessary investigations or to corroborate advice.

I think they look and I think they might write down, but I don't think they do actively anything about it. They might say to the patient, "eat less, walk more, in a better way", but I don't think they actively as professionals put the effort into writing to that GP to say I think from my findings I've found x, y, and z. And this patient may benefit from further investigation. I don't think that happens. (Fran, Private podiatrist, interview lines 168 - 174)

Fran's view illustrated inconsistencies in how podiatrists perceived their role and identities within it. Her statement contradicts her own and others assertions about building rapport with patients to promote health. Whilst podiatrists had confidence in their identities as health promoters, data revealed contradiction between the confidence to act on anything a patient required and the reality of implementing such practice. The dominant identifying feature for podiatry was attention to the foot. Alongside this, podiatrists identified their role as connecting with patients on a range of health and social care requirements. Warren compared podiatry and dentistry in an attempt to highlight lack of awareness of what the podiatry profession offers, and the difference in public perception.

...people just go to the podiatrists when they've got a problem, so they'll go with an in-growing toenail or they'll go with whatever they perceive is a problem they won't go and have that prevention, that talk to about how to maintain healthy feet...how to potentially maintain healthy legs and prevent from venous disease. I think that's the sort of paradigm that needs to shift for us to survive as a profession that actually we're seen as the go-to person for a regular check-up.... it's just it costs money but we've got to pay money at the dentist, we're just used to it, we're not used to paying money for podiatry. (Warren, College of Podiatry representative, focus group lines - 2068 - 2083)

5.4.3 Inter-professional identity

Whilst podiatrists identified themselves as being inter-professional their views about working with other healthcare professionals varied. It was evident that there was tension between healthcare professionals and negative feelings about how podiatry was regarded by other professionals to be foot-focussed as described in section 5.4.1. Key relationships were described to be with general medical practitioners (GPs) and registered nurses. GPs in particular were identified as podiatrists' first point of contact for referrals to other services and to share assessment findings. Leonard, stated his minimum expectation for podiatrists to communicate with GPs:

We generally see the GP as the sort of lynchpin of that named patient's care, so whatever it is, unless it's an emergency, it would tend to go back to the GP who's the sort of hub to then arrange any follow-up referral to hospitals or anything like that, so certainly appraising the GP of what's going on would be the most basic thing you'd expect them to do. (Leonard, NHS podiatry manager and academic, interview lines 140 - 148)

In private practice, contact with other professionals was identified as being made solely through the GP and this was their means of gaining access to other services which sometimes led to a breakdown of working inter-professionally with, for example vascular or venous specialists:

Our main route is through the GP... we find it's difficult to refer to other specialists directly which is something we've discussed at Branch meetings et cetera (Alice, private podiatrist, interview lines 220 - 224)

Limitations of referral pathways and integration with other professionals were also evident in NHS podiatry where participants reported having to contact GPs rather than making direct referrals. James explained that direct referrals to vascular services were not possible despite established means of triage within the podiatry department:

We're not part of that at the moment but we do have quite a successful or well-run ABPI clinic where we can just refer in or appoint them onto the clinic instantly, but no, we don't have a close working relationship with vascular consultants. We would refer via GP. (James, NHS podiatrist, interview lines 161 - 165)

The view of GPs being the sole point of access to other specialities was consistent and described with caution because of how communications were sometimes received. Cathy described how she altered her practice according to the GP she was working with. She suggested that podiatrists are not viewed favourably by GPs but that this would not prevent her from seeking appropriate care for her patients:

Some [GPs] are far more approachable than others so if it is an approachable one I will write a letter and say "can you just check her over?" Other ones, there's a couple round here I can think of, they hate getting letters of referral from podiatrists. Hate it. So you don't bother. You just tell the patient to go along and then I'll ring the patient next week and I'll say "have you done that?" (Cathy, private podiatrist, interview lines 291 - 298)

Private podiatrists' inter-professional working being solely with GPs limited their effective contribution to the health and wellbeing of patients. This was a particular view expressed by private practitioner Fran:

I think that means the podiatrist needs to be more incorporated in bigger medical teams as opposed to sitting out on a limb on their own, because like the first point I made, they don't have the background medical knowledge to inform the overall

decision making. So if you form part of a bigger integrated team fair enough, but sitting as a podiatrist in the little community clinic saying "I think you may have claudication and I think this and I think that," I don't think you're taken seriously because you've only got part of a picture. (Fran, private podiatrist, interview lines 77 - 84)

The lack of integration of private practice podiatrists was a limitation on their ability to signpost and be active in the overall care of patients. During the focus group district nurses expressed surprise that such a large proportion of the podiatry workforce were not utilised in inter-professional working.

I don't think we'd tend to speak to the private podiatrists, I think we'd automatically refer into our own organisational podiatrists and I think that there's something to look at there... (Yvonne, District Nurse, focus group lines 1229 - 1223)

*And as a workforce are there actually more private podiatrists? (Viv, District Nurse)
Yeah (Steve, high risk specialist and NHS team podiatry team lead)
So really they are an under-utilised resource aren't they?... (Viv, District Nurse, focus group lines 1274 - 1276)*

The perceived lack of effective communication between private podiatrists and district nurses related to two issues; firstly, private podiatrists could not refer directly to district nurses and secondly, district nurses were not fully aware of the size of the private practice workforce. It was evident that referral and inter-professional practices were ad-hoc. Ad-hoc inter-professional working was reported as effective but it relied on individuals making the contact and therefore risked inconsistency in service delivery. Heather gave a typical account of this case by case practice:

The district nurse she's only here in the next room to us so very often we've said, "we think this needs your treatment could you take this patient off us?" and she has done. (Heather, NHS podiatrist, interview lines 191 -199)

Inter-professional working with district and practice nurses was portrayed as particularly important for wound care and management of patients with venous or arterial disease however, the relationship between NHS podiatrists and district nurses was complex and varied. Ursula summarised during the focus group interview:

...and this is identified in many patients that if you've got a foot wound and a leg ulcer wound you see two separate specialities, you'll see the podiatrist in the morning to change your foot wound and then the district nurse will come in later on to change the leg ulcer wound. Which, when both have got expertise in terms of wound management, it's crazy. (Ursula, vascular nurse specialist and academic, focus group lines 127 - 133)

Podiatrists did not wholly substantiate this, instead stating partnership with district nurses and other professionals was a feature of their practice.

I would say predominantly, I deal a lot with district nurses and home-care helpers and try to involve them where we're duplicating perhaps resources and going to the same resident a number of times a week. So I'd liaise with the district nurses in terms of wound care and off-loading and things like that (Rachel, podiatry academic, interview lines 242 – 249)

Where I used to work we integrated really well with tissue viability nurses and district nurses, we did joint visits with them, we prepared a treatment and management plan based on whatever the patient needed as a joint approach rather than 'we go in on one day they go in the next', we went together and did the piece of work together, so there are ways around this it's just about breaking down barriers (Warren, College of Podiatry representative, focus group lines 277 - 283)

Barriers included access to services whereby podiatrists only had referral rights via GPs or ad-hoc arrangements. Similarly, perceptions and understanding from other professionals as to role of podiatrists caused barriers as India notes:

I don't think anybody really knows what we do, how we do it, and what we're capable of. I don't think anybody, in the other health professions even, physios don't know, the nurses don't really know, unless they're working with us and can see the kind of patients who come in and what they say and what they're dealing with. (India, NHS podiatrist, interview lines 549 - 554)

This was confirmed during the focus group discussions over identification, prevention and management of venous disease.

Steve: It becomes too easy to say, "well you go and feed back to us" doesn't it, but when you actually get face to face as two professions and sit with the patient you learn so much so quickly.

Viv: I mean we all have a lot of knowledge to offer into that relationship don't we...

Steve: Absolutely, I've learned that some of the biggest advancements in my knowledge has come from working with other professionals, especially district nurses. If nothing else I know how to bandage properly now [laughs]. (Focus group lines 2025 – 2033)

Enhancing the knowledge of other professional groups regarding podiatry expertise formed a consistent basis of discussion. A notable area of discussion was that podiatrists should be identified as lower limb specialists rather than just foot specialists, a notion that needed to be understood by podiatrists themselves.

5.4.4 Priorities

The data highlighted that podiatrists' priorities were many and varied but did not include venous disease. Contrasting discussions over diabetes, arterial disease and venous disease demonstrated higher priority given to diabetes and arterial disease. Assessment and management of arterial disease and diabetes was viewed as a collective endeavour and a core part of practice. In contrast, venous disease activity was perceived to be individual and supplementary to normal activity. Bold letters have been added to the excerpts below from James to highlight the collective in contrast to the individual:

***we** have a baseline of information and each time that patient comes through **we** can document changes and if **we** do note changes or suddenly pulses are not palpable, if there are signs of ischemic changes or arterial changes then **we** can pick up on them and **we** can refer for the right agencies, whether it warrants just a podiatry ABPI check or...whether **we** think it does need a vascular referral **we** refer on. (James, NHS podiatrist, interview lines 135 - 149)*

*...from a **personal** point of view, if **I**'m worried that they're actually going to break down or they're at the point of break down, **I** would ask one of our district nurses to assess to see whether it could be suitable for compression or follow-on care from the district nurses. (James, NHS podiatrist, interview lines 182 - 186)*

Podiatrists shared with confidence examples of arterial assessments and their experience of diagnosing peripheral arterial disease. I observed that arterial assessment happened routinely and concurrently with other activities:

Pedal pulses and temperature gradient were routinely assessed as patients were being asked about their current health. (Alice, private podiatrist, observation notes)

Podiatrists' accounts and actions identified them as practitioners who diagnosed and offered preventative management strategies for PAD. Warren confirmed and explained the priority towards arterial disease by drawing a link to the podiatry role in the diabetic foot:

Venous disease, as you (Ursula) said, is much bigger than arterial disease and the focus on arterial disease probably predominates from the drive-through of diabetes in the sense that most people with diabetes have a neuro-ischemic type foot and it's that natural progression into (micro) vascular disease rather than into larger vascular disease and venous disease. (Warren, College of Podiatry representative, focus group lines - 344 - 349)

Leonard suggested prioritisation was influenced by the perception that diabetes had more urgent and severe consequences than venous disease:

There's an impression that ulceration through arterial problems, through diabetes can become rampant very very very quickly and an impression that that isn't

necessarily the case with venous ulceration. (Leonard, NHS services manager and academic, interview lines 216 - 222)

Local and national priorities were often a driver for the focus of interventions, with lower limb venous disease being perceived as low priority as it was not a commissioned target for podiatry. It had not become an integral aspect of the podiatry role in line with diabetes and arterial disease. James explained the prioritisation of arterial disease whilst Eddie stated the influence of commissioned services for diabetes:

Well we get a lot more with arterial symptoms, rest pain, ischemic rest pain, claudication signs. That seems to be more prevalent in our patients than patients with thrombolytic changes or phlebitis or, venous insufficiency. The symptomologies of the arterial deterioration seem to be a lot more prevalent. (James, NHS podiatrist, interview lines 260 - 267)

Diabetes. Very sexy! It's where the money's gone, you know, and I think other areas have suffered because of it and maybe that's part of it. (Eddie, private podiatrist, interview lines 161 - 163)

Indeed, this prioritisation was noticed by other professionals who were concerned that podiatrists refused to act outside of their diabetes priority and therefore limited the care provided to patients without diabetes. Ursula:

My Band 7 (podiatrist) refused to go on the wards the other day for a neuropathic foot that needed off-loading and callous debridement because he wasn't a diabetic... and you just want to scream at them. (Ursula, vascular nurse specialist and academic, focus group lines - 845 - 947)

Throughout the discussions participants defined podiatry through its specific relationship with the foot despite podiatrists being expected to operate as health care professionals specialising in pathologies of or manifesting in both the foot and lower limb (HCPC, 2013). It was a striking feature of these data that participants focussed their attention specifically on treating the foot with little attention paid to pathologies above the ankle. Prioritising the foot was leading to lower limb venous disease being omitted from the podiatry role. During my observations I witnessed podiatrists focussing on the foot and missing opportunities to explore other conditions including lower limb venous disease. There was a lack of active exploration for signs of venous disease or examination of the skin above the ankle because of the prioritisation of foot health:

Fran's first priority was to ask patients about their feet and to maintain a constant observation of the feet during the appointment. The conversation rotated between feet and family matters. For example, with one patient she spent a long time discussing the possibility of fungal nail infection being present. (Fran, private podiatrist, observation notes)

One patient was observed rolling their trousers up to their knees in order to show the podiatrist some colour changes. This was outside the normal practise observed because the podiatrist didn't routinely look further up the limb. (Georgina, NHS podiatrist, observation notes)

Ursula suggested that this observation was wide reaching across podiatry and limited podiatrists' input to patient care:

We struggle to get them to take the other shoe and sock off of the foot with the diabetic foot ulcer never mind the fact of let's roll their trousers up and look at their legs...(Ursula, vascular nurse specialist and academic, focus group lines 123 - 126)

The foot focus of podiatrists meant health promotion was targeted at conditions where the foot was likely to be implicated. James outlined that he addressed smoking cessation with patients specifically due to foot health implications of an arterial nature but with no reference to impact on venous circulation.

Well I think if we're looking at the foot and we're giving advice on health education regarding the feet, we've got to look at aspects that involve the feet and definitely if we take smoking for example that's definitely one biggie that impacts on peripheral vascular disease. It impacts on health with regard to feet, so it's something we should be looking at and looking at helping. (James, NHS podiatrist, interview lines 36 - 41)

James linked foot pathology to smoking to rationalise such discussions with patients. His account was substantiated by others and expanded to suggest that podiatrists should only be concerned with wider health problems and health behaviours if they impacted on foot health. This was added evidence that prioritising foot health restricted podiatry involvement with venous disease. India and Cathy stated their positions:

...much beyond the foot and that's what I don't agree with. I think there's a limit to how much you can ask a patient when they're coming in to have foot care. (India, NHS podiatrist, interview lines 519 - 521)

So I don't want to know if they've got a hiatus hernia, or they're allergic to cheesy wotsits. It makes no difference to what I'm doing at the other end of the body. But the things that I know will have an effect on my job I need to know about. (Cathy, private podiatrist, interview lines 316 - 319)

All participants articulated and demonstrated that patient satisfaction was a high priority with several interactions being observed demonstrating the prioritisation of clinical outcomes relating to the relief of foot pain. For example:

Alice told me, after a patient had left, that she enjoyed the job for the instant reward of patients leaving in less pain than when they arrived. (Alice, private podiatrist, observation notes)

Beryl appeared to be happy at the end of treatments and regularly stated to patients that she was "pleased to make you feel better" (Beryl, private podiatrist, observation notes)

However, because this was a priority there remained a lack of health promotion or preventative strategies relating to venous disease. This was exemplified by Beryl:

The last lad that was in, he did have really prominent varicosities on one leg, but that wasn't the leg that was giving him the pain (Beryl, private podiatrist, interview lines 405 - 408)

Beryl described how her priority was to manage the painful condition and therefore did not spend time undertaking additional assessment of varicose veins or planning preventative care.

The podiatry role in lower limb venous disease identification and prevention is limited by opinions that other aspects of care are a priority. Data in this study revealed diabetes and arterial disease to be conditions which podiatrists gave high priority for identification and health promotion. These conditions received greater clinical attention due to perceptions of severity and the impact of local and national policy. Further, the resolution of painful foot pathologies through physical treatment also superseded podiatry attention to lower limb venous pathologies.

5.5 Time

Data in this study were contradictory about the influence of time on practice. Observed NHS appointment duration was generally twenty minutes per patient whilst private practices largely allocated thirty minutes. It became evident that some podiatrists found these time boundaries restrictive whilst others recognised the opportunity for health education. However, the use of time in a routine manner emerged as a significant limitation on venous disease identification and prevention.

5.5.1 Constraint or Opportunity?

Participants' accounts suggested that practice was restricted by insufficient time with limited appointment durations that did not allow for all required clinical work to be completed. Cathy gave an account of her past NHS practice explaining that lack of time to fully complete clinical assessments and engage with patients was more prevalent in the NHS than the private sector. She explained:

What I found when I worked in the NHS was I never really looked above the knee. I never looked at them...If you'd asked me to describe the patient I saw twenty minutes (ago) I couldn't tell you what they looked like because I never really took any notice, because I didn't care, I didn't have enough time to care. I was just doing my job. (Cathy, private podiatrist, interview lines 438 - 445).

Such accounts suggested health promotion and the wider caring role of a podiatrist were affected by time restrictions. Conversely practitioners did not report limitations on physical, foot related treatments. Kate and Olivia explained:

I would say some staff feel that maybe they don't have time in the day for all that aspect of it. They try to on a one-to-one basis with patients but maybe if you ask them they probably felt that they didn't have enough time per patient to do that role in its entirety. (Kate, NHS podiatry services manager, interview lines 36 - 39)

As far as the clinic, it was basically a patient in and out and there wasn't a lot of health promotion advice given really, Because there wasn't enough time to give health promotion advice. (Olivia, pre-practice podiatry graduate, interview lines 13 - 16)

The perception of time as a restriction was discussed in the focus group where participants highlighted that limited time was an issue for all healthcare workers. Ursula explained:

If you go in to have a vitamin B12 injection, and you've got great lymph-oedematous legs you'll go "oh they're swollen aren't they love." Unless they report an issue because we're all so task-oriented, because we've got no time that we all turn a blind-eye, and its changing that culture and having a healthcare system in place that allows flexibility to give that holistic care. (Ursula, vascular nurse specialist and academic, focus group lines - 503 - 508)

Ursula described the tension between fulfilling tasks, promoting health, and being able to share best practice to the wider community through education and publishing. She discussed the changing role of healthcare professionals and how they needed to be involved in publishing new ideas and innovations to enhance clinical practice, yet time restrictions often prevented this happening:

The district nurses will do fantastic initiatives and they'll do a bit of auditing and they'll go "bloody hell that's brilliant, d'you know what, we should write that up." And they never have time because they are constantly clinically driven. (Ursula, vascular nurse specialist and academic, focus group lines - 1646 - 1649)

However, many participants, especially those employed in the private sector suggested the duration of podiatry appointments was an opportunity to address wider health issues and promote general wellbeing. Fran explained this but also expressed concern that appointment times were not used effectively:

... it's probably three times longer in time than a GP consultation that a podiatrist gets with a patient, so the opportunity to discuss your long-term conditions, your actual general medical health that impact on your foot health is a great opportunity but I don't think it's used at all. (Fran, private podiatrist, interview lines 219 – 223)

Observational data revealed that multiple physical activities were undertaken during the consultations alongside collection and assimilation of detailed clinical information.

Observation identified that performing multiple tasks whilst treating patients' feet was commonplace yet, as discussed in 'Venous Disease: Current Practice,' there was no overt attention to lower limb venous disease. Leonard spoke about podiatrists' repeated contact with patients and repeated opportunity to identify and act on signs of deteriorating health advocating that podiatrists should:

...have the full status recorded really and by the fact they've got the full status of the lower limb recorded they would be in a very good position to use that as a benchmark and be able to pick up on any deterioration at the earliest opportunity. (Leonard, NHS podiatry manager and academic, interview lines 111 - 117)

This was evidently the case for some high priority conditions, but not for venous disease. If time did restrict practice then lower limb venous disease was one element affected, it was apparent that venous disease did not feature in participants' clinical routines.

5.5.2 Time is routine

There were subtle differences between individual podiatrists, but repetition of action was a feature of practice. Observation of Georgina emphasised these routines:

Georgina had a routine between patients and when treating them. Between patients she wiped down, washed her hands and then cleaned the unit. During patient treatment, she started with questions, pulse palpation whilst constantly moving between the monitor and the patient. This sometimes appeared quite awkward. Then she commenced physical treatment and continued discussing what was happening with the patient and their wider social factors. (Georgina, NHS podiatrist, observation notes)

The repetitive nature of practice was reinforced by accounts of activities that were "always" incorporated into appointments. Alice and Heather stated their routines in relation to assessing patients with diabetes:

That's always a thing where I'll ask if their diabetes is under control or how they are et cetera (Alice, private podiatrist, interview lines 84 - 86)

...at their annual review, we always do a full check where we do their pulses and I always use a Doppler when I do the annual review. (Heather, NHS podiatrist, interview lines 129 - 131)

Cathy, an established podiatrist in both clinical practice and academia, explained repetition to be part of learning to be a podiatrist. She explained:

Even the stupid things like foot-bath, chair, dry them, turn them round, put the brake on, do that, lamp there, de-de-de (I) don't think about it. But when you're learning it's "right, how do I do the leg rests?" or, they lift the chair up and tip the trolley over... and they're trying to keep things on their lap to catch the bits. No, you don't even need to think about that anymore. That is when the job becomes really good because you don't go home worrying about it anymore. (Cathy, private podiatrist, interview lines 479 - 486)

Fran, however, criticised routine as negative and restrictive, stating treatment routines detracted from other care podiatrists could provide:

I think the podiatrist's got a big role to play in terms of health promotion and education and I don't think we do that, I think the patient sits down, people pick clippers up and cut their nails even if they don't need doing, because that's what they're taught from day one. (Fran, private podiatrist, interview lines 47 - 51)

Similarly, Georgina discussed how she felt routine practice restricted podiatrists from being more involved in identification and prevention of venous disease. Her view was that lower limb venous disease was not routine and therefore not considered.

I think it's just a routine that we're in. So if we thought more about it perhaps we could do a bit more (Georgina, NHS practitioner, interview lines 378 - 379)

Data suggested that repetitive, routine practice determined clinical activity rather than what was required in each individual circumstance. Lack of individualised care was evident during observation of health education delivery. Typically, observation revealed routine as I noted:

India's delivery of health promotion is so routine and repeated for each patient that it sounds like she is a member of cabin crew delivering safety instructions before a flight. (India, NHS podiatrist, observation notes)

Significantly venous disease did not constitute part of those scripts and routines. Donna stated:

I don't know whether it's just role-modelling, that's what you do as a podiatrist, but obviously you do get venous issues that cause issues with the feet and the lower limb. (Donna, private podiatrist, interview lines 170 - 172)

Donna's statement "that's what you do as a podiatrist" strongly suggested she did not view venous management as her role. Podiatrists attended to the routines of treating the foot as their first action with Kate explaining:

A lot of it's historical because we were set up to do treatments rather than the bigger picture. I think we've ended up being shoe-horned down that sort of way of working. (Kate, NHS podiatry services manager, interview lines 104 - 106)

Steve suggested abandoning routine treatment would enhance overall care of patients. He explained how promoting behaviour change and preventing deterioration could be achieved through discussion with patients rather than reliance on physical treatment:

First thing you do is go and get your instruments and put them on the side table ready to treat. How much could we do without even picking up a scalpel? (Steve, High-risk specialist podiatrist and NHS podiatry team leader, focus group lines - 2173 - 2177)

Podiatrists' adoption of routine was evident throughout the data and appeared to stifle their freedom to attend to wider medical issues. Significantly, pre-practice graduates recognised this during their time on placement. Queenie explained:

Maybe it's just because people tend to do what we've always done and some of the podiatrists I work with have been there a long, long time so maybe they didn't feel it was within their scope and they left it to other people to do. (Queenie, pre-practice podiatry graduate, interview lines 141 - 144)

Venous disease identification and prevention was considered outside of podiatry routine with participants being embedded in ritualistic practice stating - it was not part of "what we've always done" and was therefore not implemented.

Despite this there were rare occurrences where routine was abandoned. These rare occurrences accentuated the dominance of routine in podiatry practice highlighting how routine would need to be broken to facilitate changes to practice. Participants breaking from "normal" routine explained their reasons for doing so. Heather had longer appointment times than her colleagues and was thereby breaking from the collective norm. She was highly critical of the extent of the activities expected in the routine and voiced her suspicion that the only way to complete the work properly was to break away from the normal constraint of routine, twenty minute appointments.

I couldn't cope with trying to do the patients in twenty minutes and do a review. I couldn't do that. I couldn't do it properly, some people could go away and not fill it they wouldn't complete the review or they wouldn't complete the treatment but I just ended up worrying about it because if a patient's booked in for that to be done I'd want that to be done properly. (Heather, NHS podiatrist, interview lines 546 - 553)

By removing herself from the routine twenty minute NHS appointment Heather was able to complete everything required for each patient. This not only extended her time with patients but allowed her to work outside the restricted routine required to fulfil minimum expectations for each patient. Cathy demonstrated a break from routine in the conversations she had with patients by rejecting scripted topics suggested during training focussing instead on patients as individuals:

because as a student you have your script, don't you, because the clinician's walking up and down and you have to be heard to be saying the right things and you get into it, but over the years you learn to prioritise. You learn to miss things out of the script, and keep it to what you're doing at that day on that time with that patient. And whether it's feet you're talking about or whether their holidays, it's tailoring each conversation you have to that individual patient. (Cathy, private podiatrist, interview lines 389 - 395)

Cathy had developed her practice to meet the needs of her patients ensuring that a complete assessment could be undertaken rather than simply focussing on podiatry matters. This breaking with routine had allowed a flexible approach to assessment and interventions.

5.6 Autonomy

5.6.1 Money is power

Funding of appointments was discussed throughout data collection as an influence over clinical activity. A persistent theme emerged that payment for specific practice drove podiatrists' use of their time and restricted their opportunities to pursue a holistic approach to patient care. Practice was not dangerous but often the source of funding appeared to influence clinical decisions as to what actions to take. A podiatrists' appointment time was a commodity and functions performed in that time were determined by the source of funding; private patients or NHS commissioning groups. Fran explained:

I think they feel that they're paying so they come in and they'll tell you what they want and you'll do what they want (Fran, private podiatrist, interview lines 209 - 212)

In private practice, the focus was on using time to undertake activities that paying customers wanted even if this might not have been the practitioners preferred course of action. Private practitioners expressed tension between their professional opinion and patient preferences with the latter more influential due to the business nature of the relationship. Eddie explained one example in relation to orthotic devices:

But then in private practice, for patients who you think "actually you know, I shouldn't be sticking things to your foot, you could do better served by a nice comfortable orthotic insole inside your shoe to give you the relief." But they'll stick to the tried and tested and they're happy to just have the pieces of sponge rubber stuck to their feet every six weeks and that's fine and they're happy with that and it's their money (Eddie, private podiatrist, interview lines 258 - 267)

During the observations of practice, staff prioritised treatments paid for by the patient, for example, if the patient was attending for nail care this was undertaken but there was no evidence of wider health promotion activities. Observation of Eddie exemplified this:

The podiatrist asked each patient how they were and how their feet were in a broad manner. Any specifics were followed up e.g. One patient complained about red and cracked skin. Otherwise treatment continued as per routine. The exception was for the diabetes screening patients where the podiatrist had a list of activities to undertake and questions to ask. (Eddie, private podiatrist, observation notes)

However, participant accounts suggested that patients were also paying for expert advice and that if patients asked questions podiatrists should provide the answer. Cathy explained:

They're paying £36.50 to spend half an hour with me, and they expect me to know the answers. (Cathy, private podiatrist, interview lines 248 - 250)

For private practitioners operating as a business meant taking opportunities to make money. Observations did not reveal hard selling tactics but all private practice reception areas had products on display for sale. Martin discussed how selling products distinguished private practice from public provision, a dichotomy he found complicated alongside the role of health promotion and behaviour change. He weighed up the complexity of the business role in relation to health promotion:

Trying again to conceptualise that from their viewpoint and the psychology of changing behaviour, I think more and more now we're also getting into an environment of selling goods and being in business, and I guess that depends more whether you sit in public provision of care or the private provision of care, I think it's complicated. (Martin, podiatry academic, interview lines 378 - 383)

Alice discussed that selling products could improve clinical provision. Her example of footwear measuring and sales was driven by wanting to promote good foot health and prevent deterioration caused by poorly fitting shoes. For Alice, having the capacity to sell directly to patients meant she could have more clinical influence over foot health:

I mean there was the, the classic one on Friday wasn't there, the chappie been wearing size tens or elevens shoes in there [laughs] when we measured his feet they

were a sevens but wide. I think that as well, that offering of shoe measuring service is quite important as well and ordering shoes and making sure they fit because again if somebody's in the wrong size shoes or too tight shoes that can impact on a lot of things (Alice, private podiatrist, interview lines 510 - 524)

No practices measured for, or sold compression hosiery as part of their business. This was a key observation relating to the research aim and objectives because the sale of compression hosiery would have suggested an active role in venous disease identification and prevention. However, it became evident that some podiatrists were attempting to formalise their business as a provider of preventative care. For example, Beryl stated her intention to establish her business as a medical service:

I want this clinic to be seen as a medical centre...not just "come and have your toe-nails cut and made pretty." (Beryl, private podiatrist, interview line 157)

This suggested that Beryl would be engaging in the kind of early identification and prevention activity of interest in this thesis. To establish her business as a 'medical centre' would require patients to pay for that service, in the same way as similar services are commissioned by the NHS. Beryl described holding promotional 'drop-in' events for arterial and readiness-for-sport assessments to demonstrate her preventative practices. She had not included venous disease at the time of data collection for this study and did not state any plans to do so. Incorporating lower limb venous disease into private podiatry business models was discussed at length in the focus group:

So in the same way that Virgin Care are a private company or any... a private practitioner will see what somebody's willing to pay them for. They might identify a problem and signpost them back to a district nurse but they're not going to start treating them because they're not going to get paid for that. And, they're a business and it's like any business. (Warren, College of Podiatry representative, focus group lines 389 - 394)

NHS podiatry services, funded by commissioning bodies, provide specific podiatry treatments but also contribute to national public health agenda. Kate stated how national policies drove commissioning of podiatry services. She used the example of a question on SystemOne about mental health known as the 'SQID' (Single Question to Identify Dementia) as part of national reforms to enhance mental health services.

...for arguments sake we have to have a certain percent of patients over 65 that are asked that SQID question and if we fail on it, we have to say to the Commissioner why our staff haven't been asking that question. And we get rapped round the knuckles if we don't ask the question. (Kate, NHS podiatry services manager, interview lines 123 - 133)

Achievement of commissioned targets is measured against key performance indicators (KPIs) (as discussed in sub-section 5.3 – Venous Disease: Current Practice), participants described how the need to meet these KPIs limited their independence to respond to changes in clinical requirements. India described how her practice had been forced to change due to specific commissioning requests:

Now we are told that we've got to provide health promotion as part of our assessment, initial assessment, which is why we go through the lifestyle questions and we offer smoking cessation referrals. (India, NHS podiatrist, interview lines 47 - 50)

Kate explained that the commissioning model restricted development of new initiatives:

Because ultimately we're paid to do things that the Commissioners tell us to do, either via a block contract or an add-on, and if it lies outside of that we don't get paid, and I suppose that, that in itself is a big driver...what we do and what we don't do (Kate, NHS podiatry services manager, interview lines 460 - 464)

Explaining practice as directed in this way contrasted with accounts described in the 'Identity' theme, suggesting podiatrists were confident to use their time for wide ranging health promotion. The contradiction between podiatrists self-stated holism whilst only doing what they are paid to do cannot be understated; it revealed tension between the influences of funding against professional independence. The dichotomy between meeting contracts and allowing independence was not only a podiatry issue. For example, District Nurse Viv rationalised her position of not being actively involved in lower limb venous disease identification and prevention:

I don't think it's quite an excuse...I think that's the wrong word, I think it is more the fact that you might not necessarily pick them up because obviously we're not commissioned to see these patients who are out and about, unfortunately, and I mean it's not that we don't want to, give us some money and I think district nurses would see them but at the moment our resources are so stretched (Viv, district nurse, focus group lines 418 - 426)

Data suggested that clinical commissioning limited podiatrists' role in identification and prevention of venous disease because it did not drive education or healthcare systems to provide such a service. Consensus emerged within the focus group that demonstrating financial savings from new services would hold most influence over commissioners. Parallels were drawn with diabetes as an area of experience from which podiatry could learn. Kate explained:

I think as soon as you put a diabetes label on, it immediately gets the backing of people like commissioners and GPs because it's driven by the QOF points as well. Mind you saying that, for the venous ulcers because of the money that is associated with the treatment of those ulcers that would be possibly quite a quick win if we could get involved earlier and have a pathway like we do for diabetes, it would save an awful lot of money down the line. (Kate, NHS podiatry services manager, interview lines 390 - 396)

5.6.2 Follow the guidelines

National drivers influenced practice through clinical guidelines with differing levels of priority dependent on the clinical context. The general view was that guidelines determined clinical decision making and activity. Guidelines were seen to influence practice in different ways; either imposing on practice or promoting a consistent approach. Podiatrists' accounts suggested that following appropriate guidelines would prevent poor care for their patients. Leonard highlighted this by warning of negative consequences for a podiatrist if something went wrong following a deviation from national guidelines.

The diabetes pathway is promoted strongly by NICE and there's so much to go wrong that deviating from that pathway, you are putting your future career at risk (Leonard, NHS podiatry services manager and academic, interview lines 169 - 172)

Non-adherence to guidelines was seen by participants as un-professional, reflecting what was observed in this study. In the NHS predominantly, podiatrists were required to follow certain activities and frequently referred to guideline adherence as one requirement. India expressed how this shaped her practice whilst Rachel highlighted the consistency that could result:

Is it not all NICE guidelines and stuff like that, we have to meet NICE guidance with regard to certain side of our profession and certain things have been thrust upon us...(India, NHS podiatrist, interview lines 487 - 489)

but if we're using a guideline, a national guideline and local arrangement knowledge to refer the patient then that side of things is usually consistent. (Rachel, podiatry academic, interview lines 275 - 277)

India's suggestion that guidance had been "thrust upon us" demonstrated how she felt her autonomy was undermined by the health care system. Conversely, Rachel stated the benefit for patients receiving consistent care from trust to trust. However, lower limb venous disease guidelines had no influence on the podiatrists observed in this study; no podiatrist was observed using them, no accounts were offered of them in interviews and it

was not demonstrated as a known national commissioning priority. Donna indicated the lack of pathways and guidelines as limiting podiatry involvement in venous disease:

(there is a) lack of pathway or an assessment or a pathway that would prompt you. We've got pathways for claudication, all the ischemic pathways, all the foot ulcer pathway, but there's no venous escalation methods that I know of. (Donna, private podiatrist, interview lines 305 -308)

However, Ursula described that such guidance did exist and criticised any professional who failed to escalate a patient in such a position:

And that's, even in the presence of NICE guidelines telling them that they should do something specific that they completely turn a blind-eye (Ursula, vascular nurse specialist and academic, focus group lines- 1206 - 1207)

It appeared that podiatrists only followed the guidelines that their service priorities led them to follow. Despite negative views about the volume of guidelines, it appeared contradictory that as lower limb specialists, podiatrists were unaware of lower limb venous disease guidelines. Steve offered an explanation for the failure to adhere to all available guidance:

... it becomes kind of overkill by pathways doesn't it sometimes because you, like you said before with the GPs, (they) don't even know about some of the NICE guidelines because there are that many NICE guidelines. (Steve, high risk podiatrist and podiatry team leader, focus group lines 1572 - 1575)

It was apparent that commissioning, direction towards guidelines and management of practice caused frustration amongst NHS participants:

Well we won't get listened to...We are the minions and we do the work. (India, NHS podiatrist, interview lines 522 - 523)

So evident was the perception of management dictating clinical work that new podiatry graduate Naomi described how she had experienced it during her placement. She used this as justification for her preference to work in private practice:

I think with private especially in the early days... I'll have more time to spend with that patient rather than working to a 20-minute slot and being watched, you know, a lot of them had the sense that they were being watched in the sense of the times that they were entering the data in and one thing or another... (Naomi, pre-practice podiatry graduate, interview lines 195 - 202)

NHS podiatry managers shared the feeling of frustration, highlighting NHS structures and commissioning as levers for managerial interventions to meet targets whilst protecting time for increased activity. Conversely, Trevor explained staff work rate was an obstruction to service delivery and patient care:

...once you go through and actually do an audit with electronic records ..."ooh this is just interesting, within a month so-and-so's done eighty two and somebody else has done three" ...and that puts pressure on people to actually start working and I think the main emphasis that we've been trying to do within our Trust is you're working to the top of your Band not working to the bottom of your Band. Your Band has got that grade and salary because of all of that job description not just the bits that you want to be doing. (Trevor, NHS podiatry services manager, focus group lines 799 – 806)

5.7 Education

5.7.1 Undergraduate education

Data highlighted venous disease was lower priority than arterial disease and diabetes. The role identity of podiatry did not include venous disease identification and prevention as a distinct feature. Undergraduate education content and a lack of venous related leadership from within the profession emerged, through participant accounts, to suggest education was a limiting factor on practice. Throughout data collection the participants recognised that their training included lower limb venous disease:

I did physiology within the system. Causes of venous problems, I got that. The usual sort of DVT, pregnancy, that sort of thing. Multiparity, I think it was called then, lots of kids. But I remember, it wasn't a huge part of the syllabus, it was in there...(Eddie, private podiatrist, interview lines 297 - 301)

However, educational content was reported to lack depth and participants rarely transferred this knowledge to clinical practice. Indeed, no participants reported undergraduate training in assessing and measuring for compression hosiery, yet all described their knowledge to refer to nursing for such activity. One view was that the undergraduate podiatry syllabus was lacking in medical detail and as such did not provide podiatrists with the skills and confidence to diagnose and manage many vascular pathologies including intermittent claudication and peripheral venous disease. Fran and Heather explained that the lack of knowledge impacted negatively on professional identity and limited clinical effectiveness:

I think they lack the ability to have a good general medical knowledge and I think that sometimes that can affect our profession. That's where the, "oh you only cut nails", comes from or the view or the vision of what a podiatrist does and I think there should be more core medical training as an undergraduate. (Fran, private podiatrist, interview lines 42 - 47)

How they train students now is different to how they trained students when I was training which was thirty years ago this year and I do think students tend to kind of

cut off at the feet and not think much more than the feet sometimes, they don't think about the patient...(Heather, NHS podiatrist, interview lines 452 - 456)

It was evident that lower limb venous disease was not perceived to be as important as other subjects of participants' pre-registration training. Accounts suggested that pre-registration training was foot-focussed and lacked health promotion education. This presented a contrast to other data in the study that podiatrists identified their role as holistic and to provide health education.

5.7.2 Waiting for Champions

There was evidence of limited post-qualification education and interest in venous disease. Participants suggested there was an absence of leadership from within the profession to drive interest, and practice development in venous disease. Steve explained:

You need the right champions pushing it forward as well because the PAD stuff has really moved forward through [name removed for anonymity] initially, and then [name removed for anonymity] has carried on that baton for podiatry. You need something similar, you need the right enthused person to keep pushing it. (Steve, high risk specialist podiatrist and NHS podiatry team leader, focus group lines 977 - 981)

It was evident that the champions should share practice, research and evidence through publication and promotion of inter-disciplinary collaboration. Leonard highlighted that low rates of publication in a topic correlated with low clinical priority and confirmed that was the case for lower limb venous disease compared to diabetes and MSK:

...there's probably something over professional publications in that area (venous). I know I've delved into publications for a number of years, in the past I used to create a database of it and there's some topical sort of hits there, quite a lot of publications on podiatry and diabetes, quite a lot of publications on lower limb biomechanics ... and then you get off onto the minority issues which don't seem to be given a priority. (Leonard, NHS podiatry services manager and academic, interview lines 197 - 201)

Podiatrists not seeking information about lower limb venous disease from publications reinforced it as a low priority for their continuing professional development (CPD) and a topic for which they felt no accountability. This view was represented amongst practising podiatrists as Beryl stated:

So maybe it's because I've not read around it, I've not ever seen anything as an article about venous supply and the complications of it so it's not ignited my imagination much (Beryl, private podiatrist, interview lines 472 - 473)

Yet it was evident that individual practitioners and NHS services were waiting in practice for the push to make a change towards inclusion of venous disease. Some were waiting for champions to publish papers and lead practice and others felt commissioning would instigate a change. Kate and Beryl stated their positions relating to drivers for venous disease in practice:

I can see the benefit in doing that to prevent problems further down the line. It's not there at the moment, and I think if we had enough evidence and I think if it came in a more directed way through our Commissioners then we probably would be going down that route. (Kate, NHS podiatry services manager, interview lines 235 -238)

Well I'm hoping that (somebody will) come up with a paper now about venous supply and how we can all incorporate a bit more advice in our practice because it is a gap perhaps. (Beryl, private podiatrist, interview lines 552 - 554)

5.7.3 Theory-practice mis-match

Because of limited education and minimal post-registration interest venous disease knowledge was low. Study data revealed a complex relationship between theory and its application to practice. Theoretical knowledge discussed in interviews was not observable in practice. This related to many areas and not just lower limb venous disease. The contrast between stated and observed action for venous disease was discussed in section 5.3 'Venous Disease: Current Practice'. Participant accounts suggested application of general theoretical knowledge was driven by three factors; personal interest, experience level and the requirements of practice. These related directly to the practice of venous disease identification and prevention. Podiatrists were more likely to be conversant about topics they were interested in or had the self-motivation to pursue knowledge through enrolment on courses or their own reading. Fran stated interest in a topic inspired her to expand and apply theoretical knowledge:

...like the only way my venous and arterial skills improved was through going to do a vascular nursing course at [name of institution removed for anonymity] Uni, so that was again postgrad. Now without that I would've been clueless. (Fran, private podiatrist, interview lines 119 - 122)

Fran criticised undergraduate education for leaving gaps in podiatrists' knowledge that could only be filled by post-graduate study. She asserted that podiatrists would have to choose to enhance their knowledge in this way and this was therefore unlikely to be widespread. Similarly, Warren criticised undergraduate education providers, suggesting their responsibility extended beyond their students to influence wider practice:

...the university's responsibility is to producing podiatrists who want to work in venous leg disease but they're not educating the placement providers... (Warren, College of Podiatry representative, focus group lines 685 - 687)

This mis-match between the theory of venous disease and application to practice was partly explained by a lack of interest in the topic. Lower limb venous disease was not prioritised in practice and interest was not promoted from champions within the profession in the same manner as diabetes and arterial disease. Low priority and reduced professional interest were two reasons for the podiatry role in venous disease being insignificant. The lack of an overt role in venous identification and prevention meant podiatrists did not maintain that knowledge. Donna reflected on her NHS and private practice:

It was covered but I think then because notoriously...it's like you don't use it you lose it... but it was fully covered. We have actually put an update on, interestingly enough on peripheral arterial disease and we were questioned on the veins and we all struggled as a department. We could all label all the arteries but not the veins (Donna, private podiatrist, interview lines 373 - 376)

Advanced experience and clinical context influenced the use of theoretical knowledge. Fran had significant experience in NHS high risk podiatry as well as her private practice. She explained that practice requirements dictated theory use:

I think that's perhaps my background working in the acute sector and perhaps if I hadn't done that and I'd just sat in the community clinic or private practice I would've become tunnel-visioned into cutting nails, filing and, and not doing a lot else... forgetting a vast amount of knowledge that you learn over those three years. Think of all the podiatrists that do podiatry for three years and none of them ever fit a pair of insoles...ever. (Fran, private podiatrist, interview lines 176 - 182)

Evidently, podiatrists had not used their venous disease knowledge and had subsequently lost it. Issues relating to continuing professional development arose from the data. Choice of topic for updates, and the efficacy of CPD emerged as potential reasons that venous disease theory did not translate into practice. Significantly, the driver for choosing topics in NHS training was to meet the demands of commissioning rather than to develop individual skills or interests. In private practice, the emphasis was to maintain currency of knowledge with no particular driving or limiting factors. Podiatrists could therefore choose to study updates to enhance or maintain their level of practice as they saw fit for their patients. Eddie was active in maintaining his theoretical knowledge for the benefit of his patients:

I hope it's current [laughs], I go to the CPD days and things like that so I try and keep abreast of what current thinking is, I'm not just on Lewin's Foot and Ankle published in 1952 or something like that [laughs], but I try and keep it as current as I can do. (Eddie, private podiatrist, interview lines 254 - 258)

Evidently, podiatrists from both settings had not selected venous disease as an interest to pursue for extra training. However, NHS podiatrist James revealed that he had undertaken a generic on-line staff training module which included venous pathologies. His only example from this training was of pulmonary embolism therefore it appears that lower limb venous disease progression was not emphasised. Regardless of the motivation for topic choice, there was concern in the focus group interview that CPD education was not an effective process for closing the gap between theory and practice. Ursula explained:

I don't think education works. Education plants a seed to make a change, the individual has to grow that seed inside them to make a change in terms of the process, and I think that you can feed monkeys peanuts forever and they'll never make a change...and they'll never make a change in practise. (Ursula, vascular nurse specialist and academic, focus group lines 1548 - 1554)

Enhancing awareness of lower limb venous disease amongst the public and professionals was seen as a significant area for development. Raising general awareness of the condition was highlighted by Warren suggesting that educating the general public and health professionals would increase the work-force of early lower limb venous disease identifiers. However, he listed podiatry as a profession who would not normally see legs. Although this may have been a slip of the tongue, it added to the complexity and contrasting nature of how the culture and identity of podiatry emerged in the data. The topic of professional identity and multi-professional working was raised as the main area for re-focussing of education. Viv proposed a clear change of direction in this regard:

Surely it needs (to be) embedded in training and collaborative working within training. We're not just podiatrists, nurses, and including the medics as well, so everybody needs to have this shared goal, training, where we all work together and don't see each other as separate professions, and that's what we need to do. (Viv, district nurse, focus group lines - 1054 - 1061)

5.8 Venous disease in health care

A recurring reaction when asked about venous disease was for participants to discuss venous leg ulceration. Their first association for venous disease was as a wound managed by a nurse. India's response typified this, and Leonard explained further:

What do you mean, it's like ulcers and DVTs? (India, NHS podiatrist, interview lines 126)

What typically happens with the venous ulceration is they'll have a very large thick bandage on that'll run from sort of toe to knee and all you do in that case is just expose as much of the foot as you possibly can to get to the thing that the patient's

come for (Leonard, NHS podiatry services manager and academic, interview lines 237 - 241)

The data suggested that venous disease was not a disease for podiatrists to prevent; rather it was for nurses to treat. In contrast, arterial disease was viewed as preventable through the discussion of risk factors such as smoking, diet and alcohol. Any discussion of the podiatry role in venous identification, giving advice or referring for preventative compression therapy occurred late in interviews when participants appeared to think on their feet to provide the answers they thought were correct. Absence of identification and prevention practice in the observations strengthened this suspicion. Indeed, management of venous disease, "the wound", rather than its prevention dominated early discussions in the focus group interview until vascular nurse specialist Ursula shared her insight. She explained:

...we've got a problem when you get to management but we've got a bigger problem in terms of awareness and prevention. I think that that is a society of the whole healthcare system and not just a problem with podiatrists. GPs don't recognise it, district nurses don't recognise it, nobody treats soft oedema of a lower leg, everybody goes, "ooh that's nice and soft isn't it?" and walks away from it and waits for it to ulcerate. (Ursula, vascular nurse specialist and academic, focus group lines-186 - 192)

Participants asserted their role in preventing venous disease, discussed in section 5.3 'Venous Disease: Current Practice'. However, contrast between observation and accounts raised questions over the lower limb focus of podiatrists. The assumption, based on professional requirements (HCPC, 2016), that they might be in a better position than other professions to identify and prevent venous disease from early stages was not validated by the data.

Despite contradictions between the observation and interview data podiatrists stated they had a role in identification and prevention of venous disease. Cathy:

I don't think in the very early stages our role is any more than giving advice and identifying it, identifying potential causes and potential ways that you could, not stop it because it's a gradual thing, but to make it better or to slow it down (Cathy, private podiatrist, interview lines 278 - 281)

However, there were many limitations on that role and the contrasting data rendered veracity of the role questionable. Participants lacked certainty about whose job it was to perform early identification and prevention of lower limb venous disease outside podiatry and across health care services. Accounts identified GPs, practice nurses, district nurses and tissue viability nurses as professions with responsibility for venous disease. However, participants questioned the solidity of these roles and data revealed no awareness of agreed

pathways for recognition or prevention of venous disease. For example, in the following statement Donna does not state to what kind of registered nurse she would refer her patients. This imprecision suggested that this was an ineffective referral strategy and highlighted the lack of clarity over venous disease prevention pathways:

I would ask the nurse to do the venous assessment, but I don't even know if that's their role, I'm not sure on that one. It's a grey area. Hmm. I'm not sure. (Donna, private podiatrist, interview lines 197-199)

The focus group participants suggested various reasons why different professions might not take ownership of the role. These included the remit of district nurses to treat housebound patients only, and the prohibitive expense of all patients with suspected venous disease attending a vascular nurse specialist. Consensus was reached that venous disease was similar to other health problems such as diet and exercise whereby all health care professionals with patient contact could and should be involved. Ursula and Viv explained:

...but there's a lot of work been done about early recognition in terms of alcohol intake and in terms of smoking and it's about that awareness at every stage from every practitioner and it's how we embed that in all of our services without the excuse "I don't go above the ankle", "I haven't got time", "I only deal with housebound patients" (Ursula, vascular nurse specialist and academic, focus group lines - 411 - 417)

I suppose if you're talking about prevention maybe we need to go down the social route as well, we've got lots of colleagues within voluntary agencies and in social care agencies who are in a prime position of identifying these people, so maybe we need to give those guys training. We work very closely with our health trainers and obviously social prescribing is such a big thing now, why are we not providing exercise classes and education...? (Viv, district nurse, focus group lines 1333 - 1340)

Podiatrists had identified their role in promoting health for various medical conditions and supporting the public health agenda as part of the wider multi-disciplinary team. This had included smoking and mental health because of the time podiatrists spent with patients and the rapport they developed. Leonard suggested context was important when determining which areas of identification and prevention professionals would engage in. He explained:

I think it should be everybody's job but it tends to be within the context of which you're practising (Leonard, NHS podiatry services manager and academic, interview lines 256-257)

Leonard's statement related to general matters of health and well-being as opposed to venous disease in particular. However, the role of venous disease identification and prevention was not seen as a strong domain of any one professional group, but suggested to be something that should be shared by many professionals.

5.9 Chapter Summary

In this chapter, the thematic findings have been presented through the process of framework analysis. Seven major themes emerged from the analysis: venous disease current practice, identity, time, autonomy, education, and venous disease in health care. Each theme has been described and expanded through the use of sub-themes.

The purpose of combining data from interviews, observations and a focus group interview was to triangulate data to seek confirmatory or conflicting accounts and to allow explanation to be developed. The sample of participants across different settings allowed insight into different levels of practice in terms of experience, expertise and context. The quantity and variety of data has provided a detailed picture of practice to enable in-depth consideration of the research aim and objectives. For example, the inclusion of pre-practice graduate podiatrists provided data that confirmed the observational data. Their confirmatory accounts arose from their immersion in podiatry culture as they participated in clinical placements. Likewise, the inclusion of registered nurses in the focus group interview enabled the perspectives of another profession to aid exploration of the study aim and objectives. A critical discussion and exploration of the findings is presented in Chapter Six.

Chapter 6 Discussion

This study aimed to explore the current role of podiatrists in the north of England in the early identification and prevention of venous disease. The specific research objectives were:-

- 1) To explore the role of podiatrists in the identification of lower limb venous disease
- 2) To explore podiatrists' role in the prevention of lower limb venous disease
- 3) To critically investigate drivers and limitations on podiatrists undertaking identification and prevention of lower limb venous disease.

An ethnographic approach was adopted to explore the aim and objectives from within the culture of podiatry. Ten podiatrists were observed in practice across NHS and private settings and their views were subsequently explored through semi-structured interviews. A multi-professional focus group interview and eight individual semi-structured interviews with podiatrists, podiatry academics, podiatry managers and pre-practice podiatry graduates completed the data set. Thematic analysis, by way of the framework approach, was undertaken and presented in Chapter Five.

Several key findings emerged to explain and contribute knowledge and understanding of podiatrists' early identification and prevention of lower limb venous disease. Central to the discussion in this chapter is the contrast between podiatry aspiring to be an autonomous profession whilst their practice was pervaded by routine. Financially incentivised repetition of tasks often restricted podiatrists from engaging with lower limb venous disease identification and prevention. The following chapter discusses how culture, routine use of time, and an identity crisis contribute to explaining podiatry's role in this field of lower-limb care. This discussion is structured under four main headings: professionalism, culture, identity, and time. Each will be discussed and explored in relation to the aim and objectives to allow for an understanding of how this impacts on podiatry practice and the podiatrists role in early identification and prevention of lower limb venous disease.

6.1 Professionalism

The 'professional project' of podiatry, the movement to develop a unique set of skills and to control the market for that expertise (Hotho, 2008; Larson, 1977), has included gaining independent and supplementary prescribing rights, establishing specialities in MSK and

diabetes, and the development of podiatric surgery (Borthwick, 2000a; Borthwick, Short, Nancarrow & Boyce, 2010; King, Borthwick, Nancarrow, & Grace, 2018). Podiatry has challenged medical dominance to attempt to claim jurisdiction over certain areas of practice. Specialisation has led to enhanced remuneration, fulfilling a key aim of professionalisation (Borthwick, 2000a; Borthwick, Short, Nancarrow & Boyce, 2010; Larson, 1977). Definitions of professionalism have evolved from attribute-based trait theories to broader definitions concerning the nature and control of knowledge, skills, and expertise (Abbott, 1998; Cribb & Gewirtz, 2015). According to Abbott, trait sociological definitions held that:

Professions were organized bodies of experts who applied esoteric knowledge to particular cases. They had elaborate systems of instruction and training, together with entry by examination and other formal prerequisites. They normally possessed and enforced a code of ethics or behaviour. (Abbott, 1998, p. 4)

Against such a list, podiatry in the UK has been classed as a profession both implicitly and explicitly since the inception of the professions supplementary to medicine in 1960 (Borthwick, 2000a; Dagnall, 1995; HCPC, 2013; Stressing & Borthwick, 2014). However, Abbott (1998) maintained that sociological understanding of professionalism evolved to exclude those occupations undertaking routine tasks, instead proposing a framework for professionalism based on an occupation's abstraction of knowledge. Establishing an occupation as a profession is important because it enables access to social and economic rewards, attracts new membership and protects the public by ensuring that those professing to undertake a role are appropriately educated and regulated (Larson, 1977). Trait theories enabled occupational groups to claim professional status by demonstrating key features, in contrast demonstrating abstraction of knowledge in Abbott's framework is not as straightforward (Cribb & Gewirtz, 2015). Themes emerging in this study suggest this has been problematic for podiatry and that failure of the process potentially limit practice in lower limb venous disease identification and prevention.

In podiatry, the diagnosis and management of lower limb health problems by the application of abstract or theoretical knowledge support a claim for professional status (HCPC, 2013). Professional status includes delegating practical skills to subordinates, an ongoing development in podiatry where the emergence of assistant level staff allows podiatrists to move away from routine care and into specialised fields (Abott, 1998; Stressing & Borthwick, 2014). However, evidence in this study suggests podiatrists have retained an attachment to core practical skills that possibly could have been delegated to unregistered staff. Maintaining these practical and often fundamental skills as a major part of their scope

of practice arguably may have been detrimental to widening that scope. Likewise, it may have inhibited the professional project to control lower limb care beyond simply the physical management of foot pathology. Discussion in the focus group interview suggested the professional project remains incomplete, largely due to the persistence of general podiatry practice relying on core practical skills. Observation and interview data revealed practice as routine, task-based and influenced by external sources of control. It was characterised by a lack of professionalisation, reduced autonomy and restriction of practice. The implication against research objective three was that these features limited podiatry involvement in lower limb venous disease.

The change in nomenclature from chiropody to podiatry has been integral to the professional project. The intention was to protect status for members of the profession who felt chiropody was lower status and considered a derogatory term for their role (Vernon, Borthwick, Farndon, & Walker, 2004). 'Podiatry' was introduced to indicate a broader scope of practice than chiropody (Farndon et al 2002a; 2002b), and to claim the associated professional status allied to that increased scope. However, whilst indicating a strong focus on physical treatment, data also suggested that practice often did not include health promotion elements. Consequently, it frequently did not extend beyond chiropody to meet the key components of core podiatry as outlined by Farndon et al. (2009). The cultural ideals portrayed in participant accounts in this study were of professional podiatry. However, the reality observed, described by participants, and discussed in the focus group interview, was of routine chiropody. Similarly, UK and Australian podiatrists have perceived a low professional status because patients expected traditional chiropody rather than podiatry, suggesting the gap between ideal and real practice was a source of stress (Mandy & Tinley, 2004). Likewise, a two-part survey of members of the society of chiropodists and podiatrists in the UK demonstrated contradiction between what podiatrists stated they did in their practice and what their desires and perceptions were for the image and role of podiatry (Farndon et al., 2002a, 2002b). Data in this study supported that low professional status reminiscent of chiropody, meant podiatrists lacked the autonomy to incorporate lower limb venous disease identification and prevention. The variation of their practice was limited by commissioning, prioritisation of task-based routine activities, and their identities as foot-focussed clinicians. Cause and effect relationships within this are difficult to untangle, in that low professional status may be either the result or cause of podiatry not occupying a surveillance role of lower limb health. Nevertheless, this study suggests little has changed in this regard and that professional status remains a limitation on practice, consistent with previous research but with the specific implications for lower limb venous disease (Farndon et al., 2002a, 2002b; Mandy & Tinley, 2004; Vernon et al., 2004).

Participants identified the comparative professional status of podiatry and dentistry; they highlighted differences between the two occupations, stating patients pay to visit the dentist from an early age to have their teeth checked and to receive advice about self-care. Conversely, participants believed patients attended a podiatry clinic for treatment of a problem in order to relieve pain rather than for a check-up. Larson discussed this issue broadly in terms of monopolising expertise as a reason for professionalisation: "The focus on the constitution of professional markets leads to comparing different professions in terms of the "marketability" of their specific cognitive resources" (Larson, 1977, p. xvii). Dentistry has established its marketability as a profession to be consulted for checking the teeth and receiving advice, whereas podiatry has not achieved the same for the feet and lower limbs (Borthwick, 2000a). The lack of priority offered to prevention and early identification roles has contributed to the absence of formal lower limb venous disease identification and prevention in practice. Mandy (2008) suggested podiatry was seen as low professional status because of its connection to the care of elderly people, but argued that the increasing ageing population presented an opportunity to establish professional control of care for that sector. The association of increasing age with progression of lower limb venous disease and podiatry's contact with patients over 62 is a clear argument to be actively more involved in its early identification and prevention (Davies, 2019; Farndon, 2016; Lee et al., 2015). Indeed, podiatrists have a surveillance role over the foot in diabetes and growing involvement in peripheral arterial disease and rheumatology (Tehan & Chuter, 2016; Woodburn, Hennessy, Steultjens, McInnes & Turner, 2010). In this sense podiatry is applying its esoteric knowledge of the foot to these cases and, in line with Abbott (1988), demonstrating professional traits; however, it is not unique to them or protected. Nurses, GPs, dermatologists, diabetologists and health care assistants also have screening and assessment contact with the feet of people with diabetes (NICE, 2015). Podiatrists have not taken the opportunity to control professional surveillance of the lower limb health of the ageing nation, potentially because of their continuing focus on physical treatment and resulting low professional status (Abbott, 1998; Stressing & Borthwick, 2014). The comparison with dentistry is important because of dentistry's surveillance role and higher professional status compared with podiatry's treatment role and perceived lower professional status (Mandy, 2008). The lower status was suggested by participants to be a reason for less emphasis on surveillance compared to physical treatment. Findings from this study also suggest low quality and limited autonomy restricted podiatry involvement in lower limb venous disease.

6.1.1 Quality

Research objective three was to critically investigate drivers and limitations on podiatrists undertaking identification and prevention of lower limb venous disease. Lack of professionalism, demonstrated by lack of quality, presented as a limitation to undertaking both roles. There has been a dearth of literature on quality assurance in podiatry since the introduction of degree status in 1992, yet to ignore quality is to ignore a key conceptualisation of what it is to be a professional and for an occupation to be a profession (Burford, Morrow, Rothwell, Carter, & Illing, 2014; Cribb & Gewirtz, 2015; Renwick, 1992). In this study, there was a contrast between high quality physical treatment and low quality identification and prevention practices, characterised by poor quality health promotion and preventative advice, and not exposing the lower limb for full inspection. Podiatrists' priority was the delivery of high quality physical treatment, maintaining what Cribb and Gewirtz (2015) described as 'brand professional' because patients gained relief from painful symptoms indicating a good quality service. Positive feedback from patients perpetuated the focus on high-quality physical care with the implication that other markers of care quality were sometimes omitted. Indeed, the HCPC (2013) dictate that identification of systemic disorders in the lower limb is an implicit part of professional podiatry practice and the contrast between prioritising physical treatment and not exposing the lower limb for identification purposes caused concern to the focus group. The HCPC (2013) require chiropodists/podiatrists to act in the best interests of patients therefore omitting to examine the lower limb could constitute a failure in quality because podiatrists could not fully ascertain what the needs of patients were. It was a demonstration of poor-quality surveillance of the lower limb health of their patients. The contrast in quality between treatment and prevention was one indication that lower limb venous disease was not a part of current podiatry practice and contributed to answering research objective one. Moreover, taking quality as a mark of professionalism, this evidence of low-quality and low-professionalism is a concerning limitation on podiatrists undertaking any role in lower limb venous disease. The implication is that a significant movement is required to raise awareness of this role amongst practitioners.

6.1.2 Autonomy

Podiatrists' practice was in accordance with specific clinical guidelines and external drivers yet they lacked awareness of lower limb venous disease guidance. This lack of awareness was a significant limitation on inclusion of lower limb venous disease identification and prevention in practice. Accounts suggested podiatrists did not always act autonomously to control their practice, instead seeking direction from guidelines or having such guidance imposed on them. Within the applied guidelines podiatrists made independent decisions,

however, there was consistent data across the sample that lower limb venous disease identification and prevention did not occur in a formalised manner because there was no guidance in place to follow. Guidelines and protocols impose a collection of tasks to be undertaken for patients in specific situations, thereby removing the case-by-case application of knowledge lauded as a sign of professionalism (Abbott, 1988). Critics have termed this 'cookbook medicine' arguing that it limits healthcare to addressing population averages rather than accounting for clinical expertise and individual patient circumstances (Knaapen, 2014; Timmermans, 2005). The reliance on guidelines evident in this study to dictate clinical activities detracted from the professional status of podiatrists and their ability to incorporate identification and prevention practices (Cribb & Gewirts, 2015; Mandy, 2008; Abbott, 1988). To expand, working outside guidelines was viewed by participants as poor practice. This was a view with significant implication suggesting that accountability to guidelines meant activity undertaken without guidance was rare. This study was focussed on lower limb venous disease and therefore I am cautious not to claim transferability to other aspects of podiatry practice, however it emerged through the data as a considerable limitation to the flexibility of practice. Specifically, participants showed no awareness of NICE guidance regarding varicose veins CG168 (NICE, 2013), these were not followed and podiatrists did not demonstrate accountability towards them. This was one aspect of the culture of podiatry restricting their practice but was also a reflection of professional status as subservient to specific guidelines, and inflexible to inclusion of practice outside guidelines commissioned or directed to their practice. Williams et al's. (2013) exploration of podiatrists' use of guidance for foot care in rheumatoid arthritis suggested clinicians in non-specialist roles did not use the guidelines. Qualitative questionnaire responses reported podiatrists' desires to retain autonomy as reasons for low engagement. And quantitative elements revealed contradictory data that the same clinicians were unaware that the guidelines existed. It appeared their participants were rejecting guidance they had no knowledge of. My findings mirrored this, with lack of awareness of venous disease guidelines but the rejection of guidelines was not voiced in explicit terms. There was evidence that NHS participants in this study felt guidelines were an imposition, but this was also balanced with views that guidelines enhanced service quality. Williams et al. (2013) linked unawareness and rejection of guidelines to isolation in practice and avoidance of hierarchies of medical control, in line with Nancarrow and Borthwick's (2005) discussion. Isolation in private practice may be a plausible explanation for lack of awareness of venous disease guidelines. Later in this chapter I discuss the implications of ontological security and transmission of cultural practice as explanations for lack of awareness of venous disease as a podiatry role (Bourdieu, 1976; Giddens, 1984). An additional explanation was that podiatrists did not independently seek lower limb venous disease guidance. Based on

the findings from this study it is perhaps evident that they did not have the autonomous desire to move their practice beyond core podiatry to encompass prevention of venous disease progression. In contrast, guidelines for established aspects of practice, notably diabetes, were observed and discussed as commonplace.

Evidence of lack of autonomy as a limitation on lower limb venous disease practice emerged with suggestions of subservience to GPs and commissioning practices. Borthwick (2000a) suggested that podiatry would never have the opportunity to monopolise the field of lower limb care and have flexibility because of state control under the HCPC, rather than the collegiate control shown in the model of medicine or dentistry. In a subsequent paper, Borthwick (2005) identified the point at which podiatry lost this opportunity when joining the professions supplementary to medicine in 1960, and integrating into the NHS to become subordinate to medicine (Borthwick, 2005). Restrictive referral pathways supported this notion with participants reporting the GP as the gatekeeper to other services, such as nurses and compression hosiery referral. This may be a reflection of specific NHS policies rather than professional subservience. However, referral via a third party or mediator invites that mediator to alter the onward referral according to their opinion. This indicates lower professional status and lack of control on the part of the initial referrer (Mandy, 2008).

Commissioning was highlighted as a key driver for clinical activities throughout the data and the notion that services in NHS and private practice are dictated by those who pay for them revealed evidence of a lack of autonomy in both settings. Observational data showed the impact commissioning had on clinical activity, for example the requirement for podiatrists to ask and record the mental health of patients. This is significant because commissioned practice occupied a proportion of clinical time, meaning that other uses of that time could not take place and podiatrists were not fully in control of the decision as to how to use their time. It was a limitation on podiatrists' application of their abstract knowledge, of their autonomy to act professionally and flexibly for each patient in each given situation (Abbott, 1998). This contributed to the sense that podiatrists were performing dictated tasks rather than undertaking a professional role. Furthermore, podiatry was commissioned to fulfil legislative frameworks and political drivers for preventative care and public health (NHS England, 2014; NHS England, 2017; Public Health England, 2016); however, prevention of lower limb venous disease was not a named commissioned target for NHS podiatry therefore no time was protected for that purpose. Chadwick and Ahmad (2017) highlight the position of podiatry as ideal for early recognition of declining health, preventative practice and signposting to appropriate services. Commissioners evidently recognised this

because NHS podiatrists were commissioned to identify and prevent many general health problems, yet it was apparent that podiatrists had little input into determining what these health problems would be. This lack of autonomy in determining practice is potentially problematic for future service development to incorporate lower limb venous disease. Without impetus arising externally, it suggests significant motivation from within podiatry would be required to demonstrate the need for a change. The cultural status identified in this study and the potential requirements for such shifts in motivation are discussed later in this chapter.

Private practitioners work independently in their own businesses and are 'commissioned' by their patients to provide podiatric care. Data suggested their time is not controlled in the same manner as NHS practice but that their time is purchased by patients for the fulfilment of professional services. Private practitioners are free to dictate their own use of time to fulfil treatment or health promotion roles as necessary. However, as with NHS podiatrists there was little to no observational evidence of them undertaking an identification and prevention role for lower limb venous disease. In the absence of external commissioning, it was patients who purchased services and drove what took place during appointments within the bounds of podiatrists' scope of practice (HCPC, 2013). Consequently, podiatrists demonstrated that their autonomy was limited by their prioritisation of responding to patients' needs and addressing other factors as often secondary concerns.

The impact of commissioning and subservience indicated podiatry was an occupational group not exercising full autonomy and could therefore be classed as a 'mediated' profession (Cribb & Gewirtz, 2015). The effect of guidelines, commissioning and adherence to referral protocols on the autonomy of podiatry is in keeping with Evetts' (2011) conceptualisation of 'new professionalism' which is sub-categorised into 'organisational professionalism' and 'professionalism as partnership working'. Applied to this study, 'organisational professionalism' suggests that the imposition of guidelines and commissioned targets restricted podiatrists' time and opportunity to exercise professional autonomy. They were unable to act on case-by-case factors as they arose because of the organisational or 'top-down' control. Cribb and Gewirtz (2015) elaborated on the concept of 'professionalism as partnership working', describing the shift from professionals occupying a position of power and dominance over their 'clients', to one where relationships are built on mutual decision making. In essence, the requirement to work 'with' rather than 'on' patients in their best interests may potentially cause tension with meeting organisational necessities if the two sets of requirements do not match. Participants in private practice described the desire to meet the requirements of patients and 'professionalism as

partnership working' was evident as a form of influence over professional autonomy. Without commissioned targets and promoted guidelines in the NHS and direct requests from patients in private practice, lower limb venous disease identification and prevention would require podiatrists to apply case by case autonomous thinking, a position that data suggested their 'new professional' status did not seem to allow.

The professional project has resulted in a 'new professional' status that has seen podiatry mediated, controlled and squeezed into mediocrity by a lack of autonomy. Podiatry has been forced from top and bottom into task-based work, with strong associations to traditional chiropody. Specialised branches have developed and scope of practice across the general profession increases when new practices are fed down in protocol or guideline form (Bacon & Borthwick, 2013). However, the current professional status of podiatry has not allowed inclusion of early identification and prevention of lower limb venous disease to develop.

6.2 Culture

Culture has multiple definitions and models for understanding. Durkheim (1938) suggested behaviour within groups was externally driven and to be part of a culture was to act according to structural rules and inherited behaviours; cultural structure defines and dictates behaviour. However, structures such as this have been challenged, Giddens (1984), Linton (1947) and Bourdieu (1976) argued individuals have a role in constructing the rules rather than being in receipt of them. The interplay between cultural structure and individual action contributes to overall cultural behaviour and any cross-over is discussed here, along with distinctive features of cultural behaviour relating to the role of podiatrists in the early identification and prevention of lower limb venous disease.

6.2.1 Ideal vs. Real Culture

Cultures have been described to have ideal and real elements (Linton, 1947; Fried, 1953). Ideal culture consists of moral evaluations, by its members, of what behaviour ought to be in certain situations. Real culture conversely is the actual behaviour that occurs. Linton (1947) relates the differences between ideal patterns of behaviour, the real behaviour and the constructs researchers form for the behaviours they observe. Recognising the differences between behaviours and seeking to explain them is critical in realising research findings. As Linton states:

It is exceedingly desirable, therefore, for those who attempt to describe cultures to distinguish clearly between the culture constructs which they themselves have developed on the basis of observation and the ideal culture patterns which have been transmitted to them verbally by members of the society, no matter how honestly or with what good intentions. (Linton, 1947, p. 35)

Linton's statement has significance for understanding the findings of this study. Firstly, it is important to acknowledge that the real cultural behaviour, presented in the analysis chapter, was described and interpreted following non-participant observations and accounts of participants. It was the reality as constructed from those views. The trustworthy construct developed through multiple perspectives and reflexive, transparent, analysis demonstrated that observed behaviour patterns contradicted the ideal behaviour stated by participants during interviews. Participants articulated ideal behaviour regarding lower limb venous disease in an honest manner; they were HCPC registered professionals abiding by a regulatory code of conduct and ethics, and therefore at face value to be regarded as honest. In addition, participants frequently referred to their duty of care as part of the ideal culture with their intention to always provide the best care for their patients, inclusive of signposting. Findings demonstrated several contradictions and dichotomies between stated actions for venous identification and prevention, and observed practice. Contradictions were confirmed from multiple perspectives demonstrating that podiatrists have an undefined and minimal role in identification and prevention of lower limb venous disease. Participants articulated their ideal actions but the reality observed did not corroborate them.

Linton suggested contrasts between ideal and real culture feature frequently in cultural studies for a number of reasons. Firstly, "failure of the ideal pattern to keep abreast of a changing culture..." (Linton, 1947, p. 34). Commissioning, prioritisation of clinical activity, and professional or role identity, emerged in this study as drivers for change in the culture of podiatry. These drivers and changes, often focussed on the foot, served to detract from podiatrists taking a lead in the prevention of lower limb venous disease as part of real cultural behaviour. Secondly, Linton suggested ideal patterns are "based on memories of things as they were rather than on observations of things as they are." (Linton, 1947, p.34). It is possible that memory of practice was an influence over ideal culture statements because many participants had in excess of ten years-experience, and potentially they reflected on a past role in lower limb venous disease. However, because stated ideals were consistent across all experience and age ranges it seemed unlikely that practice had changed significantly. Indeed, such changes to memorable practice would contradict the growing literature of a shift from foot to lower-limb focussed practice (Farndon et al., 2018;

Tehan & Chuter, 2016; Woodburn, Hennessy, Steultjens, McInnes & Turner, 2010).

Therefore, if as Linton suggests, the ideal is a memory of behaviour since replaced, then greater literature and evidence base might be expected in line with similar areas of practice. For example: diabetic foot disease, rheumatoid arthritis, and peripheral arterial disease, all share more substantial podiatry focussed literature. Finally, Linton proposed that "the ideal pattern probably never has been in agreement with the mode of the real culture pattern." (Linton, 1947, p. 34). Linton terms these ideals a desideratum, something that is needed or wanted, and participants described the ideal of the culture in such terms that suggested lower limb venous disease identification and prevention was a reality in practice.

Participant's desire to act holistically and fulfil their duty of care to patients manifested in statements of ideal behaviour, however this was contradicted across interview data and during observations suggesting this had never been an element of real cultural behaviour.

The contrast between ideal and real culture encapsulates the finding that podiatrists have an undefined and minimal role in identification and prevention of lower limb venous disease. It is significant because it partly answers research objectives one and two that there is not a significant role in current practice, but importantly identified emergent concepts to understand factors that limited such a role. The gap between what podiatrists said they would do and what they were observed to do emerged as a significant area for exploration.

6.2.2 Propositional vs. Tacit Knowledge

In stating their ideal practice, participants demonstrated propositional knowledge or 'knowledge that' (Eraut, 1994); participants could describe the theory and put names to what they would do. Eraut (1994) argued that propositional knowledge is not the sole indicator of professional competence and expertise. Indeed, lower limb venous disease did not apparently constitute part of their practical, tacit knowledge, or 'knowing how', as evidenced by the lack of observed action corresponding to the propositional statements. The evident difference in venous knowledge compared to arterial knowledge, which appeared both propositional and tacit, in these terms reflected the influence of culture on venous disease practice.

Tacit knowledge, by its nature, is unspoken and unknown in explicit form, it is the type of knowledge that cannot be expressed (Eraut, 1994; Polanyi, 1967). Therefore, it is difficult to recognise within a professional situation, yet attempts at such explication can aid in understanding the nature of practice (Eraut, 2000). Participants stated their explicit knowledge in interviews but the aim and objectives were also explored through observation, with the intention of illuminating real practice and implicit knowledge in line with

Hammersley and Atkinson (2007). To expand, Eraut suggested knowledge becomes tacit when explicit knowledge is employed in a repetitive way to become routinised. He stated: "Action is describe(d) as routinised when actors no longer need to think about what they are doing because they have done it so many times before." (Eraut, 2000, p. 123). Significant routinised behaviour was identified in podiatry practice and will be explored in greater detail later in this chapter, but it was clear from my evidence that lower limb venous disease identification and prevention was not part of the routine. As such, venous disease does not fit with Eraut's model and therefore does not constitute part of the tacit knowledge of podiatry. The implication here is that early identification and prevention of lower limb venous disease was not embedded as a tacit part of practice. In relation to research objectives one and two this indicated that podiatrists did not have a significant role in either identification or prevention. Participants stated the proposition that identifying lower limb venous disease, providing advice and referring patients for compression could decelerate disease progression. Propositional knowledge such as this arises from educational courses, therefore the contradiction between such propositions and the observed reality indicated a theory-practice gap (Eraut, 1994; 2000). That they did not enact the propositions was also supplementary evidence of ideal vs real culture difference and an indication that education held explanatory significance.

Theory-practice gaps have been identified in nursing but at the time of writing there was little literature specific to podiatry available. However, the findings of this study are in line with the seminal research of Bendall (1976) into nursing practice. Bendall described the same dichotomy identified in this study; her nurse participants stated their ideal practice from theoretical teaching in writing, yet were later observed to practice in a contrasting manner. Despite efforts to resolve this through policy and interventions in education, theory-practice gaps persist in nursing practice (Maben, Latter, & Macleod Clark, 2006; Pursell, 2019). The situation is similar across other health professions and fields of professional work with Eraut titling it the "often mourned but rarely narrowed theory/practice gap." (Eraut, 2000, p.123). This study focussed on lower limb venous disease and the theory-practice gap emerged to illuminate research objective three, by identifying limitations to podiatrists undertaking a role in early identification and prevention. Future exploration into reducing theory-practice gaps could lead to developing podiatry's role in venous disease. When contrasted to pedagogical nursing literature the lack of podiatry research suggests apathy, or a profession unaware of the gap between theory and practice. Illustrative of the contrast is the language used by nurses, Maben, Latter and Macleod Clark (2006) stated that newly-qualified nurses' attempts to practice what they have learned in university are "*Thwarted*" or "*Sabotaged*". There is an evaluation inherent

in this choice of wording demonstrating nurses' dissatisfaction with the gap between training and practice. However, a drive of similar scale and tone is not evident in podiatry literature. To reduce the implications of the theory-practice gap requires exploration and understanding of it. One implication of the theory-practice gap in podiatry is the absence of a role in lower limb venous disease, a condition with significant detriment to patients and health services and one likely to be encountered by podiatrists. Therefore, podiatry's absence, despite theoretical teaching, from the early identification and prevention of lower limb venous disease is a strong indicator for pursuing a deeper understanding of theory-practice gaps.

Efforts to explore theory-practice gaps in podiatry are rare. Abey, Lea, Callaghan, Shaw and Cotton (2015) explored enhancing NHS clinical placement education through action research, theorising that clinical skills and acquisition of practice knowledge would be improved with better engagement of practitioners supervising students. They found undergraduate education had been sufficient to provide propositional knowledge but the translation into tacit knowledge in practical application had not occurred. More research is needed to understand this translational gap across podiatry and lower limb venous disease in particular. The ability of participants in this study to state propositional knowledge about what they would ideally do, demonstrated that podiatry curricula meet the needs for lower limb venous disease identification and prevention. For example, podiatrists' stated ideal practice of preventative advice that was in line with venous leg ulcer primary prevention guidelines, but without specific reference to them (Wound Management Node Group, 2012; Robson et al, 2008). However, the contrast in observed practice and the fact that such propositional statements arose once the research topic had been revealed, indicated a lack of application in practice. The Hawthorne effect of providing answers to demonstrate knowledge they thought I wanted was evidence of such a gap. Therefore, attainment of a podiatry degree equipped participants with the knowledge to identify and prevent lower limb venous disease but, as discussed, they lacked the autonomy to apply such knowledge in a case by case manner. This contributed to preventing lower limb venous disease becoming tacit clinical knowledge. In contrast trained physical treatment skills and arterial assessments appeared to be more consistently applied suggesting the gap was not solely concerned with independent thought when applying theoretical knowledge. This study suggests a specific gap exists between theory and practice regarding lower limb venous disease and has identified additional factors of identity, time and cultural limitations which are discussed below. These factors contribute to the development of that gap and the consequent lack of podiatry role in the field.

6.2.3 The culture of prevention

An objective of this thesis was to explore podiatrists' role in prevention of venous disease, however data revealed a lack of clarity for preventative practice in podiatry in general. The UK Government has placed more emphasis on prevention, public health and health promotion practices across the health care sector, and for AHPs in particular (NHS England, 2014; NHS England, 2017;). The NHS long-term plan (DH, 2019) included prevention as a key priority for improvement, with specific targeting of factors such as smoking, obesity, diabetes type 2, and atrial fibrillation. Despite being omitted by name, the plan's ethos of prevention and reducing health inequalities could be extrapolated to include lower limb venous disease. The 2018 Department of Health and Social Care statement 'prevention is better than cure' demonstrated a growing philosophy and commitment to prevent ill health rather than manage it (DHSC, 2018). Past governmental policy has included similar statements of intent but without these translating into tangible shifts in practical applications. Discrepancy in spending for example, between cure and rehabilitation, which receive 60% of healthcare budget, and prevention, which receives 5%, illustrate why the NHS has been termed an 'ill' health service by some critics (DHSC, 2018; Sherwin & Wright, 2019). Data in this study revealed treatment of pathology as a priority for podiatrists, a perception of lower limb venous disease as a wound to be treated rather than identified, monitored and prevented, and a dichotomous identity concerning preventative practice in general. Podiatrists undertake some preventative care but at present this does not appear to include lower limb venous disease. Instead, conditions such as diabetes and PAD take precedence alongside the broader role in promoting wellbeing and mobility by maintaining foot health (COP, 2015; Mandy, 2008, Needle et al, 2011). Broader cultural aspects of podiatry and wider health services had a complex influence on preventative practice in general and specifically for venous disease, these will be discussed in turn here.

6.2.3.1 Cultural limitations in prevention of venous disease

There is a lack of empirical research demonstrating that lower limb venous disease progression can be prevented, with findings often inconclusive and dogged by the difficulties inherent in investigating preventative care (Mervis, Kirsner, & Lev-Tov, 2018; Neglen, 2010). Despite this, the non-empirical, theoretical literature insists that primary prevention of VLU and lower limb venous disease should be possible and is an essential priority for future care (Anderson, 2012; Atkin, 2019a, 2019b, 2019c; Capeheart, 1996; Henke, 2010; Iwuji, 2008; Labropoulos, 2019; Porter, 2018; Timmons & Bianchi, 2008; Todd, 2012; Yam, Winnoker and Khilnani, 2016). Participants demonstrated they possessed understanding and in-depth knowledge of public health messages relating to smoking, weight, diet, exercise, mental health and alcohol. Similarly, they prioritised rheumatoid arthritis,

diabetes and peripheral arterial disease for specific condition advice. These priorities were explicitly stated during interviews and reflected research exploring podiatry's health promotion role (Crisford, Winzenberg, Venn, & Cleland, 2013; Graham, Hammond, & Williams, 2012). In a systematic review of allied health professional involvement in health promotion, Needle et al. (2011) included only eight papers relating to podiatry. Significantly, only three topics were captured; diabetes, podiatric self-care, and falls prevention, clearly demonstrating a lack of research attention to podiatry in screening and preventing the complications of lower limb venous disease. Lower limb venous disease does not feature within research into podiatric health promotion and this study identified it as a low priority for clinical practice, unlike the continued emphasis on prevention of diabetic foot ulcers and complications of PAD and rheumatoid arthritis (COP, 2015). This emerged as a significant contrast and inequality in practice that was potentially driven by similar imbalance reaching farther across health care than just podiatry.

Inequality between diabetes and other causes of lower limb wounds and amputations has been identified by the All Party Parliamentary Group (APPG) for vascular and venous disease (2019a). Patients with diabetes are given priority, across healthcare in the UK, for amputation prevention despite data that diabetes is not the major cause of amputation. Ahmad, Udderley, Ionac, and Bowling (2019) highlighted the greater number of amputations caused by problems other than diabetes and called for re-consideration of access to specialist foot protection services. Venous leg ulcers were not cited as a major cause of amputation in a study of lower limb amputation prevalence in England between 2003 and 2013. Instead, PAD was the most significant cause of non-diabetes related amputation (Ahmad, Thomas, Gill, & Torella 2016). However, using amputation to indicate cost and importance belies the significance of VLU by disregarding its detriment to patients and drain on health services (Carradice et al., 2011; Kahn, et al., 2004). Indeed, such detriment could also warrant the enhancement in care and access to vascular surgery suggested by Ahmad et al (2019) and the APPG, yet lower limb venous disease was not included in those suggestions. Further, Guest et al. (2015) identified greater prevalence and cost of leg ulceration compared to diabetic foot ulceration but had to estimate the proportion of venous leg ulcers due to incomplete recording of diagnoses. Subsequently Guest, Fuller, and Vowden (2018) used a retrospective cohort analysis of 505 patients with a diagnosis of venous leg ulceration and estimated the mean cost of wound care at £7600. Despite this, and partly due to baseline amputation data, the emphasis in podiatry prevention remains on diabetes and PAD. Indeed, the APPG document emphasises the need for improvement in venous leg ulcer treatment rather than attention to primary prevention. Prevention is discussed but it is integrated with prevention of arterial and diabetic foot

ulcers yet the aetiologies of these wounds are not the same and may not be prevented by the same public health messages.

Enhanced and 'unequal' preventative services for patients with diabetes arguably began with the impetus of the St. Vincent declaration for a 50% reduction in diabetes related amputations (Keen, 2000). The St. Vincent declaration incited a rich culture of research to develop as investigation of risk factors, treatments, and care costs became priorities ultimately feeding production of evidence-based guidelines to standardise services and improve care (Kong & Gregory, 2016; McCabe, Stevenson, & Dolan, 1998; NICE, 2004; NICE, 2015). In podiatry and across health care this has resulted in a focus on prevention of diabetic foot ulcers. This is considered important enough to warrant payment for screening of patients under the quality and outcomes framework, a National Service Framework, and action by charities such as Diabetes UK's 'Putting Feet First' promotion. The efficacy of these changes are debatable given the significant numbers and cost of diabetic foot ulcers (Guest et al., 2015). Indeed, the primary concern appears to be the prevention of ulceration at the point of urgent need. NICE (2015) recommend resources such as time and expert clinical attention are directed to people at high risk of ulceration. People at low risk are not recommended the same resources and so their progression towards needing urgent prevention is not deemed urgent. In this sense the culture of prevention of DFU may be little more than lip service to true preventative healthcare but the contrast between DFU and VLU primary prevention is considerable. Whether effective or otherwise, there is a discernible and inter-professional culture of prevention for DFU. The same cannot be said for primary prevention of VLU. As discussed in the introduction and literature review chapters, primary prevention of venous leg ulcers is a growing priority, yet still does not have the same pervasive focus on prevention as for DFU or pressure ulcers. Pressure ulcers for example, receive greater attention and regular review of risk assessment approaches and preventative strategies (Moore & Patton, 2019; Ousey et al., 2018). The House of Lords debate on wound care highlighted wound prevention in general as a major target for improvement in healthcare for the UK (UK Parliament, 2017). Additionally, the National Wound Care Strategy Programme views wound prevention not as a standalone issue, but integrated in ongoing care of conditions that may cause wounding (National Wound Care Strategy Programme, 2019). Lower limb wounds are an important aspect of the strategy and primary prevention of venous leg ulcers therefore gains more impetus. Previously, Wounds UK (2013) included reduction in the incidence of primary venous leg ulcers as a key aim for comprehensive service provision in the UK. Similarly, in the USA a reduction of 50% in the incidence of primary venous leg ulcers was identified as a priority for the period between 2010 and 2020 (Henke, 2010). The APPG (2019a) has also targeted a 30%

reduction in the prevalence of chronic wounds of any type. However, this recent history of increased primary prevention drive has not translated to the same multi-professional prevention agenda seen in diabetic foot care and VLU appears to be in the same place as DFU 20 years ago. The same cultural impact that diabetes had and the same specialisation within podiatry has not been seen. Podiatry has not embraced any responsibility or accountability to prevent venous leg ulcers in the same way as DFU, meaning that it is absent from general podiatry practice.

The APPG strategy aims to redress the imbalance between diabetes and other causes of lower limb wounds and amputations. As identified by Guest et al. (2017) leg ulceration constitutes a bigger cost to health services than diabetic foot ulceration. However, the focus concerning lower limb venous disease in the publication is on treatment effectiveness rather than prevention (APPG, 2019a). Use of the Manchester Amputation Reduction Scheme (MARS) as a case study does suggest an overarching drive to enhance public health provision and in turn reduce cardiovascular risk, yet this is arterial focussed in the main and lacked specific detail regarding venous risk. Venous prevention may be effected by the MARS approach but it does not enhance awareness of lower limb venous disease as a target for prevention specifically. Focus on primary prevention is growing rather than established, reflecting that primary prevention has long been a subsidiary issue in the venous disease literature, guidance documents, and legislation (Doliner et al., 2018). Evidence from this study suggests more awareness is required, however the emergence of Legs Matter, the APPG on vascular and venous disease and the Manchester Amputation Reduction Scheme (MARS) all suggest progress in a positive direction to a culture of lower limb wound prevention across all health care. As lower limb specialists, podiatrists are implicated and involved in creating that culture but this has not happened yet in terms of lower limb venous disease across practice. On the evidence of this study, awareness campaigns, professional development training and policy changes would be required to instigate a shift of podiatry's focus away from solely attending to foot pathology to truly embracing pathologies of the lower limb.

The gap and opportunity for greater podiatric focus is evident in the NHS Right Care document, 'Betty's story', which describes leg ulcer care for a fictitious case study (NHS RightCare, 2017). This is significant evidence when considering the lack of time committed to lower limb venous disease within podiatry, and the lack of commissioning for primary prevention across health care services. Betty's story details one patient's journey through the health care system from a health check at age 70 proceeding to venous leg ulceration following a graze to the leg. The document presents two alternative pathways, the sub-

optimal and the optimal. In the sub-optimal pathway, a Health Care Assistant (HCA) conducts Betty's health check but misses the opportunity to refer Betty to the practice nurse for consideration of preventative compression, whilst also omitting to give primary prevention advice about exercise and obesity. In the optimal alternative the above actions are undertaken and Betty receives preventative compression therapy and advice. However, this is not depicted as successful in preventing or delaying the leg ulcer developing and only constitutes a brief section of the document. The majority is devoted to optimal wound care which emphasises the imbalance between treatment and prevention. What is missing from this case study is discussion of the preceding 70 years of Betty's life. A patient of Betty's age will have had contact with health care professionals before this age that could have identified her obesity as a risk factor, and the heavy feeling in her leg as a symptom of lower limb venous disease (Berard et al., 2002; Meulendijks et al., 2019; Robertson et al., 2009). The optimal care route fails to include the possibilities of earlier identification and prevention or to mention other professions, because it implies the first opportunity for prevention is her health check at age 70. Documents such as this can influence commissioning decisions and therefore without the specific naming of podiatry services it is unlikely that podiatry's time and expertise would be demanded for this purpose. Perhaps this is why podiatrist's time is not commissioned or prioritised to be used for venous identification and prevention. Venous disease prevention is a growing area but not one that has entered the podiatry culture sufficiently for the profession to embrace it in the same way as it has for diabetes.

6.2.3.2 Cultural limitations on lower limb venous disease prevention in podiatry

Preventative practice is complex and influenced by multiple cultural factors. Limited evidence base was one factor revealed by the literature review and findings of this study. Research into prevention relies on establishing disease causation and proving efficacy of preventing the cause becoming the disease (Polit & Beck, 2017). Establishing causation helps clinicians to identify patients most at risk of lower limb venous disease progression and to target preventative activity (Atkin, 2019a; Yam, Winokur & Khilnani, 2016). However, causation data represent populations rather than individuals and so patient preference and values are not considered. By reducing the prediction of risk to a set of rules clinicians are not considering the values of patients, instead viewing them according to statistics (Gervas, Starfield & Heath, 2008; Fugelli, 2006). This would be against the ethos of health professions and their holistic approach and therefore may be limited in practice (HCPC, 2013). Evidence of efficacy in preventing lower limb venous disease is limited in

quality and quantity with the field of enquiry stifled by methodological difficulties in researching prevention (Neglen, 2010; Flour, 2012). This study has revealed evidence that the interplay between research and practice impacts podiatry; podiatrists follow predictive rules to identify risk and prevent diabetic foot ulcers according to an evidence base and as part of their tacit practice, but do not appear to do so for lower limb venous disease where the evidence is limited. Exposure to venous related literature is discussed in the 'identity' section but from a wider cultural perspective on prevention, the evidence gap is significant, similarly the philosophy of preventative care is fraught with debate. The contrast between participants' high attention to diabetes and lower attention to venous disease illuminated all three research objectives as evidence both of an absence of role in lower limb venous disease and a reason for that absence. Emergent themes suggested cultural patterns of behaviour in which participants struggled to enact preventative care in general but specifically for lower limb venous disease.

Prevention is complicated by it inherently being targeted at people who are well but identified as being at risk of developing ill health (Heath, 2007), meaning that a health care professional must be able to identify potential risks and convince people in their care that treatment could prevent onset or deterioration of an otherwise asymptomatic state. For example, Gervas, Starfield, and Heath (2008) argue assessments and decisions guiding prevention carry greater importance than those for treatment of conditions because of the risk of causing harm to an otherwise disease-free individual. It emerged through this study that a tension existed between the podiatry role to treat foot pathology in response to patients' requirements, and the fulfilment of public health and health promotion duties of being a healthcare professional. For podiatrists, this manifested in compression hosiery proving too challenging to incorporate into routine practice, meaning a valid therapy was omitted from podiatrists' preventative actions. Data in this study suggested this omission could be explained by an imbalance in arterial and venous assessment skills. Prevention of lower limb venous disease can potentially cause harm if patients are not assessed appropriately during the planning stage (Atkin, 2019b). To expand, compression therapy is recommended as a treatment used with caution because of the risk of promoting arterial disease, therefore a podiatrist would need to undertake thorough arterial assessment prior to commencement. Data in this study suggested podiatrists would have confidence in performing such an assessment because of their prioritisation of arterial disease. Indeed, a UK wide survey by Normahani et al. (2018) found podiatrists stated they were confident to assess for arterial disease, echoing this study that arterial assessment was part of cultural norms therefore assessing for safety of compression should not be problematic. Conversely, assessment of venous status, to identify the initial need for compression was an

area of concern to clinicians in this study. Participants expressed that podiatrists did not have objective means of assessing venous status, representing a cultural and clinical limitation to identifying and preventing lower limb venous disease. Within the complexity of preventative treatment, this study suggests podiatrists were able to assess for safe use of compression hosiery but not for its necessity as a treatment. This is problematic because podiatrists would need to have equal confidence in recommending compression as they would have in ensuring its safety in order to work towards concordance with patients. To enhance the podiatry role in lower limb venous disease, greater education and awareness would be needed to support podiatrists making recommendations of preventative measures.

An area for development would be to enhance confidence to reassure patients of the minimal harm caused by compression therapy when used correctly, and to concentrate on addressing the difficulties of its use and improving patient concordance (Atkin 2019c; Kankam, Lim, Fiorentino, Davies, & Gohel, 2018; Ratcliffe et al., 2016). By not wearing compression stockings, patients may be risking progression of lower limb venous disease and the detrimental effects on quality of life that can consequently occur (Carradice et al., 2011; Kahn, et al., 2004; Kostas et al., 2010). Gervas, Starfield and Heath (2008) suggest that many patients take risks and avoid preventative advice if they perceive greater benefits from avoiding them. In the example of compression therapy, this may lead to poor compliance because of the perceived benefit of avoiding the difficulties of applying them (Ziaja, Chudek, & Ziaja, 2011). This poses a limitation for podiatrists seeking to prevent lower limb venous disease in respect of objective three; podiatrists would need to engage patients and demonstrate importance of the action and patients would need to take partnership in the process and enact the advice (Atkin, 2019c; HCPC, 2013). Themes emerging in this study, discussed later in this chapter, suggest that difficulties in reconciling role identities and allocating clinical time would be significant barriers to such activities. Again, these are indications of a need for raised awareness and a cultural shift, potentially through pre and post registration education, to incorporate greater attention to lower limb venous disease. Complex processes for encouraging behaviour change do not necessarily fit easily into practice as seen in attempts by podiatrists to impart footwear advice, encourage increased physical activity and provide effective diabetes education (Crisford et al., 2013; Nicholls, Robinson, Farndon, & Vernon, 2018; Yuncken, Williams, Stolwyk, & Haines, 2018). This study indicated venous disease and use of preventative compression hosiery to be an area where podiatrists engaged minimally to affect change.

In nursing, the preventative use of compression hosiery has been identified as an area of strength but also one for continued development (Atkin, 2019b; Atkin, 2019c; Bowskill,

2001). Case study and questionnaire evaluation research into multi-professional lymphoedema care in Wales has demonstrated that patient education and compression has enhanced quality of life and saved health care costs (Humphreys & Thomas, 2017; Humphreys, Thomas, & Morgan, 2017; Jehu, Jenkins, Morgan, & Thomas, 2018). Whilst not related directly to lower limb venous disease or podiatry the early attention from registered nurses, physiotherapists and GPs showed encouraging results. In this study, podiatrists stated their preferred action of referring to nurses for compression and demonstrated no depth of knowledge to undertake the process themselves. Unlike other aspects of lower limb venous disease prevention, such as advice on weight loss or increasing physical activity, lack of engagement with compression therapy was not due to a theory-practice gap. Instead, participants reported never having gained skills in compression hosiery prescription.

Furthermore, the relevant literature and guidance has not been targeted at podiatry or accessed by them due to the lack of direct foot relevance. The implication is that they had little awareness of what hosiery would be required for primary prevention and therefore had not included such detail in their practice from existing recommendations (Atkin, 2019c; Bianchi, 2013; Ratliffe et al., 2016). This was an indication that under-graduate education influenced practice and that no extra steps had been taken by participants to gain new skills in compression therapy. As discussed previously, participants had reported theoretical lower limb venous disease prevention had been part of their training but the physical skills needed for compression therapy prescription had not. This is problematic for future development, as it would require embedding into curricula; a drive often instigated by practice or the regulatory body. Therefore, more research is required to explore its application by podiatrists and test the need for educational change. Making changes to practice or education is fraught with barriers (Harrison-Blount, Nester, & Williams, 2019), this study found the culture of podiatry was not sufficiently aware of the severity of lower limb venous disease to counteract the barriers to change.

McLafferty et al.'s (2008) assertion that venous disease severity and need for awareness was equivalent to smoking and use of seat belts, was significant in terms of patient perceptions of risk balance (Richens, Imrie & Copas, 2000). Gervas, Starfield and Heath stated: "Even if benefits could be guaranteed (which is never the case), risk compensation may explain why the obvious potential of many preventive activities (such as use of seat belts or condom promotion) is never fully realised." (Gervas, Starfield, & Heath, 2008, p. 1998). This study revealed a culture in which podiatrists did not engage patients in a manner suggesting lower limb venous disease was as important as the use of seat belts and

neither did they appear to explore or address the risk balance perceived by patients. Podiatrists' stated approach to lower limb venous disease prevention was superficial when considering these concepts. That they were also not evident on observation, demonstrated that this was not a strong podiatry role.

Writing from a standpoint of reducing fear in health promotion and criticising patriarchal modes of health promotion, Fugelli (2006) suggested that public health messages generate fear and are delivered from a position of superiority. In this study participants' behaviour demonstrated their desires to maintain friendly relationships with patients, instilling fear and imparting public health messages by enforcing superiority would not be congruent with these desires. Instead, it appeared podiatrists had, perhaps inadvertently, adopted a position advocated by Fugelli whereby they recognised "...people's own values, perceptions, meanings, experiences and potentials for preventing disease and promoting health." (Fugelli, 2006 p.g. 267). Therefore, maintaining relationships with patients and not wishing to create fear or perceptions of illness where none exists (Heath, 2007), may have been a limitation to podiatrists overtly preventing lower limb venous disease. Private practitioners in particular emphasised a reality that patients were paying customers and, despite stating their duty of care and medical intentions, to instil fear could be to risk losing customers. This impact of preventative practice was potentially a limitation to lower limb venous disease prevention. Indeed, private practitioners who had NHS experience or split working patterns stated that their approach to prevention and health promotion in general would be different between NHS and private settings. Podiatrists' lack of constant purpose in preventative practice was a key finding of this study where the struggle to deliver preventative care in general consequently limited prevention of venous disease. The following section 'Identity' explores the case that podiatry prioritises treatment over prevention but it also prioritises certain conditions and pathologies.

6.3 Identity

Venous disease identification and prevention was not a significant part of podiatrists' identity within their role. Podiatrists held multiple identities including being a counsellor, a friend, a business person, an NHS employee, a confident health promoter, a struggling health promoter, a team-worker and a foot-focussed clinician. There was tension between identities and a confused account emerged of expected role behaviours alongside an absence of an identified role for lower limb venous disease. Foot-focussed identity dominated and physical treatment was prioritised, whilst an ill-defined identity in health promotion and prevention also emerged. Research objectives one and two related to exploring the role of podiatry in identification and prevention of lower limb venous disease.

Objective three required critical investigation of the drivers and limitations for podiatrists in identification and prevention of venous disease. This section explores how data revealed podiatrists' role identity, and that lower limb venous disease does not feature largely in that role. Identity underpinned other emergent themes such as professional status, subservience to guidelines, tacit behaviour, and podiatrists lack of action regarding venous disease.

Concepts of identity are socially constructed and have competing theoretical explanations (Hogg, Terry & White, 1995; Barker, 2012). Identities vary for individuals depending on social practices, roles they are involved in, and behaviours expected within those roles (Hogg, Terry & White, 1995). Barker argued that "To explore identity is to enquire: how do we see ourselves and how do others see us?" (Barker, 2012, p. 220). The theme of 'identity' in this study took the exploration further to consider the influence of participants' identity as podiatrists on the inclusion of lower limb venous disease within practice. Of particular interest was identity associated with the role of a podiatrist, rather than the individual identities of participants outside of the podiatry setting.

6.3.1 Foot-focussed

One reason podiatrists did not undertake venous assessment and prevention was their identity as foot-focussed practitioners and their culture of prioritising treatment over prevention. Wenger's sociological concept of 'communities of practice' provides explanation as to how such identities develop. Communities of practice are "Groups of people who share a concern, a set of problems, or a passion about a topic, and who deepen their knowledge and expertise in the area by interacting on an on-going basis." (Wenger, McDermott, & Snyder, 2002 p.4). Findings demonstrated that the "deepening" of knowledge and expertise in podiatry has progressed in a foot-focussed direction almost to the exclusion of many health problems proximal to the malleoli. According to Wenger (1998), identities are negotiated and arrived at by mutual participation in practice; the dominant mutual practice for participants here was to be a foot-focussed practitioner. This domination relegated other identities, such as those regarding counselling and health promotion, to a position where their associated behaviours did not come to the fore as readily.

'Identity theory' offers additional explanation for the foot-focussed identity and the restriction it placed on other practices, most notably involving lower limb venous disease. Stryker (1968) drew on principles of symbolic interactionism to develop 'Identity Theory', explaining social behaviour by considering the interplay between individuals and society.

Identity theory suggests people have multiple role identities which are self-conceptions of the social categories they occupy (Hogg, Terry, & White, 1995; Stryker, 1968). For example, people have role identities such as son, husband, and runner as well as occupational role identities such as journalist or farmer. Role identities imply expected actions and behaviours within that identity. Meanings of role identities are constructed and labelled through social interactions including feedback from others. The label podiatry is an indication of expected behaviour and action. Formed from the Greek words for foot (pod) and physician (iatros), the definition of the word leads to an identity of an individual taking care of the foot. Labelling and expectations are significant in examining how the foot-focussed identity dominated practice at the expense of lower limb venous disease, and conditions further up the limb. Podiatrists shared views and behaviours that revealed the expectations of their role; predominantly a narrow foot-focussed approach. According to identity theory, podiatrists acting in accordance with the expectations of the role would feel secure, less distressed and therefore more likely to maintain strength of identity of the role (Burke, 1991; Hogg, Terry, & White, 1995; Stryker & Burke, 2000). Such feelings of security and identity strength require positive feedback or positive self-awareness that expectations of the identity have been met (Burke, 1991). Prioritisation towards patient comfort, described in the analysis chapter, was a reason for podiatrists proportioning their time towards physical treatment of the foot. Positive feedback from patients and self-satisfaction of podiatrists maintained that prioritised state. Feedback and self-awareness maintained the strength of identity and therefore the behaviour associated with it; a narrow focus on the physical treatment of the foot. Ensuring behaviour, or clinical activity in the case of this study, is in line with expectations in turn means identity is congruent with the role (Hogg, Terry, & White, 1995). Strong identity in this respect therefore dominated clinical activity and that identity did not include lower limb venous disease identification and prevention.

6.3.2 The confused health promotion and prevention identity

Participants described their role identities in counselling, developing therapeutic relationships with patients and embracing the promotion of health and wellbeing. These findings reflected those of Farndon et al. (2002a; 2002b) whose survey of professional identity in podiatry recognised a counselling and health promotion role alongside physical treatment. Literature has championed podiatry as a profession in position to deliver public health messages despite the limited empirical enquiry into such claims (College of Podiatry, 2015; Needle, 2011; Chadwick & Ahmad, 2017). However, participants in this study voiced time restrictions and negative reception by patients as factors limiting engagement in health promotion, in line with previous research (Crisford, Winzenberg, Venn, & Cleland, 2013).

Participants struggled to state a clear identity as health promoters and at times preventative care was seen as outside the normal identity of podiatry to the extent that it was a strain on practice.

The dichotomy, whereby participants displayed both positivity and negativity towards preventative practice is complex and highlights the lack of clarity regarding podiatry identity, even to those in the role. Data suggested a lack of clear identity that contributed to meeting the aim of this study; partly this study found that podiatrists do not have a well-defined role in the identification and prevention of lower limb venous disease because there is a crisis of identity blocking such clarity. They do not have a clear identity for preventative, health promotion practice and consequently do not for venous disease identification and prevention. Identity salience, a sub-component of identity theory, provides some theoretical explanation for simultaneous positive and negative identities. Stryker (1968) defined identity salience as a hierarchy in which individuals have multiple identities, each holding different levels of importance depending on social situations. Salient identities and situations interact to determine which identity and associated behaviours are required at any given time. Podiatry appointments presented a situation where multiple identities and behaviours were potentially applicable. These identities included being a counsellor, a friend, a health promoter, a foot-focussed professional, an NHS worker or a businessperson. Stryker expanded on how identity salience relates to such situations:

Concurrently invoked, different identities do not necessarily call for incompatible behaviour. But sometimes they do, and it is under this circumstance that the hierarchy of salience becomes potentially an important predictor of behaviour. (Stryker, 1968, p.560)

The incompatibility of behaviours described by Stryker is relatable to these findings. For example, behaviours congruent with an NHS podiatrists' identity of focussing on KPIs and clinical guidelines would potentially be incompatible with behaviours attributed to the counselling or friendship identities. Different clinical contexts required altered hierarchies of identity salience and subsequent behaviours to be pronounced. It is therefore possible that between identities and behaviours there are contrasts. This is evident in the dichotomous view of health promotion/prevention activities. In some situations, preventative clinical activity was required because it was linked to the health promoter identity and would therefore be seen as a positive. However, in other situations the foot-focussed identity may have been more salient, meaning that health promotion behaviour was viewed less

positively and thereby became a lower clinical priority. This study revealed that the foot-focused, NHS employee, and friendship identities appeared to be higher in the identity salience hierarchy and as such were predictive of what behaviours were undertaken in clinic. As a result, lower limb venous disease identification and prevention did not feature largely because podiatrists were behaving clinically to treat foot problems, fulfil commissioned tasks, and maintain friendly relationships with patients. Data demonstrated that some areas of preventative practice such as diabetes and arterial disease were prioritised alongside physical treatment of the foot. However, it was evident prevention was a low priority and that lower limb venous disease was at the very lowest end of that priority scale.

Podiatrists explained that patients do not react well to health promotion advice and that this detracted from being able to embrace health promotion activities. Arguably, this may be because health promotion does not conform to patients' prototypical definition of podiatry. Burke (1991) argued within identity theory that negative feedback, such as that received from patients in response to health promotion in accounts of this study, means such behaviour is less likely to form part of the role identity. To expand, people have internal representations of what defines individuals as being part of a named group or part of a group outside of that definition. These definitions develop according to typical and normal understandings of what constitutes a particular group; they are formed according to prototype conceptions (Hogg, Terry, & White, 1995). As Hogg, Terry and White stated self-categorisation means that "people are essentially "depersonalised": they are perceived as, are reacted to, and act as embodiments of the relevant in-group prototype rather than as unique individuals." (Hogg, Terry, & White, 1995, p. 261). Research objective two; To explore podiatrists' role in the prevention of lower limb venous disease, can be illuminated through comparison to their role in other health promotion and preventative practice. Participant accounts suggested patients reacted negatively to health promotion regarding smoking for example, resulting in confusion in the health promotion identity. Therefore, expected behaviour and identity would likewise be confused for lower limb venous disease assessment and prevention. Following the logic of Burke (1991) and identity theory this would render preventing venous disease through health promotion as not being an expected behaviour for the identity of podiatrists. The podiatry role in any form of preventative practice, aside from diabetic foot ulcer prevention, was limited by the complex interplay of identities and expected behaviour. Specifically, there was confusion over identity in preventative practice, therefore role behaviour was inconsistent, but overall evidenced a minimal role in lower limb venous disease identification and prevention. However, the openness of participants to share their identity as counsellors and friends suggested a drive

towards preventative practice and holism in general that could potentially include lower limb venous disease. In analysing the drivers and limitations on practice for objective three, data suggest there was an impetus from clinicians to work with patients and help them to avoid ill health. This has significance for future development because despite the inconsistency in role identity, care of patients remained central to the culture of podiatry and any shift in clinical activity towards early identification and prevention would retain that central ethos and potentially lead to a smoother transition.

6.3.3 Inter-professional boundaries and identity

Podiatrists stated they would identify venous changes, provide preventative advice and then refer to nursing professionals for assessment and compression therapy. Observation did not corroborate these statements but interview data indicated complex accounts of inter-professional working and the podiatry identity within inter-professional relationships. For lower limb venous disease, podiatrists stated they would refer for assessments and prevention rather than commencing these as part of their own role.

Nancarrow and Borthwick (2005) outlined how inter-professional working has blurred the boundaries between healthcare professions due to the occurrence of horizontal substitution. Horizontal substitution suggests that professions of a similar status will share or dispute areas of practice. Such substitution is a means of providing efficient services in times of low staff and can control market share, protect workload, and enhance status for a professional group (Hotho, 2008; Larson, 1977). Horizontal substitution was not evident throughout the data regarding lower limb venous disease where there was a clear dividing line described between the podiatry role and the nursing role, across which podiatry does not operate. This demarcation of roles can be explained using social identity theory which describes how individual behaviour is prescribed according to membership of the 'in-group' compared to an 'out-group' (Hogg, Terry, & White, 1995). Distinctive actions arise from group membership as part of an 'in-group', this study has revealed a theme of identity concerned with membership of the occupational 'in-group' of podiatry. Here the inter-relationship with the 'out-group', i.e. nursing, explains podiatrists' activity of referring patients with venous disease instead of treating them within their own practice. The categorisation element of social identity theory "sharpens intergroup boundaries by producing group-distinctive stereo-typical and normative perceptions and actions..." (Hogg, Terry & White, 1995, p.260). Podiatrists in this study were predominantly foot-focussed; a defining identity of being part of the podiatry 'in-group'. Similarly, podiatrists' portrayal of their role indicated their view that lower limb venous disease is stereotypically associated with the identity of the 'out-group' nursing. This was problematic for the incorporation of venous disease

identification and prevention, in terms of objective three, because it limited podiatry from enacting identifiable activities in their practice.

This is in contrast to other areas of podiatry where barriers between 'in-group' and 'out-group' have been broken down. Vertical substitution occurs when moving into specialist health care roles, for example independent prescribing and podiatric surgery (Borthwick, Short, Nancarrow & Boyce, 2010; Borthwick, 2000b). In these instances, podiatrists undertake roles traditionally associated with medicine and orthopaedic surgery. Likewise, activities such as diagnosing and managing peripheral arterial disease are increasingly shared between podiatrists, nurses and other professionals as an example of horizontal substitution (Farndon, Stephenson, Binns-Hall, Knight & Fowler-Davis, 2018). The same was not evident with regards to lower limb venous disease identification and prevention. There is evidence in this study that this was not a blurred professional boundary, it was a clearly demarcated one; data did not indicate venous disease as part of the podiatry identity, conversely, they regarded it as a nursing identity. This clear demarcation is problematic for future development because the motivation from within podiatry and the external drivers did not appear sufficiently strong to encourage any form of substitution or sharing of roles. Podiatry as a workforce is considerably smaller than nursing, yet podiatry's exposure to the lower limb and time with patients could open a valuable role for expansion. However, encroachment or sharing of health care roles across barriers is not straightforward and considerable tension and inter-professional rivalry exists as a result (Cramer et al., 2018; Goldman et al., 2016; King, Nancarrow, Borthwick, & Grace, 2015). The implication therefore is that enhancing the role of podiatry in lower limb venous disease is about more than education, awareness and policy change. It extends to inter-professional relationships and the forging of more formal working between both NHS and private sectors of podiatry, and other members of the health-care team.

6.3.4 Cultural Priorities

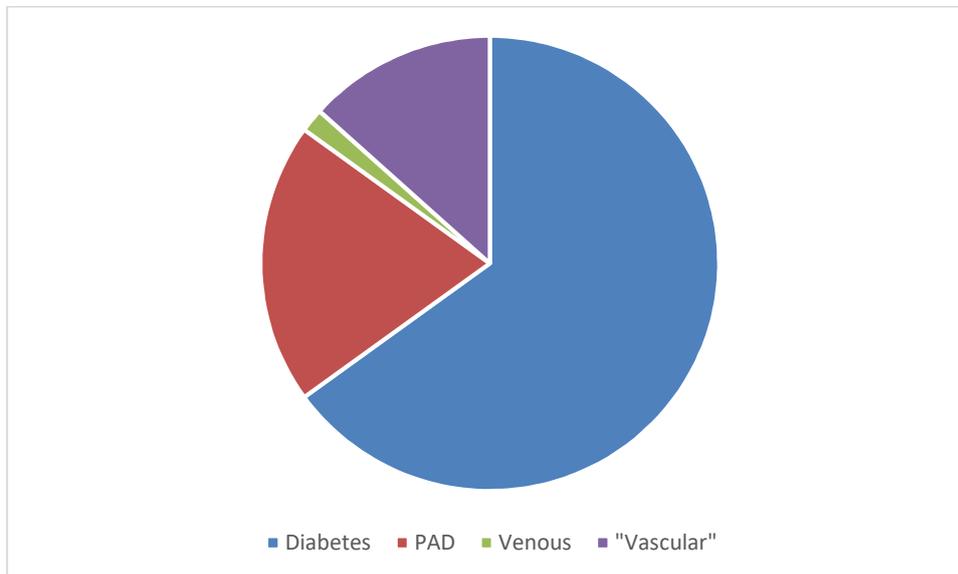
As discussed previously venous disease was a low priority for participants, overshadowed significantly by diabetes and arterial disease. Professional leadership for arterial disease and diabetes, and lack of venous related podiatry focussed publications emerged as contributory to this imbalance. Professional leadership and influence can increase investment into, and encourage interest in, certain practices (Bacon & Borthwick, 2013). A lack of podiatrists taking leadership has resulted in a lack of awareness of potential roles for podiatry in lower limb venous disease.

Integrating Weber's theory of charismatic authority to analyse development of the specialist diabetes podiatrist role, Bacon and Borthwick (2013) highlighted key leaders who demonstrated skills and knowledge that allowed integration into otherwise medically dominated areas of diabetes care. Significant from their findings was the impact of specialist roles on cascading practice to influence activity and gain "disciples" (Bacon & Borthwick, 2013, p.1085) through publications, conference presentations and the production of care pathways (Bacon & Borthwick, 2013). This leadership enhanced the skills of general podiatrists and raised their status and engagement with the foot in diabetes as they gained competence and expertise (Bacon & Borthwick, 2013). Diabetic foot screening and education became part of routine podiatry work, occurring recursively within normal practice to become a priority and a part of the 'ontological security' of the profession (Giddens, 1984). The podiatry role for identification and prevention of lower limb venous disease has been revealed through this study to be very limited, partly because this same cascade has not occurred. From a cultural and anthropological perspective, the start of a shared practice comes from one individual:

Actually, all cultural innovations originate either with some one person or with a very small group of persons. Thus a new technique for weaving baskets would not be classed as a part of culture as long as it was known only to one person. It would be classed as a part of culture as soon as it came to be shared by other individuals. (Linton, 1947. P.23)

There was no evidence of shared behaviour in venous disease identification and prevention. Shared views were evident but observable shared action was not and this was confirmed in focus group and individual interviews. Indeed, participants stated that their lack of awareness and limited knowledge of lower limb venous disease was a consequence of nobody taking the lead on knowledge generation and dissemination. A comparison of key-note sessions and seminars at the College of Podiatry annual conference between 2013 and 2018 reveals a difference in representation between areas of practice. Figure eight shows the sessions for Diabetes, PAD, venous disease and sessions labelled "vascular":

Figure 8: College of podiatry national conference key note sessions for diabetes, PAD, venous disease and "vascular" 2013 – 2018



Evident from this is that arterial disease and diabetes have more exposure than venous disease, additionally the "vascular" session descriptions focussed on arterial disease predominantly. This is culturally significant as conference is a time when podiatrists join to share practice. In this respect, according to Wenger, McDermott and Snyder (2002), the community of practice of podiatry has not deepened its knowledge in lower limb venous disease to the extent where it represents an identifiable part of the role. The gap in research identified in Chapter two has been reflected in the findings of this study; there is little connection between podiatry and lower limb venous disease prevention. Four papers in an American podiatry journal suggested podiatrists could have a role in VLU management (Mulder, 2004; Abraham 2005; Schoenhaus 2007; Wunderlich 2011). However, in American healthcare podiatrists have a different level of qualification and scope of practice to those in the UK meaning these practice based discussions are not transferable to the UK. In the UK, podiatrists appear outside the core lower limb venous disease team but are cited as interested parties in venous leg ulcer guidelines (Scottish Inter-collegiate Guideline Network, 2010; Wounds UK, 2013). However, no UK based specific reference to an early identification and prevention role for podiatrists was found. Horwood (2019) proposed podiatrists could have a greater role in assessing and treating factors impeding venous return. However, his assertion that podiatrists do not routinely consider ankle and foot kinematics as part of an assessment of venous function is based on opinion alone and he does not specify a role in identification or prevention. Furthermore, recommendations from

143

McCardle and Fox (2013) regarding podiatry involvement with peripheral vascular diseases, in people with diabetes, were heavily directed towards peripheral arterial disease. Lower limb venous disease was included but with no discussion of identification or prevention. In addition, the document from McCardle and Fox (2013) lacked clear supporting evidence and therefore had limited practical influence on clinical activity. Lack of leadership and readily available knowledge sources have maintained the gap between podiatry and lower limb venous disease. Podiatrists were limited in their role of identifying and preventing venous disease by the lack of leadership on the subject and a subsequent lack of podiatry-focused venous disease literature.

The lack of leadership and direct literature depicted in turn contribute to maintenance of Habitus. Habitus is one element of Bourdieu's (1976) theory of practice depicting the actions of individuals that arise due imitation of others in the same field and the transmission of behaviour through socialisation (King et al., 2018; Rhynas, 2005). It is a complex sociological theory with limitations due to the process of translation, but the concept that behaviour in a culture is shared by implicit imitation and exposure has relevance to this study. Podiatry students and new practitioners learn from clinical exposure as well as direct teaching by observing clinical activities of experienced colleagues or supervisors. According to Rhynas' (2005) discussion of habitus in nursing, there is an unconscious transmission of the principles and customs of a care setting that influences the subsequent behaviour of new nurses. In this study, lack of leadership and cascade of knowledge regarding lower limb venous disease resulted in absence of explicit influence on practice and therefore it was omitted from the transmission of current practice or habitus. It is important to note that many observations in this study were corroborated by pre-practice graduate participants who had opportunity to reflect on the transmission of practice they had experienced. It was significant that none noted a distinct priority given to lower limb venous disease, highlighting the lack of a distinct role in current practice.

6.4 Time

The focus group discussion suggested identification and prevention of venous disease could be enhanced if all health professionals made use of their opportunities to examine patients' legs. This was in keeping with discursive literature claiming a role for nurses to identify venous changes and enact prevention opportunistically (Iwuji, 2008; Capeheart, 1996; Timmons & Bianchi 2008; Atkin, 2019a). The literature review (Chapter two) demonstrated a lack of comparable suggestions for podiatry yet the argument made in relation to nurses is theoretically plausible and potentially transferable. Podiatrists did spend time engaging in preventative matters whilst undertaking physical treatment, in line with encouragement

from the College of Podiatry for the profession to grow its role in public health and prevention of disease (Chadwick & Ahmad, 2017). Chadwick and Ahmad (2017) argued that podiatrists' contact time, being double that of GPs, provides the opportunity to deliver messages that could prevent diabetes, cardiovascular disease, chronic respiratory disease and cancer. Data in this study echoed this but also revealed that podiatrists felt their time was restricted and already allocated to other activities. Time in this sense was both an opportunity and a restriction.

Participants considered that time was an opportunity to undertake health promotion and preventative intervention beyond foot related matters. Current research, although limited in quantity, supports the notion that podiatrists have and use this opportunity. A UK survey of College of Podiatry members found that 'public health advice' had been delivered to six percent of patients therefore accounting for a considerable portion of clinical time (COP, 2015). However, it was not possible to discern what constituted 'public health advice' other than it including advice on "weight management, smoking and exercise" and as such the construct validity may be threatened as lacking specific detail. Nevertheless, the findings demonstrated that a considerable proportion of podiatrists' time is allocated to public health concerns and significantly demonstrated the multiple demands on podiatry services and the proportion of time undertaken for each activity.

In New Zealand Crisford et al. (2013) focussed a qualitative study on the opportunities available for practitioners to discuss and encourage physical activity amongst their patients. Podiatrists recognised that physical activity could be discussed simultaneously whilst performing other tasks, but also perceived lack of time to be a barrier and that other priorities prevented full engagement. Similarly, Gray, Eden and Williams (2007) examined the impact of including formal stop smoking advice into UK podiatry services. Their qualitative questionnaire of podiatrists revealed mixed perceptions; some felt there was negligible impact on normal clinical work because the process could be undertaken during physical treatment, whereas some regarded it an extra task that caused delays (Gray, Eden, & Williams, 2007). Such literature advanced the understanding of podiatrists' use of time for health promotion activity in these specific fields. Their findings are, to an extent, transferable in terms of the use of time in practice. Indeed, observational data in my study demonstrated that podiatrists engaged in health promotion activity whilst interviews revealed that they recognised the opportunity they had. However, podiatrists perceived health promotion as an activity that would be left out of appointments if time was prioritised for other activities. Participants directly contradicted themselves, leading to a confused picture of the general impact of time constraints on practice and the proportion of time used

for health promotion and prevention. Relating this to research objective three in terms of drivers and limitations is therefore inconclusive because time was simultaneously a driver and limitation. Podiatrists stated that they would use their time to identify and provide advice on lower limb venous disease, yet observational data found the contrary to be true. The significance of this was that opportunity for lower limb venous disease identification and prevention was available but not used. Restriction on time was seen strongly in NHS practice where time pressures and role boundaries emerged as limiting factors on clinical activities, supporting the earlier discussion around lack of autonomy in practice.

6.4.1 Time is routine

Routines influenced podiatry activity in lower limb venous disease identification and prevention. Observational data identified repetition of action within the short-term, and participant accounts revealed long-term repetition was a feature of practice. The influence of routine, and the crossover concept of ritual on nursing practice has been fiercely debated whilst literature specific to podiatry and routine could not be located (Biley & Wright, 1997; Philpin, 2002; Tonouma & Winbolt, 2000; Walsh & Ford, 1989; Zisberg, Young, Schepp, & Zysberg, 2007). Routine and ritual are concepts with inconsistent and overlapping definitions, Zisberg et al. developed a working definition of routine following their high-quality concept analysis of routine in nursing:

Routine is a concept pertaining to strategically designed behaviour patterns (conscious and subconscious) used to organise and coordinate activities along the axes of time, duration, social and physical contexts, sequence and order. (Zisberg et al., 2007, p. 446)

On the contrary, Philpin (2002) refused to settle on a working definition of ritual but revealed key features to be repetitive action, symbolism, belief and emotion. Helman had previously ventured further to define ritual actions as those featuring repetition but also lacking in 'direct overt technical effect' (Helman, 1990, p. 192). Definition of terms is important to establish the contribution of this study to this body of knowledge. For example, the manner in which instruments were prepared and patients invited into the treatment chair was at once repetitive and symbolic. These actions symbolised the readiness to start the appointment on behalf of the practitioner and patient, but did not have a technical effect in all instances because not all patients required the use of instrumentation. The routine process happened as a matter of course rather than by need, thereby classing it as a ritual according to the anthropological perspective of Helman (1990). Likewise, the repetitive nature of several actions aligned to definitions of routine

therefore, routine and ritualised practice emerged as a unified finding for discussion whose influence was a pervasive feature of the data.

Walsh and Ford (1989) attacked ritualistic practices for restricting nurses' provision of holistic care and leading to a neglect of the research evidence base. They hypothesised that nurses undertook rituals and routines for the benefit of institutions rather than patients (Walsh & Ford, 1989). Criticism for being mechanistic and unthinking has led to attempts to eradicate rituals and routine from practice in order to allow holistic, evidence-based care to flourish (Tonuma & Winbolt, 2000). This negative perspective of ritual and routine could explain findings in this study in which podiatrists were observed to engage in repetitive action, such as the routine preparation of instruments between each appointment. By following a routine some parts of practice were potentially missed, particularly the opportunity to engage patients in preventative health interventions. To expand, performing physical treatment as a matter of routine meant anything outside the normal routine would be an exception, an inclusion away from the treatment routine. This goes some way to explaining the tension between being foot-focussed and being promoters of wider health and wellbeing; the routine of podiatrists was designed to provide treatment rather than health promotion and prevention. Rigid hierarchies of management have been cited as reasons for nursing care being reduced to similar task-based activities (Tonuma & Winbolt, 2000; Pearcey, 2007). The analysis in Chapter five revealed that tradition and patient preference in private podiatry practice, and commissioning and management in the NHS contributed to podiatrists' routine focus on treatment tasks. They adopted routine approaches to care in order to achieve what they were asked to achieve in the time they had with their patients.

However, positive aspects of ritual and routine also have explanatory significance. For example, a recurring observation was for clinicians to help the patient to settle in the treatment chair, place the clinician's hands on the patient's feet, palpate pulses and ask how the patient feels about their feet and their general health. Biley and Wright (1997) defended similar routine actions in nursing as having a beneficial impact on care, suggesting that critics of routine had focussed solely on the physical function achieved rather than the symbolism of caring acts. The repeated action, noted in this study, of a patient having their pulses palpated and being asked about their health may contribute to the overall benefit they gain from their care without there necessarily being a physical outcome, supporting Biley and Wright's (1997) suggestion. This conjecture from Biley and Wright may be abstract but offers an explanation as to why routines exist. That this routine subsequently limits lower limb venous disease identification and prevention practices however, is one

potential consequence because the routine does not include observation for venous disease. Whether they are defined as routine, or ritual these types of repetitive practices can be interpreted as resource conserving and anxiety reducing (Giddens, 1984; Zisberg et al., 2007). This discussion has suggested time and tacit knowledge of venous disease are two potentially limited resources in podiatry practice. The significant prioritisation of patients' desires and commissioned requirements of the role meant time was a limited resource. Knowledge was also limited in the sense, specifically related to lower limb venous disease, by the gap between theory and practice. Zisberg et al. (2007) identified that routine practice allowed more efficient allocation of resources, meaning activities could be undertaken more efficiently. Routine in the podiatry practices observed was a means of using the time available to complete prioritised tasks. However, by reducing care to routine tasks there was evidence of low quality, particularly around health promotion and prevention. Elements of superficiality were evident for example in the delivery of foot care advice following diabetic foot screening. Several references were made throughout the focus group interview data that patients did not know their risk status following diabetic foot screening. Essentially this rendered diabetic foot screening as an activity that had no direct, overt technical effect and so, according to Helman (1990) would be a ritual. Diabetic foot screening did not appear to be an individualised interaction with a particular patient. To enhance the efficient use of time by this ritualistic practice has also meant that some activities are not part of the routine, for example the lifting of hosiery to enable examination of the legs. This was evidence that the role of podiatry in the early identification and prevention of venous disease was limited by the restrictive quality of ritualistic and routine practice.

6.4.1.1 Structuration Theory and Normalisation Process Theory

Giddens' theory of structuration provides a way of understanding how lower limb venous disease is missed from podiatry practice and remains missing. Structuration is an abstract sociological theory criticised for its vagueness but recognised as an advance on rigid structural and functional theories of how society works (Elliott, 2010). According to Hotho "It provides a lens to examine how professionals reproduce and modify through their situated deployment of structuration modalities the very structures that shape their action" (Hotho, 2008, p.727). Central to the theory is the 'duality of structure' whereby human actions and the structure of society within which they take place are inter-dependent; "they both constitute and are constituted by the other" (Hotho, 2008, p.726). In this study the relationship between the human actions and the structure of society was difficult to determine. The 'structure' was the NHS and the private practices, but more broadly the patterns of social practice occurring in podiatry. There was a risk of applying the abstract

notion of structuration too concretely. The intention was not to explore if the small profession of podiatry affected the large structure of the NHS. Evidence from this study suggested a lack of autonomy amongst professionals and therefore raised questions over their modification of the structure. The data suggested that participants were subservient in many respects and not part of an inter-dependent relationship. However, the relevant notion suggested by Giddens is that these structures are not external and irresistible influences on the actions of individuals. By practising in routine and ritualised ways podiatrists are continually creating and re-creating the social structure of being a podiatrist. They act within the structure they create, therefore if lower limb venous disease is not part of that structuring set of rules it will not be part of the practice of a podiatrist. Indeed, this study has demonstrated that the structure created by podiatrists included forfeiting autonomy to abide by external forces of guidelines and commissioning. Giddens' theory offers explanation for the resource conserving and anxiety reducing impact of routine as discussed in nursing literature (Zisberg et al, 2007). Giddens stated that repetitive behaviours do not "just happen, they are made to happen" (Giddens, 1984, p. 64). This encapsulated his theory that routine provides an 'ontological security' that protects from anxiety. Podiatrists prioritised the routinisation of practice that they felt comfortable and confident in such as arterial assessments and diabetic foot screening. They stated a lack of confidence in lower limb venous disease and therefore it was not a part of the ontological security of their routine. To transform that position will require attention to education, policy, culture and the application of research to inform these.

Whilst structuration theory has provided a wide lens to explain the evident routinised behaviour, Normalisation Process Theory (NPT) provides a narrower focus to understand data in terms of the normalisation of specific practices. NPT is a sociological theory used to examine the transformation of new practices from first introduction to being an established routine part of a social structure (May & Finch, 2009). Originally a prospective tool to plan implementation strategies, the theory enables a structured retrospective analysis of practice. Unlike Giddens' structuration theory, NPT cannot be criticised for vague or abstract notions and has been shown to have good agreement between users (McEvoy, Ballini, Maltoni, O'Donnell, Mair, & MacFarlane, 2014). The theory is grounded in health care and applicable to provide a retrospective explanation for why lower limb venous disease identification and prevention is not routine within podiatry. NPT has four components; 'coherence,' 'cognitive participation,' 'collective action,' and 'reflexive monitoring.' The following is an explanation of the data from this study using the model of NPT.

Coherence refers to the part of practice in question 'making sense' to those who would be using it routinely (Liddle et al, 2018). May and Finch describe this as sharing of meaning and "of socially defined and organized competencies" (May & Finch, 2009, p. 542). In this study participants were predominantly unaware that venous disease identification and prevention was a part of their practice until specific questions were asked. In these instances, because the topic of research had been withheld to reduce the Hawthorne effect (Holden, 2000; Lee, Huber, & Davidson, 2008), meanings and competencies about lower limb venous disease were conveyed as after-thoughts arising 'on the spot' and solely because of the interview topic. Participants in the focus group and individual interviews without observation shared a coherent understanding of what the current role of podiatry is and could be. Participants described the means of identifying venous disease and the current practice they enacted for prevention, albeit that this was not observed during the study. There was, therefore, evidence of coherence.

However, in comparison to the level of agreement between participants and ease of discussions around diabetes, arterial disease or smoking cessation, coherence regarding lower limb venous disease was more limited. A specific determining factor of coherence within NPT is differentiating the practice in question from those currently in the routine (May and Finch 2009; O'Reilly et al, 2017). In this study the differences between lower limb venous disease identification and prevention from diabetes and arterial disease were clear. The distinguishing feature for much of the time was the anatomical divide between the foot and the leg. Participants frequently discussed the issues of venous disease being a problem above the malleoli and thereby recognised lower limb venous disease identification and prevention as a novel concept.

May and Finch (2009) proposed cognitive participation to be the framing of a practice through "the symbolic and real enrolments and engagements of human actors that position them for the interactional and material work of collective action" (p. 543). O'Reilly et al. offer a contextualising question to aid analysis; "Do stakeholders 'buy into' an innovative practice and seek to drive this implementation forward?" (O'Reilly et al., 2017, p. 3). Additionally, May and Finch propose that cognitive participation can lead to embedding new practices by the following; "The production and reproduction of a practice requires that actors collectively invest commitment in it." (May & Finch, 2009, P. 544). In this study, there was evidence of obstacles to podiatrists 'buying into' the routine practice of venous disease identification and prevention. Obstacles such as identity crises, lack of professional autonomy and obstructive routines inhibit 'collective investment' in making lower limb venous disease a routine part of the podiatry role.

Collective action is where new practice is incorporated into routines and action taken to prepare the environment of practice to enable embedding of the new initiative (May and Finch, 2009; Liddle et al. 2018). In this sense, analysing data for evidence of 'collective action' is more than counting the occurrences of enacted venous disease identification and prevention. It is recognising those occasions where the 'ground was prepared' to allow new approaches to be put into place. It was evident from observational data, as discussed in the previous chapter, that overt action on lower limb venous disease was not a routine part of podiatry. However, the focus group interview in particular demonstrated recognition of the factors that inhibit the current podiatry role in venous disease. What would be required to fulfil this component of NPT and move towards embedding venous disease in practice is a positive answer to the question posed by O'Reilly et al.: "Can stakeholders enact the new innovation into practice in a real world setting?" (O'Reilly et al., 2017, p. 3). The answer to this question, on examination of the data, is negative. From the findings of this study there are too many obstacles in the real world setting that are inhibiting lower limb venous disease from being a routine part of practice. Such inhibiting factors include: absence of impetus from within the profession, no external incentive from commissioning, and a lack of evidence and education.

According to NPT, for a practice to become embedded and part of routine it needs to be evaluated and appraised to determine if it is working (Liddle et al, 2018). This final component, 'reflexive monitoring,' demonstrates the fluidity of implementing changes to practice and determining which initiatives become routine. Evaluating a new way of working invites re-design as part of clinical governance and service development, and the very process of undertaking evaluation influences the coherence and cognitive participation components (May and Finch, 2009). To consider a part of practice reflexively, however, requires there to be a discernible and existing practice to consider. It was not evident that the practice of venous disease identification and prevention was overtly in place in podiatry. There were trends in the data whereby participants indicated a current role in identification or stated that it was part of their routine. There remained an inconsistency across the data set and stated actions were not evident in the observational data. O'Reilly et al. contextualised this NPT element by asking: "Can stakeholders evaluate the impact of innovation and generate ideas for reconfiguring practices to sustain its use over time?" (O'Reilly et al., 2017, p. 3). In this study, the answer, again, was negative because there did not appear to be an innovation in practice to be evaluated.

NPT has provided a lens to examine the data and explain why identification and prevention of lower limb venous disease are not parts of routine podiatry. Data revealed strong themes of ritual and routine through which podiatrists create and re-create their social structure (Giddens, 1984). Contextualising the abstract notions of Giddens (1984) through NPT identified significant factors that were inhibiting normalisation of lower limb venous disease practice in podiatry and preventing time being allocated to it in a routine manner. Failure of a practice to become routine is an indication that it is not tacit within a role and as such is not part of the social structure and nor is it transmitted through cultural behaviours to be propagated and thus embedded (Bourdieu, 1976; Giddens, 1984; Linton, 1947). Routinised, habitual activities provided evidence against research objectives one and two that there was no significant role for podiatry in either identification or prevention of lower limb venous disease. The persistence of such routine suggested practice was saturated with other activities thereby posing a considerable limitation on podiatrists fulfilling a substantive lower limb venous disease role.

6.5 Reflexivity

Qualitative enquiry is inextricably subjective in nature and therefore requires consideration of the impact that has on the research process and findings (Finlay, 2003; Madden, 2010; Hammersley and Atkinson, 2007). In this study, I have taken an 'emic' stance to explore the profession of podiatry from an insider position requiring reflexivity to avoid collecting and interpreting data in a way that would favour my perspective. As a former NHS and private podiatrist and current senior lecturer in podiatry, I am both a product and producer of the social world I sought to explore. I outlined in the methodology chapter (Chapter three) that ethnographic research has shifted from predominantly objective and 'etic', outside focussed, to encompass 'emic' explorations particularly where health care is concerned (Cutler, 2004; Gobo, 2008; Simmons, 2007). There are disadvantages to adopting an 'emic' position with the most notable being the potential production of a biased account of practice making it essential to recognise possible causes of bias leading me to hear or see what I wanted to regarding my own agenda for the research. To mitigate this, I have questioned all design decisions and attempted to limit the influence my professional and cultural background may have had on participants. Through the use of detailed field notes and a personal reflective diary I have attempted to recognise them and take any potential impact into account during data collection and analysis. Significantly, recruiting participants for interview and a focus group in stages two and three meant I could gather data from perspectives other than my own allowing conflicting or corroboratory evidence to emerge and enhancing trustworthiness (Finch, Lewis, & Turley, 2014). I have considered my own views on the topic and recognise the potential impact they may have had on all stages from the initial development of a 'hunch' that this topic was worthy of exploration to preparing the final thesis for submission.

In addition to using reflexivity to recognise the impact I had in the field, I also used it to maintain focus on the research aim and objectives. Re-entering the podiatry clinical environment to conduct research after ten years in academia prompted me to ask many questions about the nature of practice. Pursuing tangential enquiries would have distracted from the detailed exploration of podiatry's role in lower limb venous disease that I intended. I therefore incorporated notes into my private journal to retain attention on the topic of research.

6.5.1 Reflection on the research journey

From a personal and professional perspective, this PhD process has been a significant but rewarding challenge. I have developed skills in time management, academic writing, overcoming hurdles in the research process, planning for changes and responding to set-backs. Reflection is an essential part of any learning and this doctoral research programme has required me to reflect on successes and areas for improvement. Undertaking this study has enabled me to explore an area of practice that is novel and that developed out of personal interest. Using an ethnographic approach placed me back in clinical environments but with a different focus, on reflection this was the most appropriate method for researching this previously un-researched topic. To become embedded in practice, observe activities and conduct follow-up interviews enabled me to gain insight into the place of lower limb venous disease in podiatry. It was the best way to explore what happens in practice, and why it happens as it does, to identify issues for future research to develop knowledge of the topic. However, the design choice was not straightforward and contradicted many of the epistemological traditions of podiatry research that tend towards quantitative methods and hypothetico-deductive methodologies (Nicholls et al., 2018). Informal feedback received after presenting preliminary findings of my research at a post-graduate research conference suggested adopting an ethnographic approach had been a brave design decision. Appendix 15 includes a copy of the presentation following which members of the university professoriate commented that the 'emic' position was a good choice to seek the truth of practice, but also warned that it could reveal unwanted truths to emerge. As part of learning to become a reflexive and reflective researcher, I have constructed this thesis to present the likely truth of podiatry practice in the early identification and prevention of lower limb venous disease. Undertaking this study has changed me in many ways, it has made me more critical and questioning of both my own actions and the literature that influences professional practice. As a result, I reflect more deeply on my teaching and the ways in which I can encourage students towards greater critical thinking and independence. I ensure that critique of research literature is embedded in all of my academic activities.

6.6 Study limitations

The total sample was small scale (n=26) and located only in the North of England which may limit generalisability of the findings. Holloway and Wheeler (2010) assert that generalisability of qualitative research is not equivalent to generalisability in quantitative approaches and doesn't concern statistical estimates of the prevalence of views or opinions. Instead qualitative research seeks to reveal and potentially explain the experiences and views of participants in one location to understand a topic in that setting (Lewis et al., 2014). Indeed, due to the nature and scale of this research, I do not seek to make

statistical generalisations about practice nationally but the sampling and in-depth nature of interviews and observations may mean some findings are transferable. The purpose was to embed myself within the culture to identify and experience the setting in relation to lower limb venous disease. This research has demonstrated how the culture of podiatry in these settings limits podiatrists' involvement in early identification and prevention of lower limb venous disease, but this finding only relates directly to the settings and individuals included. The variety of categories of participants and settings, achieved through the purposive sampling strategy, does provide opportunity for transferability if readers can relate the research findings to their own settings and experiences (Lewis et al., 2014). However, a larger sample, incorporating responses from participants in a wider range of locations may have increased dependability by illustrating more widespread consistency of the findings (Holloway & Wheeler, 2010).

Recruitment proved difficult for two elements of the study. Firstly, the range of experiences of podiatrists being observed and interviewed did not include any participants who had only recently begun to practice. All participants had upwards of 7 years' experience. This problem of recruitment may reflect the confidence required to volunteer for a researcher to observe clinical practice. However, in an attempt to reduce the impact of this recruitment gap, pre-practice graduates were approached to gain insight into the views of newly qualified podiatrists. In addition, one of the participants for interview only, podiatry academic Rachel, had just three years of clinical experience and was able to share her experiences of her early career. Indeed, as a result a range of experiences were captured and contributed to a rich data set. The intention of this study was to gain understanding of the current role and to identify trends as to how it was influenced rather than ascertain cause and effect with relationships.

The second sampling limitation was not being able to recruit a general medical practitioner. Data had indicated a significant role for GPs as a point of inter-professional work with podiatrists in general and specifically regarding venous issues. Gaining the view of a GP within the focus group interview may have contributed to understanding the wider issues of lower limb venous disease prevention across the health care systems in the U.K. However, with specific regard to podiatry their input may have been limited and therefore may not have illuminated the podiatry specific research question and objectives. That does not negate any input they would have had in providing contextual and confirmatory data, but the research question and objectives were still addressed in their absence.

A combination of interview and observational data were used in this study as outlined in Chapter four, amongst the advantages and disadvantages of both is that I was the data collection instrument (Madden, 2010). Being a novice researcher with limited experience of qualitative research this may have posed a risk to the quality of data collected. However, as part of the reflexive process I recognised my limitations and ensured to undertake training on qualitative data collection and analysis as well as piloting interview and observation techniques. These measures ensured I was able to maintain the focus of interviews and observations in the style suggested as appropriate to gain good quality qualitative data (Rubin, & Rubin, 1995).

6.7 Conclusion and recommendations

6.7.1 Contribution to knowledge

This research has successfully addressed the original aim and objectives leading to a contribution to the knowledge base in a number of areas. The literature review revealed a lack of empirical evidence exploring the role of the podiatrist in the identification and prevention of lower limb venous disease and a clear gap in the knowledge base. Exploring this role has highlighted the need for growing exploration of lower limb venous disease identification and prevention, providing evidence that podiatry can be instrumental in its early identification and prevention. The findings and contribution of this study are: -

- There is an identity crisis within the podiatry profession; the foot-focussed and treatment based identity clashes with a desire to care for people as a whole and give good quality health promotion and public health messages. Lower limb venous disease features in the latter identity and is often marginalised in practice as a result.
- There is strong evidence of external influence including funding and professional leadership resulting in prioritising care interventions that do not include lower limb venous disease.
- Poor translation of theory into practice limits the podiatry role in lower limb venous disease evidenced by a theory-practice gap and a contrast between statements of ideal cultural behaviour and the observed reality. However, there are also shortfalls apparent in undergraduate education regarding compression hosiery prescription as a possible preventative measure for use in practice.
- Ritual and routine practices confine podiatry to perpetuation of activities which do not include the identification and prevention of lower limb venous disease.
- There is evidence that the professional status of podiatry and its low level of autonomy limit the inclusion of identification and prevention of lower limb venous

disease into practice. This is in contrast to other areas of podiatric practice, for example podiatric surgery and independent prescribing, where autonomy has allowed for professional boundaries to be expanded.

These factors provided evidence that neither identification nor prevention of lower limb venous disease are established as part of podiatry practice in the North of England. Each factor contributed to limiting such a role from developing and exploration is needed to understand how these limitations could be removed to allow practice to develop. This ethnographic study has contributed knowledge of the wider professional role of podiatry and revealed new understanding of the contrast between ideal accounts and real actions. Findings suggest a harsh reality that general podiatry is routine, task based and lacking in flexible, autonomous activity. The omission of preventative advice regarding lower limb venous disease highlighted podiatry's explicit accountability to external influences of guidelines and commissioning, rather than its use of abstract knowledge and jurisdiction over the lower limb. Podiatrists followed guidelines but not all guidelines were included in practice.

Whilst there is no available research into the phenomena of routine and ritual in podiatry practice, the data suggested podiatrists adopted routines that made best use of their resources, including time and knowledge. This fed into the construction of their role identity, professionalism and cultural activities. These have been discussed in detail throughout this chapter culminating in a key finding for the study; practice is restricted by ritual and routine and therefore podiatrists do not fulfil their potential role in lower limb venous disease.

This study has added to the growing literature regarding early identification and prevention of lower limb venous disease, advancing opinion-based literature by undertaking empirical study of a relevant professional group (Anderson, 2012; Atkin, 2019a, 2019b, 2019c; Capeheart, 1996; Henke, 2010; Iwuji, 2008; Labropoulos, 2019; Porter, 2018; Timmons & Bianchi, 2008; Todd, 2012; Yam, Winnoker and Khilnani, 2016). It has introduced podiatry to the discourse hitherto focussed on medicine and nursing groups and as such seeks to spread the burden of lower limb venous disease in an effort to mitigate the impact of the disease on patients and health services (Brajesh, 2015; Carradice et al., 2011; Guest et al., 2015; Kahn, et al., 2004; Nicolaidis & Labropoulos, 2019). It has also contributed to literature concerning the professional practice of podiatry from the perspective of those involved to develop understanding from the standpoint of cultural behaviour. It adds to the

growing understanding of the podiatry role in preventative practice and public health roles at a time when crises in healthcare and the health of the nation require input from as many sources as possible (DH, 2019; DHSC, 2018; Needle et al., 2011).

6.8 Recommendations for practice, policy, education and research

6.8.1 Recommendations for practice

Podiatrists should reflect on their role as lower-limb healthcare experts to consider expanding on their focus on the foot and its physical treatment. It should be common practice to raise patients' awareness of lower limb venous disease and educate those at risk of progression as to means of preventing deterioration. Podiatrists should formalise their assessment and surveillance of the lower limbs of patients in at-risk groups for lower limb venous disease progression. Patients age 65 and over, those who are obese, have previous history of DVT, or family history of venous disease could have the status of their venous system recorded and continually reassessed. This would be in line with similar attention to palpation of pulses or assessment for neuropathy in people with diabetes (NICE, 2015). Podiatrists should use their time with at-risk patients to educate them about ways in which they can recognise and prevent deterioration in lower limb venous status. Podiatrists should also liaise at earlier stages with other members of the multi-professional team to ensure patients in need of compression therapy or surgical intervention receive appropriate care at the right time.

6.8.2 Recommendations for policy

Health policies already place public health and preventative practice high on the healthcare agenda (DH, 2019; DHSC, 2018; NHS England, 2017; NHS England, 2014). However, healthcare policy should be more explicit in regards to primary prevention of VLU and progression of lower limb venous disease. With the ever-increasing ageing population and related co-morbidities that may result in an increased prevalence of venous ulceration, it is essential that appropriate members of the multi-disciplinary team are actively involved in early identification and preventative strategies. Health care policy should reflect this need and demonstrate how health services can respond through appropriate commissioning of screening and prevention activities. The paradigm of lower limb venous disease care is shifting from wound care to wound prevention but this study demonstrates the shift has not communicated to the relevant lower-limb profession, podiatry. Enhanced health policy in line with awareness campaigns such as Legs Matter and the work of the APPG (2019a, 2019b) could help to create cultural changes to bring prevention of VLU in line with prevention of diabetic foot ulcers and pressure ulcers.

6.8.3 Recommendations for education

This study did not intend a specific exploration of podiatry education programmes however, data suggested participants had received sufficient theoretical education to identify lower limb venous disease in the early stages and recommend preventative interventions. It also suggested no participants had received training in compression hosiery prescription or measuring. Findings regarding education predominantly indicated a theory-practice gap whereby propositional knowledge regarding venous disease was not translated into tacit clinical activity. Podiatry educators should review curricula to encourage students to develop a responsive but proactive approach to patient care so that skilled physical tasks coexist with independence in acting in the best interests of patients, rather than rigidly working to protocols (HCPC, 2013). Through this approach, educationalists can equip future professionals with the skills to adapt to the needs of each patient and work outside the limits of strictly commissioned practice. Early recognition and prevention of lower limb venous disease would therefore become a more readily accomplished feature of practice. However, at the time of writing, podiatry in the UK is itself in crisis with numbers of undergraduate student applications falling. In response the professional body, College of Podiatry, and Health Education England have commenced consultations regarding the curriculum and means of making the profession more attractive to potential students. The completion of this thesis is timely for consideration in that consultation process.

6.8.4 Recommendations for research

Further research could add to the contribution of this study building on the new knowledge of podiatry's current role in lower limb venous disease and the factors influencing it. The knowledge gained through this study suggests a gap exists for exploration regarding incorporating early identification and prevention into practice. An action research project could potentially confirm findings from this study whilst also testing means by which practice can be changed (Rigg, 2004; Wolfram-Cox, 2012). In addition, accounts from patients are absent from this study and exploration of their views would add to work by Meulendijks et al. (2019) to enrich understanding of lower limb venous disease prevention from patients' perspective. By these processes, research can continue to develop knowledge of lower limb venous disease identification and prevention from the current opinion based literature to empirical exploration. These would be important advances from the new foundation of this study, building momentum to affect a change in culture and therefore practice.

Appendices

Appendix 1

Critical appraisal of literature against Joanna Briggs Institute criteria

OPINION PAPERS	Is the source of the opinion clearly identified?	Does the source of the opinion have standing in the field of expertise?	Are the interests of the relevant population the central focus of the opinion?	Is the stated position the result of an analytical process and is there logic in the opinion expressed?	Is there reference to the extant literature?	Is any incongruence with the literature/ sources logically defended?
Anderson (2012)	YES	YES	YES	YES	YES	YES
Atkin (2019a)	YES	YES	YES	YES	YES	YES
Atkin (2019b)	YES	YES	YES	YES	YES	YES
Atkin (2019c)	YES	YES	YES	YES	YES	YES
Capeheart (1996)	YES	NO	YES	YES	NO	NO
Henke (2010)	YES	YES	YES	YES	YES	YES
Iwuji (2008)	YES	NO	YES	YES	YES	UNCLEAR
Labropoulos (2019)	YES	YES	YES	YES	YES	YES
Porter (2018)	YES	YES	NO	YES	YES	NO
Timmons & Bianchi (2008)	YES	YES	YES	YES	YES	NO
Todd (2012)	YES	YES	YES	YES	NO	NO
Yam, Winnoker, & Khilnani (2016)	YES	YES	YES	YES	YES	YES

CROSS-SECTIONAL STUDIES	Were the criteria for inclusion in the sample clearly defined?	Were the study subjects and the setting described in detail?	Was the exposure measured in a valid and reliable way?	Were objective, standard criteria used for measurement of the condition?	Were confounding factors identified?	Were strategies to deal with confounding factors stated?	Were the outcomes measured in a valid and reliable way?	Was appropriate statistical analysis used?
Belczak et al. (2014)	YES	YES	YES	YES	NO	UNCLEAR	YES	YES
Vlajinac et al. (2014)	YES	YES	NO	YES	UNCLEAR	UNCLEAR	YES	YES
Karahan et al (2016)	YES	YES	YES	UNCLEAR	YES	YES	YES	YES
Shai and Helevy (2005)	YES	YES	NO	YES	NO	UNCLEAR	YES	YES

CASE-CONTROL STUDIES	Were the groups comparable other than the presence of disease in cases or absence of	Were cases and controls matched appropriately?	Were the same criteria used for identification of cases and controls?	Was exposure measured in a standard, valid and reliable way?	Was exposure measured in the same way for cases and controls?	Were confounding factors identified?	Were strategies to deal with confounding factors stated?	Were outcomes assessed in a standard, valid and reliable way for cases and controls?	Was the exposure period of interest long enough to be meaningful?	Was appropriate statistical analysis used?
Abelyan, Ahrhamyan, & Yenokyan (2018)	YES	YES	YES	YES	YES	UNCLEAR	UNCLEAR	YES	YES	YES
De Franciscis et al., 2015	YES	YES	YES	YES	YES	YES	UNCLEAR	YES	YES	YES
Berard et al. (2002)	YES	YES	YES	NO	YES	YES	YES	NO	YES	YES
Robertson et al. (2009)	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES

REVIEWS	Is the review question clearly and explicitly stated?	Were the inclusion criteria appropriate for the review question?	Was the search strategy appropriate?	Were the sources and resources used to search for studies adequate?	Were the criteria for appraising studies appropriate?	Was critical appraisal conducted by two or more reviewers independently?	Were there methods to minimise errors in data extraction	Were the methods used to combine studies appropriate?	Was the likelihood of publication bias assessed?	Were recommendations for policy and/or practice supported by the	Were the specific directives for new research appropriate?
Doliner et al. (2018)	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Rabe et al. (2018)	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Robertson, Yeoh & Kolbach, (2013)	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES

RCT	
Was true randomisation used for assignment of participants to treatment groups?	YES
Was allocation to treatment groups concealed?	YES
Were treatment groups similar at the baseline?	YES
Were participants blind to the treatment assignment?	YES
Were those delivering treatment blind to treatment assignment?	YES
Were outcomes assessors blind to treatment assignment?	YES
Were treatments groups treated identically other than the treatment of interest?	NO, YES
Was follow-up complete, and if not, were strategies to address incomplete follow-up?	YES
Were participants analysed in the groups to which they were randomised?	YES
Were outcomes measured in the same way for treatment groups?	YES
Were outcomes measured in a reliable way?	YES
Was appropriate statistical analysis used?	YES
Was the trial design appropriate?	YES

QUAL	
Is there congruity between the stated philosophical perspective and the research methodology?	YES
Is there congruity between the research methodology and the research question or	YES
Is there congruity between the research methodology and the methods used to collect data?	YES
Is there congruity between the research methodology and the representation and analysis of	YES
Is there congruity between the research methodology and the interpretation of results?	YES
Is there a statement locating the researcher culturally or theoretically?	YES
Is the influence of the research on the researcher, and vice-versa, addressed?	YES
Are participants and their voices adequately represented?	YES
Is the research ethical according to current criteria?	YES
Do the conclusions drawn flow from the analysis or interpretation of the data?	YES

COHORT STUDIES	Were the two groups similar and recruited from the same population?	Were the exposures measured similarly to assign people to both exposed and unexposed	Was the exposure measured in a valid and reliable way?	Were confounding factors identified?	Were strategies to deal with confounding factors stated	Were the groups/participants free of the outcome at the start of the study (or the	Were the outcomes measured in a valid and reliable way?	Was the follow up time reported and sufficient to be long enough for outcomes to occur?	Was follow up complete, and if not, were the reasons for loss to follow up described and	Were strategies to address incomplete follow up utilised?	Was appropriate statistical analysis used?
Kim et al. (2015)	N/A	N/A	UNCLEAR	YES	YES	YES	YES	YES	NO	UNCLEAR	YES
Kostas et al. (2010)	N/A	N/A	UNCLEAR	YES	UNCLEAR	N/A	UNCLEAR	YES	YES	N/A	YES
Lee et al. (2015)	N/A	N/A	YES	YES	YES	YES	YES	YES	YES	YES	YES
Mervis, Kirsner, & Lev-Tov	N/A	N/A	YES	YES	YES	N/A	N/A	UNCLEAR	N/A	N/A	YES
Serra et al. (2016)	YES	YES	YES	YES	YES	YES	YES	UNCLEAR	NO	UNCLEAR	YES

Appendix 2

Redacted ethics committee approval letters and statements



02 March 2015

Mr Peter J J Roberts
Senior Lecturer and PhD student
The University of Huddersfield
Ramsden Building, Queensgate
Huddersfield
HD1 3DH

Dear Mr Roberts

Study title: The care of patients with lower limb venous insufficiency: An ethnographic study to explore the role of podiatrists in the North of England

REC reference: 15/NW/0137

IRAS project ID: 124438

Thank you for your submission responding to the Proportionate Review Sub-Committee's request for changes to the documentation for the above study.

The revised documentation has been reviewed and approved by the sub-committee.

We plan to publish your research summary wording for the above study on the HRA website, together with your contact details. Publication will be no earlier than three months from the date of this favourable opinion letter. The expectation is that this information will be published for all studies that receive an ethical opinion but should you wish to provide a substitute contact point, wish to make a request to defer, or require

further information, please contact the REC Manager [REDACTED],
nrescommittee.northwest-gmwest@nhs.net. Under very limited circumstances (e.g. for student research which has received an unfavourable opinion), it may be possible to grant an exemption to the publication of the study.

Confirmation of ethical opinion

On behalf of the Committee, I am pleased to confirm a favourable ethical opinion for the above research on the basis described in the application form, protocol and supporting documentation as revised.

Conditions of the favourable opinion

The favourable opinion is subject to the following conditions being met prior to the start of the study.

Management permission or approval must be obtained from each host organisation prior to the start of the study at the site concerned.

Management permission ("R&D approval") should be sought from all NHS organisations involved in the study in accordance with NHS research governance arrangements.

Guidance on applying for NHS permission for research is available in the Integrated Research Application System or at <http://www.rdforum.nhs.uk>.

Where a NHS organisation's role in the study is limited to identifying and referring potential participants to research sites ("participant identification centre"), guidance should be sought from the R&D office on the information it requires to give permission for this activity.

For non-NHS sites, site management permission should be obtained in accordance with the procedures of the relevant host organisation.

Sponsors are not required to notify the Committee of approvals from host organisations.

Registration of Clinical Trials

All clinical trials (defined as the first four categories on the IRAS filter page) must be registered on a publically accessible database. This should be before the first participant is recruited but no later than 6 weeks after recruitment of the first participant.

There is no requirement to separately notify the REC but you should do so at the earliest opportunity e.g. when submitting an amendment. We will audit the registration details as part of the annual progress reporting process.

To ensure transparency in research, we strongly recommend that all research is registered but for non-clinical trials this is not currently mandatory.

If a sponsor wishes to request a deferral for study registration within the required timeframe, they should contact hra.studyregistration@nhs.net. The expectation is that all clinical trials will be registered, however, in exceptional circumstances non registration may be permissible with prior agreement from NRES. Guidance on where to register is provided on the HRA website.

It is the responsibility of the sponsor to ensure that all the conditions are complied with before the start of the study or its initiation at a particular site (as applicable).

Ethical review of research sites

The favourable opinion applies to all NHS sites taking part in the study, subject to management permission being obtained from the NHS/HSC R&D office prior to the start of the study (see "Conditions of the favourable opinion" above).

Approved documents

The documents reviewed and approved by the Committee are:

<i>Document</i>	<i>Version</i>	<i>Date</i>
Covering letter on headed paper [Cover Letter]	1	27 February 2015
Evidence of Sponsor insurance or indemnity (non NHS Sponsors only) [University of Huddersfield research indemnity insurance]	1	30 January 2015
Interview schedules or topic guides for participants [Interview guide]	2	12 January 2015
IRAS Checklist XML [Checklist_02022015]		02 February 2015
Letters of invitation to participant [Invitation to NHS manager]	1	12 January 2015
Other [2nd supervisor CV]	1	12 January 2015
Other [Observation Tool]	1	12 January 2015
Other [3rd supervisor CV]	1	12 January 2015

Other [Poster]	2	12 February 2015
Participant consent form [Consent form]	2	27 February 2015
Participant information sheet (PIS) [Participant Information Sheet]	3	27 February 2015
REC Application Form [REC_Form_02022015]		02 February 2015
Research protocol or project proposal [Research protocol]	1	30 January 2015
Summary CV for Chief Investigator (CI) [Peter Roberts CV]	1	30 January 2015
Summary CV for supervisor (student research) [Main supervisor CV]	1	12 January 2015

Statement of compliance

The Committee is constituted in accordance with the Governance Arrangements for Research Ethics Committees and complies fully with the Standard Operating Procedures for Research Ethics Committees in the UK.

After ethical review

Reporting requirements

The attached document "After ethical review – guidance for researchers" gives detailed guidance on reporting requirements for studies with a favourable opinion, including:

- Notifying substantial amendments
- Adding new sites and investigators
- Notification of serious breaches of the protocol
- Progress and safety reports
- Notifying the end of the study

The HRA website also provides guidance on these topics, which is updated in the light of changes in reporting requirements or procedures.

Feedback

You are invited to give your view of the service that you have received from the National Research Ethics Service and the application procedure. If you wish to make your views known please use the feedback form available on the HRA website:

<http://www.hra.nhs.uk/about-thehra/governance/quality-assurance>

We are pleased to welcome researchers and R & D staff at our NRES committee members' training days – see details at <http://www.hra.nhs.uk/hra-training/>

Clinical Audit & Research Department

[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

[REDACTED]

[REDACTED]
[REDACTED]
[REDACTED]

23rd March 2015

Mr. Peter Roberts
Senior Lecturer in Podiatry
Division of Podiatry and Clinical Sciences
University of Huddersfield
Ramsden Building
Queensgate
Huddersfield
HD1 3DH

Dear Peter

Letter of Access for Research

Study Title: Professional Podiatry Practice: An ethnographic study.
Local Study Ref: BCHC201502
REC Ref: 15/NW/0137
EuDraCT Ref: N/A
CSP Ref: N/A

This letter confirms your right of access to conduct research through [REDACTED]
[REDACTED] for the purpose and on the terms and conditions set out
below.

Your right of access commences on **23rd March 2015** and ends on **31st July 2015** unless
terminated earlier in accordance with the terms and conditions listed below:

The information supplied about your role in research at the Trust has been reviewed and you do not require an honorary research contract. We are satisfied that such pre-engagement checks as we consider necessary have been carried out.

You are considered to be a legal visitor to the Trust. You are not entitled to any form of payment or access to other benefits provided by the Trust to employees and this letter does not give rise to any other relationship between you and the Trust, in particular that of an employee.

While undertaking research through the Trust, you will remain accountable to your substantive employer but you are required to follow the reasonable instructions of the heads of the relevant NHS Departments in this NHS organisation, or those given on their behalf in relation to the terms of this right of access.

Where any third party claim is made, whether or not legal proceedings are issued, arising out of or in connection with your right of access, you are required to co-operate fully with any investigation by the Trust in connection with any such claim and to give all such assistance as may reasonably be required regarding the conduct of any legal proceedings.

You must act in accordance with site's policies and procedures, which are available to you upon request and the Research Governance Framework for Health & Social Care.

You are required to co-operate with the Trust, in discharging its duties under the Health and Safety at Work etc., Act 1974 and other health and safety legislation and to take reasonable care for the health and safety of yourself and others while on the site's premises.

Although you are not a contract holder, you must observe the same standards of care and propriety in dealing with patients, staff, visitors, equipment and premises as is expected of a contract holder and you must act appropriately, responsibly and professionally at all times.

You are required to ensure that all information regarding patients or staff remains secure and strictly confidential at all times. You must ensure that you understand and comply with the requirements of the NHS Confidentiality Code of Practice (<http://www.dh.gov.uk/assetRoot/04/06/92/54/04069254.pdf>) and the Data Protection Act 1998. Furthermore you should be aware that under the Act, unauthorised disclosure of information is an offence and such disclosures may lead to prosecution.

The Trust will not indemnify you against any liability incurred as a result of any breach of confidentiality or breach of the Data Protection Act 1998. Any breach of the Data Protection Act 1998 may result in legal action against you and/or your substantive employer.

You should ensure that, where you are issued with an identity or security card, a bleep number, email or library account, keys or protective clothing, these are returned upon termination of this arrangement. Please also ensure that while on the premises you wear your ID badge at all times, or are able to prove your identity if challenged.

Please note that the Trust accepts no responsibility for damage to or loss of personal property.

We may terminate your right to attend at any time either by giving seven days' written notice to you or immediately without any notice if you are in breach of any of the terms or conditions described in this letter or if you commit any act that we reasonably consider to amount to serious misconduct or to be disruptive and/or prejudicial to the interests and/or business of the Trust, or if you are convicted of any criminal offence.

Where applicable, your substantive employer will initiate your Independent Safeguarding Authority (ISA) registration in-line with the phasing strategy adopted within the NHS (as from 26th July 2010 at the earliest). Once you are ISA-registered, your employer will continue to monitor your ISA registration status via the on-line ISA service. Should you cease to be ISA-registered, this letter of access is immediately terminated. Your substantive employer will immediately withdraw you from undertaking this or any other regulated activity and you **MUST** stop undertaking any regulated activity.

Your substantive employer is responsible for your conduct during this research project and may in the circumstances described above instigate disciplinary action against you.

If your circumstances change in relation to your health, criminal record, professional registration or ISA registration, or any other aspect that may impact on your suitability to conduct research, or your role in research changes, you must inform the your nominated contact within the Trust and the Head of Clinical Audit and Research along with the organisation that employs you through its normal procedures.

Yours Sincerely

[Redacted signature line]

[Redacted signature line]

[Redacted signature line]

[Redacted signature line]

Head of Research & Clinical Audit

For Information Only:

Electronic copy sent to [REDACTED], Clinical Manager Podiatry & Bio-mechanical Services,

[REDACTED]

Dear Peter,

Dr [REDACTED], Deputy Chair of SREP, has asked me to contact you with regard to your SREP application as detailed above.

Your application has been approved outright, with the following points to be discussed with your supervision team:

Methodology:

- Have you considered video recording the practice sessions, thereby reducing the 'hawthorne' effect?

Anonymity:

- Although you have stated you will maintain complete anonymity, will this be possible to achieve with the rich demographic descriptions of the participants?

Psychological Support for Participants:

- This is detailed, however what action will be taken if you observe harmful practice or an incident occurs that causes the participant distress? Will the research for that participant be withdrawn or stopped?

Information Sheet:

- The reviewers noted the specific research question was omitted – is this ethically acceptable? Maybe you could test this with a practitioner to gauge reaction to the covert wording.

Please note – you must inform SREP upon receipt of successful IRAS and Research Governance permissions to access NHS participants. You cannot undertake your research on NHS premises without these permissions.

With best wishes for the success of your research project.

Regards,

[REDACTED]

(on behalf of Dr [REDACTED], Deputy Chair of SREP)

[REDACTED]

[REDACTED]

Subject: SREP Application - Peter Roberts (PhD - Staff Doc Route) - APPROVED - The role of podiatry in the early identification and prevention of venous disease: an ethnographic study (SREP/2018/025)

Dear Peter,

The reviewers of your SREP Application as detailed above have asked me to confirm that you have addressed the issues raised to their satisfaction and your Application has now been **approved outright**.

With best wishes for the success of your research project.

Regards,

[Redacted]

(on behalf of SREP)

[Redacted]

[Redacted]
[Redacted]
[Redacted]

[Redacted]
[Redacted]

Appendix 3

Participant information sheet for stage one: combined observations and interviews

Professional Podiatry Practice: An Ethnographic Study

INFORMATION SHEET

You are being invited to take part in this study which aims to explore general podiatry practice and the professional role of the podiatrist. Please take time to read the following information carefully and discuss it with me if you wish. Please do not hesitate to ask if there is anything that is not clear or if you would like more information.

What is the study about?

The purpose of this study is to gain an understanding of podiatrists' current clinical activities and roles and to gain your views on various aspects of professional practice.

Why have I been approached?

You have been asked to participate because you are a podiatrist practicing in the North of England. As such I believe you are in a position to provide an insight which will be useful in answering my research questions.

Do I have to take part?

It is your decision whether or not you take part. If you decide to take part you will be asked to sign a consent form, and you will be free to withdraw, up to the time of data analysis, without giving a reason. A decision to withdraw at any time until the time of data analysis, or a decision not to take part, will not affect you or any relationship you may have with the University of Huddersfield.

What will I need to do?

If you agree to take part in the research I will be accompanying you during a full day of clinical work in order to observe your management and interaction with your patients/clients. I will be acting as a fly on the wall but will engage in minimal conversation with you and your patients. I

will make notes during the observations but I will not take any copies of patient records or need any access to their information. Following the observation you and I will meet for an interview at a location suitable to you. This would ideally be on the same day as the observation but could be up to one week after. The interview will last less than one hour and will be recorded to allow me to transcribe it at a later time.

Is this an audit, inspection or examination by the University of Huddersfield?

No. This research project is not an inspection or audit of your practice. This process is in no way related to any other business or contact you may have, as a student or placement educator, with the University of Huddersfield. I am interested in what assessments and treatments you do in your practice and what your views are about your role. I am not going to be assessing your work.

Will my identity be disclosed?

All information disclosed within the observations and interview will be kept confidential, except where legal obligations would necessitate disclosure to appropriate personnel. However, unsafe practice may be reported to the Health and Care Professions Council (HCPC).

What will happen to the information?

All information collected from you during this research will be kept secure and any identifying material, such as names and locations will be removed in order to ensure anonymity. It is anticipated that the research may, at some point, be published in a journal or conference paper and be available through the University repository. However, should this happen, your anonymity will be ensured, although it may be necessary to use your words in the presentation of the findings and your permission for this is included in the consent form.

Who can I contact for further information?

If you require any further information about the research, please contact me on:

E-mail: p.roberts@hud.ac.uk

Telephone: 01484 473224

Who can I contact if I have concerns about the research or wish to complain?

If you have a concern about any aspect of this study, you should ask to speak to the researchers who will do their best to answer your questions on:-

E-mail: p.roberts@hud.ac.uk

Telephone:01484 473224

If you remain unhappy and wish to complain formally, you can do this by contacting professor Nigel King at the University of Huddersfield on:-

E-mail: n.king@hud.ac.uk

[Telephone: 01484 472812](tel:01484472812)

For other queries or concerns you can contact my lead academic supervisor Dr Karen Ousey on:-

E-mail: k.j.ousey@hud.ac.uk

Telephone: 01484 473462

Appendix 4

Participant consent form for stage one: combined observations and interviews



University of
HUDDERSFIELD

Centre Number: Study Number: Participant Identification Number:

CONSENT FORM

Title of Project: Professional Podiatry Practice: An Ethnographic Study

Name of Researcher: Peter Roberts

Please
initial box

1. I confirm that I have read the information sheet dated..... (version.....) for the above study. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily.

2. I understand that my participation is voluntary and that I am free to withdraw at any time up until data analysis without giving any reason, without my legal rights being affected.

3. I agree to the interview being recorded and transcribed

4. I give permission for my words to be quoted (by use of a pseudonym).

5. I consent to having my professional practice observed

6. I understand that my identity will be protected by the use of a pseudonym in the report and that no written information that could lead to me being identified will be included in any report.

7. I understand that the information collected will be kept in secure conditions for a period of seven years at the University of Huddersfield

8. I understand that no person other than the researcher and facilitators will have access to the information provided

9. I agree to take part in the above study.

Form continues on next page.

10. I understand that relevant sections of my medical notes and data collected during the study,
may be looked at by individuals from The University of Huddersfield, from regulatory authorities or from the NHS Trust, where it is relevant to my taking part in this research.

I give permission for these individuals to have access to my records.

Name of Participant Date Signature

Name of Researcher Date Signature

Appendix 5

Participant information sheets for stage two: semi-structured interviews with staff and students



INFORMATION SHEET

You are being invited to take part in this study regarding the podiatry role in the care of patients with lower limb venous insufficiency. Before you decide to take part it is important that you understand why the research is being done and what it will involve. Please take time to read the following information carefully and discuss it with me if you wish. Please do not hesitate to ask if there is anything that is not clear or if you would like more information.

What is the study about?

The purpose of this study is to find out what you think about the podiatry role in the care of patients with lower limb venous insufficiency and more widely about vascular assessment and preventative practices. I am particularly interested to hear from you about your experiences in practice and from an educational perspective.

Why have I been approached?

You have been asked to take part because you have experience of both podiatry practice and podiatry education. I am interested in finding out what your views are from this blend of experiences.

Do I have to take part?

It is your decision whether or not you take part. If you decide to take part you will be asked to sign a consent form, and you will be free to withdraw at any time until I have analysed the data

and without giving a reason. A decision to withdraw at any time, or a decision not to take part, will not affect you in any way.

What will I need to do?

If you agree to take part in the research you will join me for an interview which will be recorded and transcribed.

How long will the process take?

The interview will last no longer than 60 minutes.

Will I be able to check that the transcription is actually what I said?

Yes. I will invite you to check the transcription to make sure you agree that that is what you said and that I have not misrepresented or misheard what you said.

If I change my mind will I be able to leave the study?

You may withdraw any time up to the point that the data from the interview has been analysed.

Will my identity be disclosed?

All information disclosed within the interview, including your name, will be kept confidential.

What will happen to the information?

All information collected from you during this research will be kept secure and any identifying material, such as names will be removed in order to ensure anonymity. It is anticipated that the research may, at some point, be published in a journal or report. However, should this happen, your anonymity will be ensured, although it may be necessary to use your words in the presentation of the findings and your permission for this is included in the consent form.

What should I do if I find this interview makes me worry about my previous or current practice?

There are several sources of support within the university which you can access through the occupational health department or via your line manager.

Who can I contact for further information?

If you require any further information about the research, please contact me directly on:

E-mail: p.roberts@hud.ac.uk

Telephone: 01484 473224

Alternatively if you have concerns about this research please contact my academic supervisor on:

Name: Dr Karen Ousey

E-mail: k.j.ousey@hud.ac.uk

Tel: 01484 473462

Date:3/2/2015

Version No:1

INFORMATION SHEET

You are being invited to take part in this study regarding the podiatry role in the care of patients with lower limb venous insufficiency. Before you decide to take part it is important that you understand why the research is being done and what it will involve. Please take time to read the following information carefully and discuss it with me if you wish. Please do not hesitate to ask if there is anything that is not clear or if you would like more information.

What is the study about?

The purpose of this study is to find out what you think about the podiatry role in the care of patients with lower limb venous insufficiency and more widely about vascular assessment and preventative practices. I am particularly interested to hear from you about your experiences on placement and your views of coverage of these topics on the degree course.

Why I have been approached?

You have been asked to take part because you are nearing the end of your degree course and are about to enter the profession of podiatry and I am interested to find out what you think at this point of being between education and practice.

Do I have to take part?

It is your decision whether or not you take part. If you decide to take part you will be asked to sign a consent form, and you will be free to withdraw at any time until I have analysed the data and without giving a reason. A decision to withdraw at any time, or a decision not to take part, will not affect you in any way. Although I am part of your teaching team, you can rest assured that your participation will not affect any aspect of the relationships between yourself and your tutors. In fact your work will have already been completed by the time this research takes place.

What will I need to do?

If you agree to take part in the research you will join me for an interview which will be recorded and transcribed.

How long will the process take?

The interview will last no longer than 60 minutes.

Will I be able to check that the transcription is actually what I said?

Yes. I will invite you to check the transcription to make sure you agree that that is what you said and that I have not misrepresented or misheard what you said.

If I change my mind will I be able to leave the study?

You may withdraw any time up to the point that the data from the interview has been analysed.

Will my identity be disclosed?

All information disclosed within the interview, including your name, will be kept confidential by the researcher.

What will happen to the information?

All information collected from you during this research will be kept secure and any identifying material, such as names will be removed in order to ensure anonymity. It is anticipated that the research may, at some point, be published in a journal or report. However, should this happen, your anonymity will be ensured, although it may be necessary to use your words in the presentation of the findings and your permission for this is included in the consent form.

What should I do if I find this interview makes me worry about the module that I have just completed?

There are several sources of support within the university which you can access including the personal tutor system, the students' union and the student support services.

Who can I contact for further information?

If you require any further information about the research, please contact me directly on:

E-mail: p.roberts@hud.ac.uk

Telephone: 01484 473224

Alternatively if you have concerns about this research please contact my academic supervisor on:

Name: Dr Karen Ousey

E-mail: k.j.ousey@hud.ac.uk

Tel: 01484 473462

Date:3/2/2015

Version No:1

Appendix 6

Consent form for stage two: semi-structured interviews

Participant Identification Number:

CONSENT FORM

Title of Project: The care of patients with lower limb venous insufficiency: An ethnographic study to explore the role of podiatrists in the North of England

Name of Researcher: Peter Roberts

Please
initial box

11. I confirm that I have read the information sheet dated..... (version.....) for the above study. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily.

12. I understand that my participation is voluntary and that I am free to withdraw at any time up until data analysis without giving any reason, without my legal rights being affected.

13. I agree to the interview being recorded and transcribed

14. I give permission for my words to be quoted (by use of a pseudonym).

15. I understand that my identity will be protected by the use of a pseudonym in the report and that no written information that could lead to me being identified will be included in any report.

16. I understand that the information collected will be kept in secure conditions for a period of seven years at the University of Huddersfield

17. I understand that no person other than the researcher and facilitators will have access to the information provided

18. I agree to take part in the above study.

Name of Participant

Date

Signature

Name of Researcher

Date

Signature

Appendix 7

Participant information for stage three: focus group interview



The role of podiatry in the early identification and prevention of venous disease: an ethnographic study

INFORMATION SHEET

You are being invited to take part in a PhD research study exploring the role of the podiatrist in the early identification and prevention of venous disease. Before you decide to take part it is important that you understand why the research is being undertaken and what it will involve. Please take time to read the following information carefully and discuss it with me if you wish. Please do not hesitate to ask if there is anything that is not clear or if you would like further information.

What is the study about?

The purpose of this study is to explore the role of podiatrists in the early identification and prevention of venous disease. I have already collected data by observing and interviewing podiatrists. This focus group interview is intended to gather additional data to further explore the role of podiatrists from a wider range of participants.

Why I have been approached?

You have been asked to participate because you have expertise or experience in caring for and/or treating patients with venous disease. This means you may be in a position to contribute to my research.

Do I have to take part?

It is your decision whether or not you take part in the study. If you decide to participate you will be asked to sign a consent form, and you will be free to withdraw without giving a reason up until the start of data analysis. Analysis is likely to commence on 21st June 2018. A decision to withdraw will not affect your relationship in anyway with the University of Huddersfield as an education provider, employer or research partner. If you are considering withdrawal you will be offered the opportunity to view transcripts and indicate specific statements you wish to withdraw or to state your wish to withdraw completely. However, extracting your data from the focus group transcript may not alter the overall findings because your influence and involvement in the discussions would still be apparent. Upon commencement of the data analysis it will not be possible to remove your data.

What will I need to do?

If you agree to take part in the research you will be asked to attend the University of Huddersfield for a period of up to 2.5 hours. This time will include introduction to the study, participation in the focus group interview and a debrief with the researcher, should you wish to have one. The focus group interview will last up to 2 hours. To make your visit easier I can arrange car parking and will provide tea and coffee.

Will my identity be disclosed?

All information disclosed within the interview will be kept confidential, unless you indicate that you or anyone else is at risk of serious harm, in which case I would need to pass this information to the Health and Care Professions Council (HCPC) or relevant professional regulatory body. From the point of transcription of the focus group you will be assigned a pseudonym and all other personal data will be destroyed from the time of analysis.

The focus group interview will involve multiple participants who will be able to identify you. For this reason the group will be asked to abide by rules to respect each others' privacy and right to voice opinions, and for these opinions to remain confidential to the group.

What will happen to the information?

All information collected from you during this research will be kept secure and any identifying material, such as names will be removed in order to ensure anonymity. The rest of the data will then only be accessible from the university data bases by those with permission for a period of

10 years. This may not be the current research team (due to contracts of employment) however, should this be the case clear instructions for disposal of information after 10 years will be lodged with a custodian in the School of Human and Health Sciences research office.

It is anticipated that the research may, at some point, be published in a journal or report. However, should this happen, your anonymity will be ensured, although it may be necessary to use your words in the presentation of the findings and your permission for this is included in the consent form. The focus group interview is part of my PhD research and data from it will be published in the thesis which will also be lodged in the University of Huddersfield repository.

Who can I contact for further information?

If you require any further information about the research, please contact me on:

Name: Peter Roberts

E-mail: p.roberts@hud.ac.uk

Telephone: 01484 473224

Who can I contact if I have concerns about this study?

If you have concerns or further questions please contact my lead supervisor on:

Name: Professor Karen Ousey

E-mail: k.j.ousey@hud.ac.uk

Telephone: 01484 473462

Appendix 8

Consent form for stage three: focus group interview



CONSENT FORM

The role of podiatry in the early identification and prevention of venous disease: An ethnographic study

It is important that you read, understand and sign the consent form. Your contribution to this research is entirely voluntary and you are not obliged in any way to participate, if you require any further details please contact your researcher.

I have been fully informed of the nature and aims of this research as outlined in the information sheet version 2, dated 16:04:2018

I consent to taking part in it

I understand that I have the right to withdraw from the research up until commencement of data analysis

I give permission for my words to be quoted (by use of pseudonym)

I understand that the information collected will be kept in secure conditions for a period of 10 years at the University of Huddersfield

I understand that no person other than the researcher/s, facilitator/s and a transcriber will

have access to the information provided.

I understand that my identity will be protected by the use of pseudonym in the report and that no written information that could lead to my being identified will be included in any report.

If you are satisfied that you understand the information and are happy to take part in this project please put a tick in the box aligned to each sentence and print and sign below.

Signature of Participant: <hr/>	Signature of Researcher: <hr/>
Print: <hr/>	Print: <hr/>
Date: <hr/>	Date: <hr/>

(one copy to be retained by Participant / one copy to be retained by Researcher)

Appendix 9

Observation tool for field notes

Observation tool

Date and Time _____ Location _____ Participant (pseudonym) _____

Action	Asks about history of venous problems or asks questions which might lead to information on venous pathology (yes or no)	Rolls up trousers/performs visual inspection (Y or N)	Comments on presentation of venous changes in limb (Y or N)	Discusses any current, relevant ongoing management (Y or N)	Offers advice regarding venous disease (Y or N)	Refers or discusses referral to relevant nursing or vascular services. (Y or N)	Would venous assessments/Prevention/treatment be expected for this patient? (Yes/No)	Considers venous risk and prevention in an otherwise non-vascular patient.
Patient No								
Notes								

Appendix 10

Interview guides

Professional Podiatry Practice: An Ethnographic Study

Interview guide

The interviews will start with an opportunity for the participants to introduce themselves, their educational background and give an overview of their current practice.

I will re-introduce the project and remind participants that the interview will be recorded and transcribed but that their name will be replaced with a pseudonym and that all data will be treated confidentially. They will have an opportunity to ask me any questions and then I will commence the interview using the following topic areas as a guide:-

- 1) Opening question asking their views on preventative / health promotion / public health role of a podiatrist**
- 2) The observations and their views on the vascular assessments undertaken**
- 2) Understanding of Venous Disease and discussion around any instances from the observation**
- 3) Prioritisation of venous disease as part of their role**
- 4) Care of patients with venous diseases – views on prevention, management and interdisciplinary working.**

Closing comments and thank you

The care of patients with lower limb venous insufficiency: An ethnographic study to explore the role of podiatrists in the North of England

Interview guide – academic or management participants

The interviews will start with an opportunity for the participants to introduce themselves and give an overview of their podiatry practice and educational history.

I will introduce the project and remind participants that the interview will be recorded and transcribed but that their name will be replaced with a pseudonym and that all data will be treated confidentially. They will have an opportunity to ask me any questions and then I will commence the interview using the following topic areas as a guide: -

- 1) Their views on the wider medical/preventative role of podiatrists**
- 2) Understanding of Venous Disease and discussion around comparisons with other vascular diseases**
- 3) Prioritisation of venous disease as part of the role as they perceive it and as they experienced in practice or management**
- 4) Care of patients with venous diseases – views on prevention, management and interdisciplinary working.**

Closing comments and thank you

The care of patients with lower limb venous insufficiency: An ethnographic study to explore the role of podiatrists in the North of England

Interview guide – Student participants

The interviews will start with an opportunity for the participants to introduce themselves, their educational background and give an overview of their practice placement experience.

I will introduce the project and remind participants that the interview will be recorded and transcribed but that their name will be replaced with a pseudonym and that all data will be treated confidentially. They will have an opportunity to ask me any questions and then I will commence the interview using the following topic areas as a guide:-

- 1) Their views on the wider medical/preventative role of podiatrists**
- 2) Understanding of Venous Disease and discussion around comparisons with other vascular diseases**
- 3) Prioritisation of venous disease as part of the role as they perceive it and as they experienced on placement**
- 4) Care of patients with venous diseases – views on prevention, management and interdisciplinary working as they have seen on placement.**
- 5) What they anticipate their future practice role in this area to be and their preparation for it.**

Closing comments and thank you

Appendix 11

Data analysis documents: - An example excerpt of initial analysed transcript using a coding table (Smith & Firth, 2011).

<p>I tend to look for, I suppose, yeah I suppose you, I do when I do the arterial checks, you're looking, you're asking for varicose veins, I mean that is one of the checks that comes up... on System one... ...d'you have varicose veins, d'you have oedema...</p> <p>(218 - 224 with incidentals deleted)</p>	<p>'I tend to look for'</p>	<p>Regularity and knowing what to observe for</p>	<p>Observing for disease signs</p>
	<p>'you're asking for varicose veins'</p>	<p>Asking patients about their known pathologies</p>	<p>Specific history taking</p>
	<p>'one of the checks that comes up... on System one'</p>	<p>Prompted by external system</p>	<p>External drivers to practice</p>
<p>There is no follow-on for that... ...to, not like a routine follow-on, I suppose it'd be upto the individual clinician to think have they got a venous problem</p>	<p>'There is no follow-on for that...'</p>	<p>No further prompts or pathway on system one</p>	<p>Venous follow on is clinician dependant</p>
	<p>'not like a routine follow-on'</p>	<p>No set actions/not frequently occurring/ not like other conditions?</p>	<p>Not a core consideration</p>
	<p>'upto the individual clinician'</p>	<p>Individual professional decision</p>	<p>Clinician dependant</p>
	<p>'have they got a venous problem'</p>	<p>Clinical reasoning about venous action</p>	<p>Clinical reasoning</p>

<p>that they need erm, referring on</p>	<p>that they need erm, referring'</p>		
<p>to or oedem, er, usually it there's oedema I'll say are you on water tablets... ...or are you going</p>	<p>'you've still got all this oedema and you're on water tablets, you know, are, have you got a heart problem'</p>	<p>Recognising systemic illness by lower limb presentation</p>	<p>Systemic signs in the lower limb</p>
<p>to your GP? And in some instances I've said to a patient with oedema, I think you need to go back and see the GP because you've still got all this oedema and you're on water tablets, you know, are, have you got a heart problem or whatever erm, so very often they will say okay I'll go and see the GP but if, if it's someone again that's perhaps, I don't trust them to make that appointment themselves I'll say would you like me to make, would you like me</p>	<p>'I don't trust them to make that appointment themselves'</p>	<p>Concerned that patients won't follow up on signposting advice</p>	<p>Assisting patients on follow up</p>

to write to your le, a jo, letter to your doctor and then usually I give them a copy of the letter so that they've got a copy as well. (229 - 244)			
Yeah there is, now, I mean now you've said that I'm thinking yeah we do have like, you know, you've got monophasic pulses, you, you, the criteria's you'll erm, put them for an ABPI but if they've got varicose veins we've no kind of follow-on for that unless you individually decide to er, you know, to make that decision yourself , so yeah there is a, erm, a difference. (258 - 263)	'monophasic pulses... put them for an ABPI'	Clear arterial pathway for further assessment	Arterial core practice
	'but if they've got varicose veins we've no kind of follow-on for that'	Contrast in practice to arterial	Venus practice less structured
	'make that decision yourself'	No prompt for venous referral in contrast to arterial	Venous practice less structured
	'there is ...a difference.'	Arterial and venous treated differently	Arterial and venous contrast
I would suspect so yeah, because it's	'it's not a flow thing is it, you	No structure to venous assessment and referral	Venous practice un- structured

<p>upto the individual then isn't it... ...it's not a, it's not a flow thing is it, you know, like a flow-chart thing. (266 – 268)</p>	<p>know, like a flow-chart thing'</p>		
<p>Yeah I would say so, yeah. Yeah. I would probably involve the district nurses I would think more than the GP but then again you'd have to involve the GP if they weren't already under district nurses. 'Cos the district nurses can't see a patient unless they've had a referral from the GP. (272 – 276)</p>	<p>'I would probably involve the district nurses... more than the GP'</p>	<p>Closer working with district nurses than GP – relevance of team members</p>	<p>Links with district nurses for veins</p>
	<p>'involve the GP if they weren't already under district nurses'</p>	<p>Negotiating access to care</p>	<p>GP as gatekeeper</p>
<p>It depends on the... severity I would, I mean 'cos some people say they've got varicose veins and they have got varicose</p>	<p>'It depends on the... severity'</p>	<p>Individualised practice in recognising severity and professional decision making.</p>	<p>Clinical reasoning</p>
	<p>'cos some people say they've got varicose veins and they have got varicose veins but</p>	<p>Deciphering and corroborating subjective patient reports</p>	<p>Deciding which patients to treat/refer</p>

<p>veins but they don't trouble them and they don't have any problems with them erm, but some, some patient's'll say oh they're, they're painful erm, and some patient's'll say they want them stripped or removed or whatever but they don't do that anymore on the NHS I don't think. Erm, not in this area anyway. (287 – 294)</p>	<p>they don't trouble them'</p>		
	<p>'but some, some patient's'll...they're painful'</p>	<p>Receiving subjective reports of pain</p>	<p>Patient reported problems</p>
	<p>'patient's'll say they want them stripped or removed'</p>	<p>Treatment/referral choices driven by the patient</p>	<p>Patient choice and drive</p>
<p>I mean I've not really... ...thought about it that much until you've brought it up just now but yeah I suppose there is. There seems to be more erm, erm, ... can't think of the word, more priority given to the arterial circulation than</p>	<p>'There seems to be more priority given to the arterial circulation than the venous circulation'</p>	<p>Recognising contrasting priority of arterial over venous</p>	<p>Arterial disease is a higher priority</p>

<p>the venous circulation. I would say so. Certainly, yeah. (301 – 306)</p>			
<p>I think it's in general ri, in general within perhaps the department because, I don't know, we see erm, a lot of patients with arterial problems, with blockages erm, you know, they've got intermittent claudication and erm, probably got core morbidities as well, you know, diabetes and other problems. Erm, so yeah. Have I gone off track? (311 – 315)</p>	<p>'general within perhaps the department because...we see ...a lot of patients with arterial problems</p>	<p>Shared picture across the department</p>	<p>See more patients with arterial pathologies</p>
<p>I think it's something... ..we could do more about perhaps. Than we do at the moment. Because all we tend to do, I, I shouldn't speak</p>	<p>'I think it's something... ..we could do more about perhaps.'</p>	<p>More to do with venous disease</p>	<p>Potential for more venous involvement</p>
	<p>'all we tend to do'</p>	<p>General Limitation of practice</p>	<p>Limited venous practice</p>
	<p>'we do tend to just tick the varicose veins, yes,'</p>	<p>Following the prompts minimal practice</p>	<p>Minimal venous practice</p>

<p>for everybody else but we do tend to just tick the varicose veins, yes, I mean I'll usually say, d'you have any problems with your varicose veins? And then if they said they had a problem then I would, you know, use my initiative to do whatever but I can't speak for other people, I don't know what other people do. (320 – 327)</p>	<p>'use my initiative to do whatever but I can't speak for other people'</p>	<p>Individual approach to practice</p>	<p>Individual approach</p>
<p>For varicose veins? I don't know. I honestly don't know. Either my mind's just gone blank or... ...is there something I should do. I don't know [laughs]. (322 – 355)</p>	<p>For varicose veins? I don't know. I honestly don't know.</p>	<p>Initially not sure on treatment for varicose veins.</p>	<p>Limited knowledge on vein treatment</p>
<p>Well I'd advise 'em to go to their doctors if</p>	<p>'advise 'em to go to their doctors'</p>	<p>Referral to get care from other professional</p>	<p>Signposting/referral</p>

<p>they were having a problem with their varicose veins. But personally myself ... the only other thing is erm, the support stockings I suppose. Erm... (339 - 341)</p>	<p>'the only other thing is erm, the support stockings I suppose'</p>	<p>Identifies use of stockings</p>	<p>Compression stockings</p>
<p>erm, and then I went back to work part-time after that and I've remained part-time ever since. Er, I did two-and-a-half days and then a year after working I upped it to three days erm, I've worked in the diabetic team, done the high-risk dressings on maternity cover and stuff erm, ... done home visits, I did, before I went part-time I was over at [name deleted]... ...and when I er, became part-time I moved over at [name deleted],</p>			

<p>so I'm not quite as erm, not got quite the same animosity that they have between the [name deleted] and the [name deleted] podiatrists [laughs] because I've worked in both camps. Erm, yeah erm, ... so yeah, I've, I've worked mainly as well in clinics on my own where I've, I've been in a single chair clinic... ...so I've been the only podiatrist actually there... ...so that makes you kind of, you, you've gotta sort things out yourself a lot more than if you're with a group o' people... ...you know, so erm...</p>			
<p>Erm [sighs], I think it makes you feel more responsible for</p>	<p>'I think it makes you feel more responsible for the patient when</p>	<p>Mode of working affects responsibility for patients</p>	<p>Responsibility for patients.</p>

<p>the patient when you're just a, erm, a sole podiatrist at that clinic</p>	<p>you're just a, erm, a sole podiatrist at that clinic'</p>		
<p>erm, ... and in, I mean when I was working in a, a single chair clinic we, we didn't use to have the Dopplers either so if I 'ad a problem with a pulse, that I couldn't palpate it, I mean it could've been there but I didn't know if I couldn't palpate it, no Doppler so I 'ad to refer them on. So yeah it would, but now we've got Dopplers in which is what I've been asking for for, what thirty years I've been working so we've finally got 'em erm, don't know, er, a coupla years ago now... (384 - 392)</p>			
<p>'Cos it only takes a coup, coupla seconds when you're doing it so</p>			

you, you, you've got a better clinical idea of the pulses, so. Yeah. (399 – 400)			
No, I don't, er, no, I mean I know we did medicine and they did the, the different erm, you know, diseases and things that patients can have, you know, different arthritises and a lotta different conditions erm, but I don't think we did as much about public health which is what we're talking about really in't it is... (420 – 425)	'diseases and things that patients can have, you know, different arthritises and a lotta different conditions'	Undergraduate topics relating to venous disease?	Topics covered at University
	I don't think we did as much about public health	Lack of teaching on public health involvement	Little undergraduate public health
...public health... ...I suppose in't it. Erm, I mean obviously we, we did about the smoking and not so much about the drinking I wouldn't've thought when I	'we did about the smoking'	Covered smoking at university. <i>the</i> smoking	Smoking a main focus
	'now podiatrists probably look more holistically'	Move towards holistic practice	Change from specifics to whole person
	'because of their experience since they've left university'	Experience changes practice as much as theoretical training	Practice driven by experience

<p>was training but, you know, the, the smoking was always a factor</p>	<p>'surprising how many patients you get in and they're diabetic'</p>	<p>Practice focussed on Diabetes</p>	<p>Practice driven by patient demographics</p>
<p>but I think, I do think now podiatrists</p>	<p>'you see that pattern'</p>	<p>Familiarity with 'types' of patients dictates practice</p>	<p>Familiar patterns to practice</p>
<p>probably look more holistically at a patient and whether it's because of their experience since they've left university so you do see, I mean it's surprising how many patients you get in and they're diabetic, they've got heart problems, got cholesterol, they've got blood pressure and you can more or less rhyme off what they're going to, tablets they're going to be on, and you know, you see that pattern, so then you, you, you do think, I mean, and you'll see patients erm, like on clinic</p>			

<p>we've got one lady that was erm, diabetes type-1 and she was very badly controlled when she was younger, she didn't take any notice of anybody, and she's ended up with like renal problems, heart problems, eye problems... (426 - 441)</p>			
<p>...and usually when we have the students [whispers] ?? [21.58] erm,</p>	<p>'this lady might not have got to this stage if she'd've taken the advice'</p>	<p>Evidence from practice of what happens if health promotion/advice is not followed.</p>	<p>Belief that prevention works</p>
<p>when we have the students I usually say now you know, go through this lady's notes, what d'you notice and, you know, when you're treating diabetic patients, you know, if you think about this lady, this lady might not have got to this stage if she'd've taken the advice and if</p>			

<p>she'd've not smoked, if she'd've followed the diet, if she'd've erm, used her insulin correctly which she didn't, she used it to kinda keep herself thin and d', d'you, d'you know... (443 - 450)</p>			
<p>...erm, so you tend to ... I don't know 'cos I mean the, er, how they train students now is different to how they trained students when I was training which was like thirty years ago this year erm, ... and I do think students tend to kinda cut off at the feet and not think much more than the feet sometimes, they don't think about the patient... (452 - 456)</p>	<p>'students tend to kinda cut off at the feet'</p>	<p>Holistic care doesn't appear evident in student practice</p>	<p>Holistic practice not current training?</p>
<p>...as a whole and they don't think</p>			

<p>about, and maybe I didn't, er, you don't think about other factors like we had a, a gentleman in this morning and he was heavily overweight but he had a problem in that his wife's just had breast cancer and he was, his main concern wasn't his self... (458 - 461)</p>			
<p>it was her. So you've got to take all those things into account and I don't know er, whether that comes with experience or not I'm not, I'm not sure really. Perhaps a bitta both. You know. (463 - 465)</p>	<p>So you've got to take all those things into account and I don't know er, whether that comes with experience or not I'm not, I'm not sure really. Perhaps a bitta both</p>	<p>Assimilate a lot of data from the patient and use it takes experience and maybe training</p>	<p>Uncertainty as to where holistic practice comes from</p>
<p>Yeah definitely with the arterial, with the smoking erm, because you'll get patients who've come to</p>	<p>they've smoked most of their life and they've got really poor circulation and you know that it</p>	<p>Experience of observing risk factor related pathological changes</p>	<p>Podiatrists see the effects in the lower limb.</p>

<p>you erm, ... and, and they've smoked most of their life and they've got really poor circulation and you know that it must've been a contributing factor. And I know conversely with the lady that didn't follow all the advice and she did 'ave all these problems, you could get someone else and they could be lucky and they may not get the problems like that lady but I always say to students and to patients if you do try and keep to the advice, that gives you a better chance of erm, leading a more normal life and not having the erm, the side-effects and</p>	<p>must've been a contributing factor</p>		
	<p>you could get someone else and they could be lucky and they may not get the problems like that lady but I always say to students and to patients if you do try and keep to the advice, that gives you a better chance of erm, leading a more normal life and not having the erm, the side-effects</p>	<p>Despite there not always being clear evidence it is worth maintaining preventative practice</p>	<p>Prevention effective more often than not</p>
<p>you could get someone else and they could be lucky and they may not get the problems like that lady but I always say to students and to patients if you do try and keep to the advice, that gives you a better chance of erm, leading a more normal life and not having the erm, the side-effects and</p>			

things that occur with diabetes, not the side-effects, (477 - 487)			
I: No you're fine. Okay. So have we got the same opportunity with venous as a podiatrist? R: No. I don't think so. (490 - 492)	No. I don't think so	Not the same opportunity for venous disease as arterial	
Yeah I think when, when you first start and I notice it with the students now and I try, I think when we're treating a patient you, you kind of erm, a mean they want you to see patients really as quickly as possible... and I do think that is a mistake because you, you need to have your quality of your appointment to	'they want you to see patients really as quickly as possible...'	Influenced to meet treatment targets	Target contact time inhibits treatment plans?
	'and I do think that is a mistake because you, you need to have your quality of your appointment'	Podiatrist not happy with appointment time restrictions and the influence on their practice	Podiatrist unhappy with external restrictions
	'you can get some of the other information while you're actually treating the patient'	Doing two things at once feet and holistic discussion	Podiatry allows contact with patients.
	'you perhaps kind of try and engage them in conversation that	Engaging in conversation to allow patient to open up	More than asking direct questions

<p>get all your information and whereas some of the information</p>	<p>will let them tell you about their health as well...'</p>		
<p>you can get prior to treating the patient, you can get some of the other information while you're actually treating the patient and, you know, they will like say oh and I've, I've been to hospital and this that and the other and you, you perhaps kind of try and engage them in conversation that will let them tell you about their health as well... ...rather than just asking them, you know, d'you smoke, d'you, you know, erm, you, you can do it more as a conversation kinda thing... ...so yeah I would say I 'ave</p>	<p>'I would say I 'ave altered in that respect.'</p>	<p>Practice developed with experience</p>	<p>Experience drives change in practice.</p>

<p>altered in that respect. (504 – 519 with incidentals deleted)</p>			
<p>Why? Erm, I don't know to be honest. I don't think it's, it's given as high priority as the arterial side of the circulation. The venous side. (530-531)</p>	<p>I don't think it's, it's given as high priority as the arterial side of the circulation.</p>	<p>Venous disease less of a priority than arterial</p>	<p>Venous diseases are low priority</p>

Appendix 12

Data analysis documents: - An example of an analysed field note

Participant 4 – observation overview.

Participant 4 has a split employment between band seven (advanced podiatrist) role in the NHS and her own private practice. Her NHS role is substantially based in Diabetes, rheumatology and high risk care. Within this she practices in a multi-disciplinary diabetic foot clinic and is involved in vascular referral pathways.

It is the private practice which I went to observe in a small town in the North West of England with a lower class socio-economic makeup. The practice is located on the ground floor of a corner –terraced property on a “back” street parallel to the main shopping street. The clinic has one treatment room, one waiting area and a storeroom/toilet. The clinic is not serviced by a receptionist but the clinicians who use the facility manage their own diaries. As well as Donna there are three other associates who use the clinic on a rent and fee sharing basis. Donna began working in the clinic as an associate immediately after qualifying as a podiatrist and then bought the business when the previous owner retired. When we first meet Donna says she has been worried about the observations being an exam. I go through the paper-work and she seems satisfied with my explanation of the research design and is more relaxed from then on. She signs consent but has no further questions.

Before patients start arriving Donna is busy checking her diary, getting patient record cards out and autoclaving (sterilising) her treatment instruments. She explains that she hasn't changed anything in the practice since taking it over but she has plans to redecorate and re-new the equipment. Everything appears to be clean and well kept. *We discuss autoclaving and discover a mutual acquaintance in the man who services her autoclave. This proves useful when trying to mitigate the potential power difference which she has already stated as a concern. In discussing the autoclave man I then tell her about my pre-academic practice as a way of reassuring her that I am just a pod who is interested in researching podiatry.*

I position myself in the corner of the clinic out of eyesight of the clinician so as not to distract her but also not directly in front of the patient chair so that I didn't attract too much attention from the patient.

I made notes on all patient interactions and these are detailed on the sheets. However the key features observed in this visit were:-

Donna appears to have a great rapport with her patients to the point that many discussions are about the families of the patients rather than the patients themselves. She engages patients in discussions about holidays and hobbies but is clear with me between appointments that this is about finding out how well they are. She also discusses anything that seems of interest to the patient and thereby a means of building rapport, for example the social and political history of South Africa in one instance.

Clinical work is carried out during discussions and all patients receive a cream massage post treatment. Donna uses a range of equipment including a podospray and nail drill.

She makes several direct points with patients about footwear, smoking, drinking and healthy eating. These points are always accompanied by explanations as to why these are important things for general health and foot health in particular.

Donna uses a lot of humour particularly when discussing patient's wider families. This is also used directly when discussing foot problems, general aging problems and the point of prevention.

There is a routine for each patient which follows the pattern of welcome, assist with footwear if necessary, settle on chair, check notes and ask questions/get feedback from previous time period, check feet including pulses and then commence treatment, receive payment, book next appointment. This happens in all but one case where the patient pays first and organises diaries. This break in routine leads to a lot of jokes and humour.

Observation tool participant

Date and Time 16/3/2015 Location Clinic 4 Participant (pseudonym) Participant 4 (Donna)

Action	Asks about history of venous problems or asks questions which might lead to information on venous pathology (yes or no)	Rolls up trousers/performs visual inspection (Y or N)	Comments on presentation of venous changes in limb (Y or N)	Discusses any current, relevant ongoing management (Y or N)	Offers advice regarding venous disease (Y or N)	Refers or discusses referral to relevant nursing or vascular services. (Y or N)	Would venous assessments/Prevention/treatment be expected for this patient? (Yes/No)	Considers venous risk and prevention in an otherwise non-"vascular" patient.
Patient N° 1	General medical	N	N	N/a	N	N/A	N	N
Notes	<p>This clinic is for sole use by podiatrists associated with the practice. The clinic has two rooms; a waiting area and the treatment room. There is no receptionist. The clinic is located in a back street near a town centre in a less than affluent area. Participant 4 works solo and shares the clinic with other associates.</p> <p>Asking about holidays and joking about the number of holidays taken by the patient - discussing the price of holidays during school holidays</p> <p>Podiatrist gets straight into nail cutting - Focused on the foot</p> <p>Discusses nail conditions</p> <p>Discusses receipts and private tt</p> <p>I'm nicely out of the eye line and not involved</p> <p>Discusses foot pathologies and footwear</p> <p>Everything very clean and tidy</p> <p>The appointment is with a long standing existing patient</p> <p>Discussing eating and wellness</p> <p>Participant said that she had been up in te night worrying about the "exam" of my research today. - I tried to reassure about the process as much as possible.</p> <p>Discusses participant holidays and redecorating of clinic</p> <p>Personal concerns & close knowledge?</p>							

Version 1 - 12th January 2015

Action	Asks about history of venous problems or asks questions which might lead to information on venous pathology (yes or no)	Rolls up trousers/performs visual inspection (Y or N)	Comments on presentation of venous changes in limb (Y or N)	Discusses any current, relevant ongoing management (Y or N)	Offers advice regarding venous disease (Y or N)	Refers or discusses referral to relevant nursing or vascular services. (Y or N)	Would venous assessments/Prevention/treatment be expected for this patient? (Yes/No)	Considers venous risk and prevention in non-"vascular" patient.
Patient N ^o	N	n	n/a	n	n	n	yes	n/a
2								
<p>Notes</p> <p>Existing patient well known to the participant – straight into discussing retirement ✗</p> <p>Straight into treatment ✗</p> <p>Discussing families and holidays ✗</p> <p>Discusses retirement activities and the things the pt does – exercise and activities ✗</p> <p>"What you doin today?" ✗</p> <p>Joking about retirement, discussing baking etc...</p> <p>Pod asks pt about doing long walks an links this to health ✗</p> <p>Treatment very thorough – INDICATIONS of quality ✗</p> <p>Pod points out foot pathologies and discusses.</p> <p>Very humorous conversation about Mother's day</p> <p>Talking about washing up ✗</p> <p>Discussing footwear and new types of shoes.</p> <p>I'm in this a little bit too much – trying to blend in.</p> <p>Did this have an effect? ✗</p> <p>Consistent with other participant + better patches</p> <p>Notes re personal conversations BUT links to health and joints or job? ✗</p> <p>Mulligan notes re personal conversations BUT links to health and joints or job? ✗</p>								

Action	Asks about history of venous problems or asks questions which might lead to information on venous pathology (yes or no)	Rolls up trousers/performs visual inspection (Y or N)	Comments on presentation of venous changes in limb (Y or N)	Discusses any current, relevant ongoing management (Y or N)	Offers advice regarding venous disease (Y or N)	Refers or discusses referral to relevant nursing or vascular services. (Y or N)	Would venous assessments/Prevention/treatment be expected for this patient? (Yes/No)	Considers venous risk and prevention in an otherwise non-"vascular" patient.
Patient N° 3	N	Y <i>lower limb interest</i>	N/A	n/a	n/a	n/a	n	n/a
Notes	<p>Extra patient who is known to participant - discussing family health - <i>personal / will know / more than just feet + physical!</i></p> <p>-Discussing traffic and access to clinic</p> <p><i>I'm happily nowhere near the conversation</i></p> <p>No posters or anything to look at in the clinic - <i>in contrast to other clinics and later NNS roles</i></p> <p>Lots of discussions about family health and managing appointments</p> <p>Continuing treatment and ongoing discussion</p> <p>* Colds and general health discussed * <i>Frank line health</i></p> <p>Podo-spray with nail burr used for heel callus</p> <p><i>Much broader approach to can be just feet</i></p> <p><i>Is there less of a "health focus"?</i></p>							

Action	Asks about history of venous problems or asks questions which might lead to information on venous pathology (yes or no)	Rolls up trousers/performs visual inspection (Y or N)	Comments on presentation of venous changes in limb (Y or N)	Discusses any current, relevant ongoing management (Y or N)	Offers advice regarding venous disease (Y or N)	Refers or discusses referral to relevant nursing or vascular services. (Y or N)	Would venous assessments/Prevention/treatment be expected for this patient? (Yes/No)	Considers venous risk and prevention in an otherwise non-vascular patient.
Patient N ^o 4	General update	Y	N/A	N/A	N/A	N/A	N/A	N/A
<p>Notes</p> <p>Long discussion about cars</p> <p>Discussion about the gym</p> <p>Discussion about rib problems and pain</p> <p>Nail condition discussed and H202 used</p> <p>Long discussion about family problems and health</p> <p><i>Not much noted?</i></p> <p><i>- Routine?</i></p> <p><i>Nothing new?</i></p>								

Action	Asks about history of venous problems or asks questions which might lead to information on venous pathology (yes or no)	Rolls up trousers/performs visual inspection (Y or N)	Comments on presentation of venous changes in limb (Y or N)	Discusses any current, relevant ongoing management (Y or N)	Offers advice regarding venous disease (Y or N)	Refers or discusses referral to relevant nursing or vascular services. (Y or N)	Would venous assessment/Prevention/treatment be expected for this patient? (Yes/No)	Considers venous risk and prevention in an otherwise non-"vascular" patient.
Patient N° 5	general	Yes general	N/A	N/A	N/A	N/A	N/A	N/A
<p>Notes Immediate discussion about chilblains and treatment of - Plans discussed and dressings decided on Into questions about plans for the day Asking about birthdays and social visits Discussion of incident with an NHS patient Continual comments on direct health of feet - toe nail appearances and/or presence of other changes Lots of discussion around weather and temperature and effect on vascular system and chilblains Advice on prevention given Discussing family activities and health Have a long discussion about telly adverts and family involvement Discussing claims to fame and people they know.</p> <p><i>Context: Venous issues - but GOT but heart used for venous pd.</i></p> <p><i>Some links to health</i></p> <p><i>but not always</i></p> <p><i>This main priorities - just a social/mobbing discussion</i></p>								

Action	Asks about history of venous problems or asks questions which might lead to information on venous pathology (yes or no)	Rolls up trousers/performs visual inspection (Y or N)	Comments on presentation of venous changes in limb (Y or N)	Discusses any current, ongoing management (Y or N)	Offers advice regarding venous disease (Y or N)	Refers or discusses referral to relevant nursing or vascular services. (Y or N)	Would venous assessments/Prevention/treatment be expected for this patient? (Yes/No)	Considers venous risk and prevention in an otherwise non-vascular patient.
Patient N ^o 6	General	N	NN	N	N	N	Y	N/A
<p>Notes</p> <p>Pt well known to Pod - they share a joke about this saying that they do paperwork and money before the treatment rather than after.</p> <p>Checks for foot pathologies and then onto treatment <i>Return to job focus</i></p> <p>Share recipes for meat and potato pies</p> <p>Pod asks about pt's hobbies and activities - triggers discussion about austerity and life after ww2</p> <p>Jokes about one foot being better than other - <i>humour</i></p> <p>Discussion about visiting crematorium and how this is done - <i>appears concerned about will being, cancer etc</i></p> <p>Participant problems - patient and podiatrist exchange theories about what has caused the problems</p> <p>Podospray used again to finish</p> <p>Answers phone during treatment</p> <p><i>Reinforce</i></p> <p><i>Partnership / equality</i></p> <p><i>Quality + Business like</i></p> <p><i>Keeping patient/charity happy</i></p>								

Action	Asks about history of venous problems or asks questions which might lead to information on venous pathology (yes or no)	Rolls up trousers/performs visual inspection (Y or N)	Comments on presentation of venous changes in limb (Y or N)	Discusses any current, relevant ongoing management (Y or N)	Offers advice regarding venous disease (Y or N)	Refers or discusses referral to relevant nursing or vascular services. (Y or N)	Would venous assessments/Prevention/treatment be expected for this patient? (Yes/No)	Considers venous risk and prevention in an otherwise non-"vascular" patient.
Patient N° 7	N	N	N	N/A	N/A	N/A	N	N
Notes	<p>Existing patient <i>Stay in contact</i></p> <p>Pod asks about holidays and general health</p> <p>Straight into treatment – nail care</p> <p>Talking about baby sitting</p> <p>Radio on in the background</p> <p>Nail drill warning</p> <p>Jokes about the aging process and foot changes</p> <p>Holiday talk again</p> <p>Discussing social and political history of south Africa – A lot of things appear to be dictated by politics - <i>pod has control</i></p> <p>Discussing history of husband's medical problems</p> <p>Little discussion of feet, pod refers to previous notes</p> <p>Discussing rimary advice given regarding shoes and what the point of prevention was. Also discussing how patient has googled what was discussed at last appointment. It continues <i>Why provide stockings?</i></p> <p>Discussion about common acquaintance/plans</p> <p>Podospray burr finish and cream applied</p>							

This was the rationale the social health -

- Social the health the social

Action	Asks about history of venous problems or asks questions which might lead to information on venous pathology (yes or no)	Rolls up trousers/performs visual inspection (Y or N)	Comments on presentation of venous changes in limb (Y or N)	Discusses any current, relevant ongoing management (Y or N)	Offers advice regarding venous disease (Y or N)	Refers or discusses referral to nursing or vascular services. (Y or N)	Would venous assessments/Prevention/treatment be expected for this patient? (Yes/No)	Considers venous risk and prevention in an otherwise non-"vascular" patient.
Patient N° 8	Y	Y	N	N	N	N	Y	N/A
Notes	<p>Assessment of feet and check of what has happened between appointments</p> <p>Straight into treatment</p> <p>Uses H202 to soften sulci</p> <p>Discusses family – Grandson's sporting injury</p> <p>Humorous and good natured- well known to each other</p> <p><i>My research is discussed briefly but then pod and patient go back to normal and it does seem normal.</i></p> <p>Lengthy discussions over toe nails and how difficult they are to treat? – <i>Foot rather than limb</i></p> <p>Pt asks about pod's family and this goes on for a bit.</p> <p><i>Conersation starts to include me too much but it is ok as I escape from the conversation.</i></p> <p>Pod asks about previous padding and strapping and how effective it is. Discusses local area changes</p> <p>Talking about foot problems – Pod describing and explaining bursitis and 1st MTPJ exostosis</p> <p>Finished and cream applied</p>							

No mention at all.

Check against interview?

Priorities? expertise? Choices by clinician? patient desires?

Action	Asks about history of venous problems or asks questions which might lead to information on venous pathology (yes or no)	Rolls up trousers/performs visual inspection (Y or N)	Comments on presentation of venous changes in limb (Y or N)	Discusses any current, relevant ongoing management (Y or N)	Offers advice regarding venous disease (Y or N)	Refers or discusses referral to relevant nursing or vascular services. (Y or N)	Would venous assessments/Prevention/treatment be expected for this patient? (Yes/No) possibly	Considers venous risk and prevention in an otherwise non-"vascular" patient.
Patient N° 9	N	1/2 <i>noted subtle changes</i>	N	N/A	N	N/A	possibly	N/A
<p>Notes</p> <p>Straight into discussion about family-grand kids</p> <p>Straight into treatment with nail care and conversation about pain in joints</p> <p>"What is happening after this?" - <i>Interested in patient's life</i></p> <p>Discussion of other health issues and blood tests</p> <p>General conversation about health and food, eating well, smoking and drinking, + Health promotion from family</p> <p>Smoking discussed</p> <p>Discusses the timing of appointments - Brief assessments for pain on the left foot.</p> <p>Back to results of blood tests</p> <p>Radio on, discusses mothering Sunday. Treatment finalised and checked and foot problems discussed.</p> <p><i>Confidena to Lachle non-foot issues</i></p> <p><i>No great change per previous pts.</i></p>								

Appendix 13

Precursor version of thematic framework and accompanying table with a commentary on changes towards the final framework

Time	Identity	Professionalism	Culture
Time as a restriction	The counsellor	Talking the talk	Venous Disease is not in the podiatry veins
Time as an opportunity	Life and Sole	Out of sight out of mind	I didn't know I didn't know much about them! (unknown unknowns)
Ritual and routine use of time	The confident health promoter	How were your holidays? – the hidden agenda	Nobody has taken the lead
Phases; the structure of an appointment	The struggling health promoter	Duty of care	
Going 'off' routine	I work with feet	Education	"we" arterial vs. "I" Venous
Time is money, time is paid for	Solo working vs. team working	Theory-practice mismatch	Not my job
Time for patients	Businessmen and businesswomen	Just follow the guidelines	What we do now for venous disease
Time is prioritised	Team NHS	Podiatrist vs. Dentist	Venous = Leg Ulcer
	Working with other professionals		We always do what we've always done
			Whose Job is it?
			Changing the picture

Main or sub theme in final framework	Main themes or sub-themes incorporated	Commentary
Current practice (Main Theme)	N/A	Developed out of "What we do now for venous disease" as a theme to describe and explain current practice.
Talking the Talk (Sub – theme to Current practice)	No change	N/A
Venous disease is not in the podiatry veins (Sub- theme to Current Practice)	No change	N/A
Foot focussed (sub-theme to Identity)	To incorporate "not my job"	Amalgamated to present a more focussed depiction of practice and participant accounts of their identity and to reduce repetition.
Life and Sole (sub-theme to Identity)	To incorporate: "the counsellor"; "More than patients"; "Confident health promotor"; "Struggling health promotor"; "Pod vs. Dentist"	
Inter-professional identity (Sub-theme to Identity)	To include "working with other professionals" and some parts of "businessmen and businesswomen"	
Priorities (Sub-theme to Identity)	To incorporate "We arterial vs. I venous"; "other priorities"; "Time is prioritised"	
Constraint or Opportunity (Sub-theme to Time)	To incorporate "Time as a restriction" and "Time as an Opportunity"	
Time is routine (Sub-theme to Time)	To incorporate "Ritual and Routine use of time"; "Always do what we've	Changes to enhance clarity and reduce repetition.

	always done"; and "Going off Routine"	
Autonomy (Main theme)		Introduced to enable a clearer representation of the influences on practice.
Money is Power (Sub-theme to Autonomy)	To incorporate "Time is money, time is paid for" and some of the re-worked "Businessmen and Businesswomen"	
Follow the guidelines (Sub-theme to Autonomy)	To incorporate "Just follow the guidelines" and "Team NHS"	
Education	Incorporating sub-themes of "Undergraduate education"; "Waiting for Champions" and "Theory-practice mis-match".	New main theme to sharpen clarity.
Venous disease in health care	Incorporating "Venous=Leg ulcer"; "Whose job is it?" and "Changing the picture"	New main theme to reduce repetition and add clarity.

Appendix 14

Sampling details

Participant Pseudonym	Age	Years registered as a podiatrist	Current practice	Description of practice e.g. specialism
Alice	55	20	100% private practice from 2001 – self owned clinic	General private practice
Beryl	40	19	50% private: 50% NHS	Private practice is general; NHS practice is MSK specialist
Cathy	52	31	100% private practice between 2 shared clinics	General practice
Donna	39	18	40% Private: 60% NHS	Private practice is general; NHS practice is specialising in diabetes
Eddie	52	23	60% private: 40% NHS	Private practice is general; NHS is MSK specialist and general
Fran	37	16	20% private practice: 40% any qualified provider (AQP) podiatry service manager: 40% NHS commissioning.	General podiatry with a history of high risk podiatry, and research history in wound care and diabetic foot ulcers.
Georgina	31	10	100% NHS	General practice podiatry
Heather	55	34	100% NHS	General practice podiatry
India	48	27	100% NHS	New patient assessment and health promotion/education
James	28	7	100% NHS	50% general podiatry 50% MSK specialism

Sampling (individual interviews)

Participant Pseudonym	Age	Years registered as Chiropodist/ podiatrist	Current practice	Description of practice e.g. specialism
Kate	50	25 (hands on practice) 5 years 100% management	100% NHS management	Manager for three distinct areas of a large NHS trust with different Clinical Commissioning Groups (CCGs). Clinical background in biomechanics/MSK and paediatrics.
Leonard	57	36	70% NHS management 15% professorial 15% other consultancy work	History in podiatry practice of general podiatry and extensive research experience.
Martin	Un-disclosed	Un-disclosed	100% academic management and lecturing but history of spells of 100% NHS management in several trusts.	High risk and general podiatry.
Naomi	22	Pre-practice		
Olivia	25	Pre-practice		
Paul	42	Pre-practice		
Queenie	35	Pre-practice		
Rachael	33	5	100% podiatry lecturing (after 3 years 100% NHS practice)	General podiatry practice

Sampling (focus group interview)

Participant pseudonym	Professional role
Viv	Band 6 district nurse
Yvonne	Band 6 district nurse
Steve	Band 7 High-Risk podiatrist and NHS podiatry team leader
Alexa	Pre-practice podiatry graduate
Zena	Pre-practice podiatry graduate
Trevor	NHS podiatry services manager
Warren	College of podiatry representative with history in high risk podiatry specialism
Ursula	Vascular Nurse Specialist and Academic

Participant group	Sample size	Consultations observed	Interviews
Private podiatrists	6	46	6
NHS podiatrists	4	31	4
Current NHS managers	1	N/A	1
Pre practice podiatry graduates	4	N/A	4
Podiatry academic staff with recent NHS experience	1	N/A	1
Podiatry academic staff with previous NHS managerial experience	2	N/A	2
Focus Group Interview	8	N/A	1
Total	26	77 (10 days in practice)	19

Appendix 15

Engage presentation

THE ROLE OF PODIATRISTS IN THE EARLY IDENTIFICATION AND PREVENTION OF VENOUS DISEASE: AN ETHNOGRAPHIC STUDY

Peter Roberts
Senior Lecturer in podiatry
University of Huddersfield

VENOUS LEG ULCERATION

	Venous leg ulcer	Diabetic Foot Ulcer	Arterial leg ulcer
Annual number of lower limb wounds (Guest et al 2015)	278,000 (13%)	169,000 (8%)	9,000 (1%)
Annual cost to NHS (based on Guest et al 2015 estimates of total lower limb wound cost)	Approx - £585 m	Approx - £360 m	Approx - £45 m

A PUSH FOR PREVENTION

As with education about other important preventative health measures, such as the use of seat belts or the ill effects of smoking, we should also provide education about how to prevent the devastating effects of venous disease. This enormous socioeconomic burden deserves more attention. (Pg 399. [McLafferty et al 2008](#)).

BUT PREVENTION DOESN'T WORK! DOES IT?

- Preventative practice in health care is a growing agenda and considered a mark of high quality service provision (DH 2008; DH 2009; DH 2012; NHS England, 2014; Public Health England, 2016)
- The Allied Health Professions (AHPs) Federation for Public Health England (2015) and NHS England (2017) promote the role of AHPs as agents for improving public health
- Evidence of savings from preventative practice in similar fields e.g. [Wales lymphoedema service](#) (Humphreys and Thomas 2017)
- House of lords debate highlighted that wound prevention is paramount

WHAT ARE THESE?



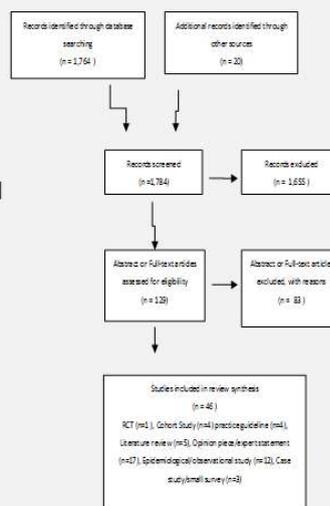
“Know and be able to interpret the signs and symptoms of systemic disorders as they manifest in the lower limb and foot...” (HCPC 2013, pg 12)

“Be able to formulate specific and appropriate management plans including the setting of timescales.” (HCPC 2013, pg 12)

“Understand, in the context of chiropody and podiatry...foot health promotion and education” (HCPC 2013, pg 11)

LITERATURE REVIEW PODIATRY? PRIMARY PREVENTION?

- 46 papers included for review
- 1 RCT, 4 cohort studies, 5 reviews, 4 guidelines, 17 opinion pieces/expert statements, 12 epidemiological studies and 3 case studies.
- Quality appraisal using checklists from Joanna Briggs Institute (2016)
- Thematic review of included papers



LITERATURE REVIEW FINDINGS

- Scant detail on podiatry involvement in venous disease
- Minimal investigation of professional roles in primary prevention

However

- Growing investigation into primary preventative strategies
- Growing strength of evidence to identify patients most at risk of developing venous disease
- Many of this group would be “typical” podiatry patient case load (College of Podiatry 2015)

AIM AND OBJECTIVES

This study aimed to explore the current role of UK podiatrists in the early identification and prevention of venous disease.

The specific research objectives were:-

- 1) To explore the role of the podiatrist in the identification of venous disease
- 2) To explore podiatrists' role in the prevention of venous disease
- 3) To critically investigate drivers and limitations on podiatrists undertaking preventative care of patients at risk of venous disease.

AN ETHNOGRAPHIC STUDY

Interpretive and explanatory story about a group of people and their sociality, culture and behaviours, but not a fictional account; a narrative based on systematically gathered and analysed data (Madden 2010)

- Participants are studied in everyday contexts
- Data are captured using a variety of means,
- Collection of data is relatively unstructured
- Studies are usually small scale and in-depth rather than broad.
- Data analysis involves interpretation of the meanings, functions and consequences of human actions and institutional practice

(Hammerley and Atkinson 2007)

'EMIC' POSITION, SUBJECTIVITY AND REFLEXIVITY

- I am a podiatrist – I always will be and there is no escape for me now.
- I am a researcher therefore I am “external” but podiatry is not a desert island I was washed up on.
- What influence has my position, history and perspective had on the study (Finlay 2003, Madden 2010)?

DATA COLLECTION

- Observation and interview. – 10 podiatrists more than 10 days of observation in total (80 patient appointments)
 - 8 individual interviews
 - Focus group interview (8 participants)
- Purposive, maximum variation, opportunistic, snowballing

DATA ANALYSIS

the ability to have a good general medical knowledge and I think that sometimes that can affect our	they think the ability to have a good general medical knowledge	they're quite often podiatrists think general medical knowledge	they're quite often podiatrists think
profession because we can, that's where the, oh you only cut nails, comes from or the, you know, the view or the vision of what a podiatrist does and I think there should be sorts , I think there should be more core-medical training as an undergraduate. I think the podiatrists got a big role to play in terms of health promotion and education and I don't think we do that. I think the patient sits down, people pick clippers up and cut their nails even if they don't need doing, 'cos that's what they're kinda taught from day one. But I think when you look at wider medical, you know, conditions, long-term conditions, is a massive problem in the NHS and podiatrists deal, diabetes, rheumatoid, all those sorts conditions, they're looking more and more at self-care across the whole of those conditions and podiatry forms a big part of that. So I think it has got a role to play. (41-55)	sometimes that can affect our profession	Image of the profession poor medical knowledge	
	, that's where the, oh you only cut nails, comes from	Reputation of the profession superficial care comes from training and knowledge	
	I think there should be more core-medical training as an undergraduate	Believes undergraduate medical training as insufficient	
	I think the podiatrists got a big role to play in terms of health promotion and education and I don't think we do that	Health promotion and education role unfulfilled	
	people pick clippers up and cut their nails even if they don't need doing,	Podiatrists live up to expectations	
	'cos that's what they're kinda taught from day one	Focus on nail care is the start	
	diabetes, rheumatoid, all those sorts conditions, they're looking more and more at self-care across the whole of those conditions and podiatry forms a big part of that. So I think it has got a role to play.	External drivers are long term conditions has a role	
A sorts long-term conditions, so I think like we've said diabetes, rheumatoid, vascular disease, I	diabetes, rheumatoid, vascular disease. I think there's definitely a role for podiatrists in educating	Podiatry specific roles in rheumatoid arthritis and vascular diseases.	
think there's definitely a role for podiatrists in educating people how to manage their own footcare as	people how to manage their own footcare		

FINDINGS

“WE” VS “I”

*“Well **we** always ask ‘em about smoking, **we** always ask ‘em how their sugar levels are and things like that. Diabetes and arterial problems usually, a lot of, most o’ time come together don’t they”*

*“...if **I** seen there were a problem like with the skin or they looked like there were an ulcer gonna break out and, you know, **I’d** give ‘em advice but ... if there were no symptoms **I** wouldn’t be thinking about venous at all.”*

IMPACT/RECOMMENDATIONS

- The hole needs filling but where do we dig the soil from to fill the hole? *“You can’t have all the shiny things”*
- Direct influence on practice – commissioned action – CQUINs (Commissioning for Quality and Innovation)
- *“Professionalising the profession”* – what more can private practitioners do? How can podiatry practice change? Feet vs teeth....!

REFERENCES

- College of Podiatry (2015) To determine the current patient population managed by UK podiatrists and the evidence available to support the effectiveness of podiatric contributions to health and Wellbeing. Retrieved from www.scpod.org/resources/assets/attachment/full/0045563.pdf
- Guest, J. F., Ayoub, N., Mellwraith, T., Ijeoma, U., Gerrish, A., Weidlich, D., Vowden, K., Vowden, P. (2015) Health economic burden that wounds impose on the National Health Service in the UK. *BMJ Open* (5), 1 – 9. doi: 10.1136/bmjopen-2015-009283
- Department of Health (DH) (2009) 'NHS 2010–2015: From Good to Great. Preventative, people-centred, productive'. DH, London
- DH (2008) 'Putting prevention first: Vascular checks risk assessment and management - impact assessment.' Retrieved from http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsLegislation/DH_090351
- DH (2012) 'The Public Health Outcomes Framework for England, 2013 – 2016.' Retrieved from www.dh.gov.uk/publications
- Finlay, L. (2003) The reflexive journey: mapping multiple routes. In Finlay, L. and Gough, B. (eds.) *Reflexivity Bodmin*: Blackwell
- Health and Care Professions Council (2013) Standards of proficiency: Chiropractors/podiatrists. London: HCPC Retrieved from <http://www.hcpc-uk.org>
- McLafferty, R., Passman, M., Caprini, J., Rooke, T., Markwell, S., Lohr, J., Dalsing, M. (2008) Increasing awareness about venous disease: The American Venous Forum expands the National Venous Screening Program. *Journal of Vascular Surgery* 42 (2), 394 - 399
- Madden, R. (2010) *Being ethnographic* London: Sage
- NHS England (2014) *NHS Five Year Forward View*. Retrieved from <https://www.england.nhs.uk/wp-content/uploads/2014/10/5yfv-web.pdf>
- NHS England (2017) *Allied Health Professions into Action*. Retrieved from <https://www.england.nhs.uk/wp-content/uploads/2017/01/ahp-action-transform-hth.pdf>
- Public Health England (2016) 'Making every Contact Count: consensus statement. Available at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/513949/Making_Every_Contact_Count_Consensus_Statement.pdf
- Spencer, L., Ritchie, J., Ormston, R., O'Connor, W., Barnard, M. (2014) *Analysis: Principles and Practice*. In J. Ritchie, J. Lewis, C. McNaughton Nicholls, R. Ormston (eds.) *Qualitative Research Practice* (2nd ed.) London: Sage

Bibliography

Abbott, A. (1998) *The System of Professions, An Essay on the Division of Expert Labor*. London: The University of Chicago Press.

Abelyan, G., Abrahamyan, L., & Gayane, Y. (2018). A case-control study of risk-factors of chronic venous ulceration in patients with varicose veins. *Phlebology*, 33(1), 60-67. DOI: 10.1177/0268355516687677

Abey, A., Lea, S., Callaghan, L., Shaw, S & Cotton, D. (2015). Identifying factors which enhance capacity to engage in clinical education among podiatry practitioners: an action research project. *Journal of Foot and Ankle Research*, 8(65). Doi: 10.1186/s13047-015-0123-4

Abraham, S. (2005). A Case of Chronic Venous Ulceration with Arterial Insufficiency. *Podiatry Management*, 24(5), 115 -119.

Adler, P.A., & Adler, P. (2003). The promise and pitfalls of going into the field. *Contexts*, 2(1), 41-47.

Ahmad, N., Adderley, U., Ionac, M., & Bowling, F.L. (2019). The Epidemiology of Amputation Inequality Extends Beyond Diabetes in England. *The International Journal of Lower Extremity Wounds*, 18(2), 112 – 113. Doi: 10.1177/1534734619834749.

Ahmad, N., Thomas, N.G., Gill, P., & Torella, F. (2016). The prevalence of major lower limb amputation in the diabetic and non-diabetic population of England 2003 – 2013. *Diabetes and Vascular Disease Research*. 13(5), 348 – 353. Doi: 10.1177/1479164116651390.

All Party Parliamentary Group on Vascular and Venous Disease. (2019a) *Saving Limbs, Saving Lives: A call to action to reduce inequalities in lower limb amputation rates*. Retrieved from <https://static1.squarespace.com/static/5981cfcfe4fcb50783c82c8b/t/5c5ac501ec212df19f93a228/1549452562850/A+Call+to+Action+to+Reduce+Inequalities+in+Lower+Limb+Amputation+Rates+w....pdf>

All Party Parliamentary Group on Vascular and Venous Disease. (2019b). *Venous Leg Ulcers: A Silent Crisis*. Retrieved from <https://static1.squarespace.com/static/5981cfcfe4fcb50783c82c8b/t/5da72c6c5f96434e62146b5b/1571237005848/Venous+leg+ulceration+2019.pdf>

Andermann, A., Blancquaert, I., Beauchamp, S., & Dery, V. (2008). *Revisiting Wilson and Jungner in the genomic age: a review of screening criteria over the past 40 years*. Retrieved from <http://www.who.int/bulletin/volumes/86/4/07-050112/en/>

Anderson, I. (2012). Early intervention for patients with chronic venous insufficiency. *Wounds UK*, 8(1), s20 – s22.

Atkin, L. (2019 a). Venous leg ulcer prevention 1: identifying patients who are at risk. *Nursing Times [Online Issue]*, 115(6), 24 – 28.

Atkin, L. (2019 b). Venous leg ulcer prevention 2: hosiery product selection. *Nursing Times [Online Issue]*, 115(7), 27 – 30.

- Atkin, L. (2019 c). Venous leg ulcer prevention 3: supporting patients to self-manage. *Nursing Times [Online Issue]*, 115(8), 22-26.
- Atkin, L. & Tickle, J. (2016). A new pathway for lower limb ulceration. *Wounds UK* (12)2 32 – 36
- Bacon, D., & Borthwick, A. M. (2013). Charismatic authority in modern healthcare: the case of the 'diabetes specialist podiatrist'. *Sociology of Health and Illness*, 35(7). 1080 – 1094.
- Baird, B., Charles, A., Honeyman, M., Maguire, D., & Das, P. (2016). *Understanding pressures in general practice*. London: The King's Fund
- Barker, C. (2012). *Cultural Studies: Theory and Practice* (4th ed.). London: Sage.
- Barnsbee, L., Cheng, Q., Tulleners, R., Lee, X., Brain, D., & Pacella, R (2019) Measuring costs and quality of life for venous leg ulcers. *International Wound Journal*, 16, 112 – 121.
- Bassett, C. (2004). Qualitative research. In C. Bassett (Ed.), *Qualitative Research in Health Care* (pp. 1 – 6). London: Whurr.
- Beauchamp, T.L., & Childress, J.F. (2019). *Principles of biomedical ethics* (8th ed.). New York: Oxford University Press.
- Beebe-Dimmer, J., Pfeifer, J., Engle, J., & Scottenfeld, D. (2004) The Epidemiology of Chronic Venous Insufficiency and Varicose Veins. *Annals of Epidemiology*, 15, 175 – 184.
- Beebe, H., Bergan, J., Bergqvist, D., Eklof, B., Erikson, I., Goldman, M.,...Sumner, D. (1996) Classification and Grading of Chronic Venous Disease in the Lower Limbs. A Consensus Statement. *European Journal of Vascular and Endovascular Surgery*, 12, 487 – 492.
- Belczak, C.E.Q., Pereira de Godoy, J.M., Belzack, S.Q., Ramos, R.N., & Caffaro, R.A. (2014). Obesity and worsening of chronic venous disease and joint mobility. *Phlebology*, 29(8), 500 – 504.
- Bendall, E. (1976). Learning for reality. *Journal of Advanced Nursing*, 1, 5-9.
- Berard, A., Abenheim, L., Platt, R., Kahn, S., & Steinmetz, O. (2002). Risk Factors for the First-Time Development of Venous Ulcers of the Lower Limbs: The Influence of Heridity and Physical Activity. *Angiology*, 53(6), 647 – 657.
- Berridge, D., Bradbury, A.W., Davies, A.H., Gohel, M., Nyamekye, I., Renton, S., & Stansby, G. (2010). Recommendations for the referral and treatment of patients with lower limb chronic venous insufficiency (including varicose veins). *Venous Forum of the Royal Society of Medicine*. Retrieved from <http://www.rsm.ac.uk/academ/forvenou.php>
- Bianchi, J. (2013). The CHROSS Checker: a toolkit to detect early skin changes associated with venous and lymphovenous disease. *Journal of Community Nursing*. 27(4).
- Biley, F.C., & Wright, S.G. (1997). Towards a defence of nursing routine and ritual. *Journal of Clinical Nursing*, 6, 115 – 119.
- Blaikie. N. (2007). *Approaches to Social Enquiry* (2nd Ed.). Cambridge: Polity.
- Bloomer, M.J., Cross, W., Endacott, R., O'Connor, M., & Moss, C. (2012). Qualitative observation in a clinical setting: Challenges at end of life. *Nursing and Health Sciences*, 14, 25 – 31. Doi: 10.1111/j.1442-2018.2011.00653

Borthwick, A. M. (2005). Milestones in podiatry 1945 – 2005: tracing the trajectory of a profession in transition. *Podiatry Now*, 8(10), 32 – 36.

Borthwick, A.M. (2000b). Challenging Medicine: the case of podiatric surgery. *Work, Employment and Society*, 14(2), 369 – 383).

Borthwick, A. M. (2000a). Podiatry and the State: Occupational Closure Strategies since 1960. *British Journal of Podiatry*, 3(1), 13 – 20.

Borthwick, A.M., Short, A.J., Nancarrow, S.A., & Boyce, R. (2010). Non-medical prescribing in Australia and the UK: the case of podiatry. *Journal of Foot and Ankle Research*, 3(1), Doi: 10.1186/1757-1146-3-1

Bourdieu, P. (1976). *Outline of a Theory of Practice*. Cambridge: Cambridge University Press.

Bowskill, D. (2001). Compression hosiery in venous insufficiency: a natural nurse-led field. *British Journal of Community Nursing*, 6(7), 356- 362.

Bradford Hill, A. (1965). The Environment and Disease: Association or Causation? *Proceedings of the Royal Society of Medicine*, (58), 295-300.

Brajesh, K, L. (2015). Venous ulcers of the lower extremity: Definition, epidemiology, and economic and social burdens, *Seminars in Vascular Surgery*, 28, 3-5. Doi: 10.1053/j.semvascsurg.2015.05.002.

Braun, V., & Clarke, V. (2013). *Successful qualitative research: a practical guide for beginners*. London: Sage.

Brewer, J.D. (2000). *Ethnography*. Buckingham: Open University Press.

Burford, B., Morrow, G., Rothwell, C., Carter, M., & Illing, J. (2014). Professionalism education should reflect reality: findings from three health professions. *Medical Education*, 48, 361-374. Doi: 10.1111/medu.12368

Burke, P.J. (1991). Identity Processes and Social Stress. *American Sociological Review*, 56(6), 836-849.

Capeheart, J.K. (1996). Chronic Venous Insufficiency: A Focus on Prevention of Venous Ulceration. *Journal of Wound, Ostomy and Continence Nursing*, 23(4), 227 – 234.

Carpentier, P., Thenard-Cornu, A., Uhl, J., Partsch, H., & Antignani, P. (2003) Appraisal of the information content of the C classes of CEAP clinical classification of chronic venous disorders: A multicenter evaluation of 872 patients. *Journal of Vascular Surgery*, 37 (8), 27 – 33.

Carradice, D., Mazari, F.A.K., Samuel, N., Allgar, V., Hatfield, J., & Chetter, I.C. (2011) Modelling the effect of venous disease on quality of life. *British Journal of Surgery*, 98 (Suppl 1: 9), 1089 – 1098.

Centre for Reviews and Dissemination. (2009). *Systematic Reviews. CRD's guidance for undertaking reviews in health care*. York: University of York.

Chadwick, P., & Ahmad, N. (2017) Saving Limbs and Lives Through Public Health: The Key Role of Podiatry. *Podiatry Now*, 20 (10), 2 – 3.

Chiesa, R., Marone, e.M., Limoni, C., Volonte, M., Scafer, E., & Petrini, O. (2005). Chronic Venous Insufficiency in Italy: The 24-cities Cohort Study. *European Journal of Vascular and Endovascular Surgery*, 30, 422-429. Doi: 10.1016/j.ejvs.2005.06.005.

College of Podiatry. (2019). *This is podiatry*. Retrieved from <http://www.thisispodiatry.com/#/>

College of Podiatry. (2015). To determine the current patient population managed by UK podiatrists and the evidence available to support the effectiveness of podiatric contributions to health and Wellbeing. Retrieved from <http://www.scpod.org/resources/assets/attachment/full/0/45563.pdf>

Cramer, H., Hughes, J., Johnson, R., Evans, M., Deaton, C., Timmis, A., Hemingway, H., Feder, G., & Featherstone, K. (2018). 'Who does this patient belong to?' boundary work and the re/making of (NSTEMI) heart attack patients. *Sociology of Health and Illness*, 40(8), 1404-1429. Doi: 10.1111/1467-9566.12778.

Crang, M., & Cook, I. (2007). *Doing Ethnographies*. London: Sage.

Crawford, J., Lal, B., Duran, W., & Pappas, P. (2017) Pathophysiology of venous ulceration. *Journal of Vascular Surgery: Venous and Lymphatic Disorders*, 5(4), 596 – 605.

Cribb, A., & Gewirtz, S. (2015). *Professionalism*. Cambridge: Polity

Crisford, P., Winzenberg, T., Venn, A., & Cleland, V., (2013). Understanding the physical activity promotion behaviours of podiatrists: a qualitative study. *Journal of Foot and Ankle Research*, (6)37. Doi: 10.1186/1757-1146-6-37.

Cutler, L. (2004). Ethnography. In C. Bassett (Ed.), *Qualitative Research in Health Care* (pp. 115-154). London: Whurr.

Dagnall, C. J. (1995). The origins of the Society of Chiropodists and Podiatrists and its history 1945 to 1995 (Part III). *Journal of British Podiatric Medicine*, 50(11), 174 – 181.

Davies, A.H. (2019) The Seriousness of Chronic Venous Disease: A Review of Real-World Evidence. *Advanced Therapeutics*, 36, s5 – s12. Doi: 10.1007/s12325-019-0881-7.

Davies, H., Popplewell, M., Bate, G., Ronan, R., Marshall, T., & Bradbury, A. (2018). Publication of UK NICE Clinical Guidelines 168 has not significantly changed the management of leg ulcers in primary care. *Phlebology*, 34, 311-316. Doi: 10.1177/0268355518805658.

De franciscis, S., Fregola, S., Gallo, A., Argiro, G., Barbetta, A., Buffone, G.,...& Serra, R. (2015). PredyCLU: a prediction system for chronic leg ulcers based on fuzzy logic; part 1 – exploring the venous side. *International Wound Journal*, doi: 10.1111/iwj.12529

Department of Health. (2019) *The NHS Long term Plan* Retrieved from <https://www.longtermplan.nhs.uk/wp-content/uploads/2019/01/nhs-long-term-plan-june-2019.pdf>

Department of Health and Social care. (2018) *Prevention is better than cure: Our vision to help you live well for longer* Retrieved from https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/753688/Prevention_is_better_than_cure_5-11.pdf

Dix, F.P., Brooke, R., & McCollum, C.N. (2003). Venous Disease is Associated with an Impaired Range of Ankle Movement. *European Journal of Vascular and Endovascular Surgery*, 25, 556 – 561.

Doliner, B., Jaller, J.A., Lopez, A.J., & Lev-Tov, H. (2018). Treatments to prevent primary venous ulceration after deep vein thrombosis. *Journal of Vascular Surgery: Venous and Lymphatic Disorders*, 7(2), 260 – 271.

Durkheim, E. (1938). *The Rules of Sociological Method*. London: Collier-MacMillan.

Elliott, A. (2010). Theories of structuration. In A. Elliott (Ed.), *The Routledge Companion to Social Theory*. Abingdon: Routledge.

Eraut, M. (1994). *Developing Professional Knowledge and Competence*. London: The Falmer Press.

Eraut, M. (2000). Non-formal learning and tacit knowledge in professional work. *British Journal of Educational Psychology*, 70, 113-136.

Etufugh, C.N., & Phillips, T.J. (2007). Venous ulcers. *Clinics in Dermatology*, 25(1), 121-130. Doi: 10.1016/j.clindermatol.2006.09.004.

Evans, c., Fowkes, F., Ruckley, C., & Lee, A. (1999) Prevalence of varicose veins and chronic venous insufficiency in men and women in the general population: Edinburgh Vein Study. *Journal of Epidemiology and Community Health*, 53, 149 – 153.

Evetts, J. (2011). A new professionalism? Challenges and opportunities. *Current Sociology*, 59(4), 406-422. Doi: 10.1177/0011392111402585

Farndon, L., Barnes, A., Littlewood, K., Harle, J., Beecroft, C., Burnside, J.,...& Walters, S.J. (2009). Clinical audit of core podiatry treatment in the NHS. *Journal of Foot and Ankle Research*, (2)7, 7 – 13

Farndon, L. (2016). *A Demographic Evaluation of UK Podiatry Services*. London: College of Podiatry

Farndon, L., Vernon, W., Potter, J., & Parry, A. (2002a). The professional role of the podiatrist in the new millennium: an analysis of current practice. Paper 1. *British Journal of Podiatry*, 5(3), 68 – 72.

Farndon, L., Vernon, W., Potter, J., & Parry, A. (2002b). The professional role of the podiatrist in the new millennium: is there a gap between professional image and scope of practice? Paper II. *British Journal of Podiatry*, 5(4), 100-102.

Farndon, L., Stephenson, J., Binns-Hall, O., Knight, K., & Fowler-Davis, S. (2018). The PodPAD project: a podiatry-led integrated pathway for people with peripheral arterial disease in the UK – a pilot study. *Journal of Foot and Ankle Research*, 11(26), doi:10.1186/s13047-018-0269-y

Fernald, D. H., Coombs, L., DeAlleaume, L., West, D., & Parnes, B. (2012). An Assessment of the Hawthorne Effect in Practice-based Research. *Journal of the American Board of Family Medicine*, (25)1, 83 – 86. doi: 10.3122/jabfm.2012.01.110019

Fetterman, D. M. (1998). *Ethnography* (2nd ed.) London: Sage

- Finch, H., Lewis, J., & Turley, C. (2014). Focus Groups. In J. Ritchie., J. Lewis., C. McNaughton Nicholls., & Ormston, R. (Eds.), *Qualitative Research Practice* (2nd ed.) (pp. 211-239), London: Sage.
- Finlay, L. (2003). The reflexive journey: mapping multiple routes. In L. Finlay & B. Gough (Eds.), *Reflexivity: A Practical Guide for Researchers in Health and Social Sciences* (pp 3-21). Oxford: Blackwell.
- Flick, U. (2011). *Introducing Research Methodology*. London: Sage
- Flick, U. (2006). *An introduction to qualitative research* (3rd ed.). London: Sage.
- Flour, M. (2012). Factors to identify patients at risk for progression of chronic venous disease: have we progressed? *Phlebomyphology*, 19(2), 68 – 78.
- Fox, M. (2014). The Podiatry-led approach to peripheral arterial disease aired in the Houses of Parliament. *Podiatry Now*, 16 (4), 30 – 31.
- Francis, J.J., Johnston, M., Robertson, C., Glidewell, L., Entwistle, V, Eccles, M.P., & Grimshaw, J.M. (2010). What is an adequate sample size? Operationalising data saturation for theory-based interview studies. *Psychology & Health*, 25(10), 1229 – 1245. Doi: 10.1080/0887044093194015
- Fried, J. (1953). The Relation of Ideal Norms to Actual Behavior in Tarahumara Society. *Soutwestern Journal of Anthropology*, 9(3), 286-295.
- Fugelli, P. (2006). The Zero-vision: Potential side effects of communicating health perfection and zero risk. *Patient Education and Counseling*, 60, 267-271. Doi: 10.1016/j.pec.2005.11.002.
- Gale, N.K., Heath, G., Cameron, E., Rashid, S., & Redwood, S. (2013). Using the framework method for the analysis of qualitative data in multi-disciplinary health research. *BMC Medical Research Methodology*, 13(117), Doi: 10.1186/1471-2288-13-117
- Geertz, C. (1973). *The interpretation of cultures*. London: Fontana Press.
- Gervas, J., Starfield, B., & Heath, I. (2008). Is clinical prevention better than cure? *The Lancet*, 372, 1997-1999.
- Giddens, A. (1984). *The constitution of society*. Cambridge: Polity.
- Gobo, G. (2008). *Doing Ethnography*. London: Sage.
- Gobo, G. (2011). Ethnography. In D. Silverman (Ed.), *Qualitative Research* (3rd ed.) (pp 15 – 35). London: Sage.
- Gold, R.L. (1958). Roles in Sociological Field Observations. *Social Forces*, 36(3), 217-223.
- Goldman, J., Reeves, S., Wu, R., Silver, I., MacMillan, K., & Kitto, S. (2016). A sociological exploration of the tensions related to interprofessional collaboration in acute-care discharge planning. *Journal of Interprofessional Care*, 30(2), 217 – 225. Doi: 10.3109/13561820.2015.1072803.
- Graham, A.S., Hammond, A., & Williams, A.E. (2012). Foot health education for people with rheumatoid arthritis: the practitioner's perspective. *Journal of Foot and Ankle Research*, 5(2). Doi: 10.1186/1757-1146-5-2.

Gray, J., Eden, G., & Williams, M. (2007). Developing the public health role of a front line clinical service: integrating stop smoking advice into routine podiatry services. *Journal of Public Health, 29*(2), 188 – 122.

Gray, D.E. (2009). *Doing Research in the Real World* (2nd ed.). London: Sage.

Grbich, C. (1999). *Qualitative Research in Health*. London: Sage.

Green, J., Jester, R., McKinley, R., & Pooler, A. (2013). Patient perspectives of their leg ulcer journey. *Journal of Wound Care, 22*(2), 58 – 66.

Greenhalgh, T. (2006). How to read a paper, the basics of evidence-based medicine (3rd ed.). Oxford: Blackwell.

Griffith, A.I. (1998). Insider/Outsider: Epistemological Privilege and Mothering Work. *Human Studies, 21*(4), 361-376. Doi: 10.1023/A:100542121

Grzela, T., & Bialoszewska, A. (2010). Genetic risk factors of chronic venous leg ulceration: Can molecular screening aid in the prevention of chronic venous insufficiency complications? *Molecular medicine reports, 3*(2), doi: 10.3892/mmr00000241

Guest, G., Bunce, A., & Johnson, L. (2006). How Many Interviews Are Enough? An Experiment with Data Saturation and Variability. *Field Methods, 18*(1), 59 – 82. Doi: 10.1177/1525822X05279903

Guest, J, F., Ayoub, N., Mcllwraith, T., Ijeoma, U., Gerrish, A., Weidlich, D., Vowden, K., Vowden, P. (2015) Health economic burden that wounds impose on the National Health Service in the UK. *BMJ Open* (5). 1 – 9. doi: 10.1136/bjopen-2015-009283

Guest, J, F., Ayoub, N., Mcllwraith, T., Ijeoma, U., Gerrish, A., Weidlich, D., Vowden, K., & Vowden, P. (2017) Health economic burden that different wound types impose on the UK's National Health Service. *International Wound Journal, 14*, 322 – 330. doi: 10.1111/iwj.12603

Guest, J.F., Fuller, G.W., & Vowden, P. (2018) Venous leg ulcer management in clinical practice in the UK: costs and outcomes. *International Wound Journal, 15*, 29 – 37. Doi: 10.1111/iwj.12814

Hammersley, M., & Atkinson, P. (2007). *Ethnography: principles in practice* (3rd ed.). London: Routledge.

Hammersley, M. (1992). *What's wrong with ethnography?* London: Routledge.

Hammersley, M. (1990). Reading ethnographic research: A critical guide. London: Longman.

Hammersley, M., & Gomm, R. (2000). Bias in social research. In M. Hammersley (Ed.), *Taking Sides in Social Research: Essays on Partisanship and Bias* (pp. 151 – 167). London: Routledge.

Hansen, E.C. (2006). Successful Qualitative Health Research: a Practical Introduction. Maidenhead: Open University Press.

Harrison-Blount, M., Nester, C., & Williams, A. (2019). The changing landscape of professional practice in podiatry, lessons to be learned from other professions about the
250

barriers to change – a narrative review. *Journal of Foot and Ankle Research*, 12(23), doi:10.1186/s13047-019-0333-2

Health and Care Professions Council. (2019). *Registrant snapshot – 1st September 2019*. Retrieved from <https://www.hcpc-uk.org/about-us/insights-and-data/the-register/registrant-snapshot-1-september-2019/>

Health and Care Professions Council (2013) Standards of proficiency: Chiropodists/podiatrists. London: HCPC Retrieved from <http://www.hcpc-uk.org>

Heath, I. (2007). In defence of a National Sickness Service. *British Medical Journal*, 334, 19.

Heit, J., Rooke, T., Silverstein, M., Mohr, D., Lohse, C., Petterson, T., O'Fallon, M., & Melton, J. (2001) Trends in the incidence of venous stasis syndrome and venous ulcer: A 25-year population-based study. *Journal of Vascular Surgery*, 33, 1022 – 1027.

Helman, C.G. (1990). *Culture, health and illness: An introduction for health professionals*. Retrieved from <http://ebookcentral.proquest.com>

Henke, P. (2010) The Pacific Vascular Symposium 6: the Venous Ulcer Summit in Perspective. *Journal of Vascular Surgery*, 52 (5 Supplement), 1S – 2S.

Hogg, M.A., Terry, D.J., & White, K.M. (1995). A Tale of Two Theories: A Critical Comparison of Identity Theory with Social Identity Theory. *Social Psychology Quarterly*, 58(4), 255 – 269.

Holden, J.D. (2000). Hawthorne effects and research into professional practice. *Journal of Evaluation in Clinical Practice*, 7(1), 65-70.

Holloway, I., & Wheeler, S. (2010). *Qualitative Research in Nursing and Healthcare* (3rd ed.). Chichester: Wiley-Blackwell.

Horwood, A. (2019) The Foot As A Second Heart: 'A Gait Model Of The Venous Foot Pump.' *Podiatry Now*, 22(8), 14 – 18.

Hotho, S. (2008). Professional identity – product of structure, product of choice: Linking changing professional identity and changing professions. *Journal of Organizational Change Management*, 21(6), 721-742. Doi: 10.1108/09534810810915745

Humphreys, I., & Thomas, M.J. (2017). Evaluation of the economic impact of a national lymphoedema service in Wales. *British Journal of Nursing*. (26)20, 1093 – 1100.

Humphreys, I., Thomas, M. J., & Morgan, K.M. (2017). Pilot evaluation of the management of chronic oedema in community settings project. *British Journal of Community Nursing*. 22(12), 578-585.

Iwuji, M. (2008). Preventing venous ulceration. *Journal of Community Nursing*. 22(10), 15 – 20.

Jehu, D., Jenkins, L., Morgan, K., & Thomas, M.J. (2018). Taking a proactive approach to mild to moderate chronic oedema: a case study. 23(2), 64-68

Joanna Briggs Institute. (2017). *Critical Appraisal Tools*. Retrieved from <http://joannabriggs.org/research/critical-appraisal-tools.html>

- Kahn, S., M'lan, C., Lamping, D., Kurz, X., Berard, A., Abenheim, L. (2004). Relationship between clinical classification of chronic venous disease and patient-reported quality of life: Results from an international cohort study. *Journal of Vascular Surgery*, 39, 823 – 828.
- Kankam, H.K.N., Lim, C.S., Fiorentino, F., Davies, A.H., & Gohel, M.S. (2018). A Summation Analysis of Compliance and Complication of Compression Hosiery for Patients with Chronic Venous Disease or Post-thrombotic Syndrome. *European Journal of Vascular and Endovascular Surgery*, 55(3), 406 – 416. Doi: 10.1016/j.ejvs.2017.11.025.
- Karahan, O., Yavuz, C., Kankilic, N., Demirtas, S., Tezcar, O., Caliskan, A., & Mavitas, B. (2016). Simple blood tests as predictive markers of disease severity and clinical condition in patients with venous insufficiency. *Blood Coagulation and Fibrinolysis*, 27, 684 – 690.
- Keen, H. (2000). The St. Vincent Declaration – origins and perspectives. *Practical Diabetes International*, 17(7), 211-212.
- Kelechi, T.J., & Bonham, P.A. (2008). Measuring venous insufficiency objectively in the clinical setting. *Journal of Vascular Nursing*, 26, 67 – 73.
- Kelechi, T.J., & McNeil, R.B. (2010). A pilot study of venous photoplethysmography screening of patients with chronic venous disorders. *Applied Nursing Research*, 23, 178 – 183.
- Kelechi, T.J., Mueller, M., Madisetti, M., Prentice, M.A., & Dooley, M.J. (2016). Does cryotherapy improve skin circulation compared with compression and elevation in preventing venous leg ulcers? *International Wound Journal*, doi: 10.1111/iwj.12657
- Kong, M., & Gregory, R. (2016). Preventing foot complications in diabetes: the St Vincent Declaration 26 years on. *Practical Diabetes*, 33(5), 154-156.
- Kopelman, P. (2007). Health risks associated with overweight and obesity. *Obesity Reviews*, 8(Suppl. 1), 13-17.
- Kostas, T.I., Ioannou, C.V., Drygiannakis, I., Georgakarakos, E., Kounos, C., Tsetis, D., & Katsamouris, A.N. (2010). Chronic venous disease progression and modification of predisposing factors. *Journal of Vascular Surgery*, 51, 900 – 907.
- Kim, T.I., Forbang, N.I., Criqui, M.H., & Allison, M.A. (2015). Association of foot and ankle characteristics with progression of venous disease. *Vascular Medicine*, 20(2), 105 – 111.
- King, N., & Horrocks, C. (2010). *Interviews in Qualitative Research*. London: Sage.
- King, O., Nancarrow, S.A., Borthwick, A.M., & Grace, S. (2015). Contested professional role boundaries in health care: a systematic review of the literature. *Journal of Foot and Ankle Research*, 8(2). Doi: 10.1186/s13047-015-0061-1.
- King, O., Borthwick, A., Nancarrow, S., & Grace, S. (2018). Sociology of the professions: what it means for podiatry. *Journal of Foot and Ankle Research*, 11(30). Doi: 10.1186/s13047-018-0275-0.
- Kingston, A., Robinson, L., Booth, H., Knapp, M., & Jagger, C. (2018). Projections of multi-morbidity in the older population in England to 2035: estimates from the Population Ageing and Care Simulation (PACSim) model. *Age and Ageing*, 47, 374-380. Doi: 10.1093/ageing/afx201.

- Kjellsson, G., Clarke, P., & Gerdtham, U. (2014). Forgetting to remember or remembering to forget: A study of the recall period length in health care survey questions. *Journal of Health Economics*, 35, 34 – 36.
- Knaapen, L. (2014). Evidence –Based Medicine or Cookbook Medicine? Addressing Concerns over the Standardization of Care. *Sociology Compass*, 8(6), 823-836. Doi: 10.1111/soc4.12184
- Labropoulos, N. (2019). How does Chronic Venous Disease Progress from the First Symptoms to the Advanced Stages? A Review. *Advanced Therapeutics*, 36, S13 – S19. Doi: 10.1107/s12325-09-0885-3.
- Larson, M.S. (1977). *The rise of professionalism: a sociological analysis*. London: University of California Press.
- Lee, A.J., Robertson, L.A., Boghossian, S.M., Allan, P.L., Ruckley, C.V., Fowkes, G.R., & Evans, C.J. (2015). Progression of varicose veins and chronic venous insufficiency in the general population in the Edinburgh Vein Study. *Journal of Vascular Surgery*, 3(1), 18 – 26.
- Lee, K. E., Huber, M., and Davidson, P. (2008). Research or audit? The benefits and limitations of structured observation of the hand hygiene practice of named staff. *British Journal of Infection control*, 9(2), 12-17 DOI: 10.1177/1469044607087608
- Lewis, J., & McNaughton Nicholls, C. (2014). Design Issues. In J. Ritchie., J. Lewis., C. McNaughton Nicholls., & Ormston, R. (Eds.), *Qualitative Research Practice* (2nd ed.) (pp 47-70), London: Sage.
- Lewis, J., Ritchie, J., Ormston, R., & Morrell, G. (2014). Generalising from Qualitative Research. In J. Ritchie., J. Lewis., C. McNaughton Nicholls., & Ormston, R. (Eds.), *Qualitative Research Practice* (2nd ed.) (pp 295 - 343), London: Sage.
- Liddle, J., Lovarine, M., Clemson, L., Mackenzie, L., Tan, A., Pit, S.W.,...& Willis, K. (2018). Making fall prevention routine in primary care practice: perspectives of allied health professionals. *BMC Health services Research*, 18(598). Doi: 10.1186/s12913-018-3414-1.
- Linton, R. (1947). *The Cultural Background of Personality*. London: Routledge & Kegan Paul.
- Maben, J., Latter, S., & Macleod Clark, J. (2005). The theory-practice gap: impact of professional-bureaucratic work conflict on newly-qualified nurses. *Journal of Advanced Nursing*, 55(4), 465-477. Doi: 10.1111/j.1365-2648.2006.03939.x
- Madden, R. (2010). *Being Ethnographic: A Guide to the Theory and Practice of Ethnography*. London: Sage.
- Mandy, A., & Tinley, P. (2004). Burnout and Occupational Stress: Comparison Between United Kingdom and Australian Podiatrists. *Journal of the American Podiatric Medical Association*, 94(3), 282- 291.
- Mandy, P. (2008). The status of podiatry in the United Kingdom. *The Foot*, 18, 202 – 205.
- Mathieson, I. & Upton, D. (2008). *A podiatrist's guide to using research*. London: Churchill Livingstone.
- Mathieson, I., & Upton, D. (2008). *A podiatrist's guide to using research*. London: Churchill Livingstone.

- Maybin, J., Charles, A., & Honeyman, M. (2016). *Understanding quality in district nursing services. Learning from patients, carers and staff*. London: The King's Fund
- May, C., & Finch, T. (2009). Implementing, Embedding, and Integrating Practices: An Outline of Normalization Process Theory. *Sociology*, 43(3), 535-554. Doi: 10.1177/0038038509103208.
- McArthur, A., Klugarova, J., Yan, H., & Florescu, S., (2015). Innovations in the systematic review of text and opinion. *International Journal of Evidence Based Healthcare*, 13(3), 188 – 195.
- McCabe, C.J., Stevenson, R.C., & Dolan, A.M. (1998). Evaluation a Diabetic Foot Screening and Protection Programme. *Diabetic Medicine*, 15, 80 – 84.
- McCardle, J., and Fox, M., (2013). Introduction to the latest competency dimension: Peripheral vascular disease. *The Diabetic Foot Journal*, 16(2), 54 – 55.
- McEvoy, R., Ballini, L., Maltoni, S., O'Donnell, A., Mair, F.S., & MacFarlane, A. (2014). A qualitative systematic review of studies using the normalization process theory to research implementation processes. *Implementation Science*, 9(2). Doi: 10.1186/1748-5908-9-2.
- McLafferty, R., Passman, M., Caprini, J., Rooke, T., Markwell, S., Lohr, J.,...Dalsing, M. (2008) Increasing awareness about venous disease: The American Venous Forum expands the National Venous Screening Program. *Journal of Vascular Surgery*, 48,394 – 399.
- McNaughton Nicholls, C., Mills, L., & Kotecha, M. (2014). Observation. In J. Ritchie., J. Lewis., C. McNaughton Nicholls., & Ormston, R. (Eds.), *Qualitative Research Practice* (2nd ed.) (pp. 243-265), London: Sage.
- Meissner, M., Gloviczki, P., Bergan, J., Kistner, R., Morrison, N., Pannier, F.,...Villavicencio, L. (2007) Primary chronic venous disorders. *Journal of Vascular Surgery*, 46, 54S – 67S. Doi: 10.1016/j.jvs.2007.08.038.
- Meissner, M.H. (2012). What is the medical rationale for the treatment of varicose veins? *Phlebology*, 27 (1), 27 – 33.
- Meulendijks, A.M., Welbie, M., Tjin, E.P.M., Schoonhoven, L., & Neumann, H.A.M. (2019) A qualitative study on the patient's narrative in the progression of chronic venous disease into a first venous leg ulcer: a series of events. *British Journal of Dermatology*. Doi: DOI 10.1111/bjd.18640.
- Mervis, J., Kirsner, R., & Lev-Tov, H. (2018) Protocol for a longitudinal cohort study: determination of risk factors for the development of first venous leg ulcer in people with chronic venous insufficiency, the VEINS (venous insufficiency in South Florida) cohort. *BMJ Open*, 9, doi: 10.1136/bmjopen-2018-023313.
- Miles, M.B., & Huberman, A.M. (1994). *Qualitative Data Analysis: An Expanded Sourcebook* (2nd Ed.). London: Sage.
- Moher, D., Tetziaff, L.A., Altman, D.G., Antes, D., Atkinsm D., Barbour, V., ... & Tugwell, P. (2009). Preferred reporting items for systematic reviews and meta-analysis: the PRISMA statement. *PLoS Med*, 6(7), doi:10.1371/ journal.pmed.1000097.
- Mol, A. (2002). *The body multiple: ontology in medical practice*. London: Duke University Press.

Moore, Z.E.H., & Patton, D. (2019) Risk assessment tools for the prevention of pressure ulcers. *Cochrane Database of Systematic Reviews*, 1, Art. No.: CD006471. Doi: 10.1002/14651858.

Mulder, G. (2004). Venous Ulcers: Clinical Considerations for Treatment. *Podiatry Management*, 23(5), 129 – 138.

Nancarrow, S.A., & Borthwick, A.M. (2005). Dynamic professional boundaries in the healthcare workforce. *Sociology of Health and Illness*, 27(7), 897 – 919.

National Wound Care Strategy Programme. (2019). *Progress Report 2018-19*. Retrieved from <https://www.ahsnnetwork.com/wp-content/uploads/2019/11/NWCSP-Progress-Report-November-2019-Final-.pdf>

NHS Digital. (2019) *Statistics on Obesity, Physical Activity and Diet, England, 2019*. Retrieved from: <https://digital.nhs.uk/data-and-information/publications/statistical/statistics-on-obesity-physical-activity-and-diet/statistics-on-obesity-physical-activity-and-diet-england-2019/part-2-prescription-items-for-the-treatment-of-obesity>

NHS Digital. (2018) *Health Survey for England 2017 Adult health*. Retrieved from <https://files.digital.nhs.uk/75/9C8B99/HSE17-Adult-health-rep-v2.pdf>

NHS England. (2014) *Five year forward view* Retrieved from <https://www.england.nhs.uk/wp-content/uploads/2014/10/5yfv-web.pdf>

NHS England. (2017) *Allied Health Professionals into Action: Using Allied Health Professionals to transform health, care and wellbeing*. Retrieved from <https://www.england.nhs.uk/wp-content/uploads/2017/01/ahp-action-transform-hlth.pdf>

NHS RightCare. (2017). *NHS RightCare scenario: The variation between standard and optimal pathways. Betty's story: Wound care*. Retrieved from <https://www.england.nhs.uk/rightcare/wp-content/uploads/sites/40/2017/02/nhs-rightcare-bettys-story-app1.pdf>

National Institute for Health and Care Excellence. (2013) *CG168 Varicose veins in the legs: The diagnosis and management of varicose veins*. Retrieved from https://www.guidance.nice.org.uk/cg_168

National Institute for Health and Care Excellence. (2015) *NG19 Diabetic foot problems: prevention and management*. Retrieved from <https://www.nice.org.uk/guidance/ng19>

Neglen, P (2010) Prevention and treatment of venous ulcers in primary chronic venous insufficiency. *Journal of Vascular Surgery*, (52)15S – 20S. doi:10.1016/j.jvs.2010.05.069.

Needle, J., Petchey, R., Benson, J., Scriven, A., Lawrenson, J., And Hilari, K. (2011). The allied health professions and health promotion: a systematic literature review and narrative synthesis. NIHR Service and Organisation Programme

Newell, R., & Burnard, P. (2011). *Research for evidence-based practice in healthcare* (2nd ed.). Chichester: Wiley-Blackwell.

Nicholls, E., Robinson, V., Farndon, L., & Vernon, W. (2018). 'A good fit?' Bringing the sociology of footwear to the clinical encounter in podiatry services: a narrative review. *Journal of Foot and Ankle Research*, 11(1). Doi: 10.1186/s13047-018-0253-6.

Nicholls, S. (2005) Sequelae of Untreated Venous Insufficiency. *Seminars in Interventional Radiology*, 22(3), 162 – 168.

Nicolaides, A. N., & Labropoulos, N. (2019). Burden and Suffering in Chronic Venous Disease. *Advanced Therapeutics*, 36, S1-S4. Doi: 10.1007/s12325-019-0882-6.

Normahani, P., Mustafa, C., Stanfield, N.J., Duguid, C., Fox, M., & Jaffer, U. (2018). Management of peripheral arterial disease in diabetes: a national survey of podiatry practice in the United Kingdom. *Journal of Foot and Ankle Research*, 11(29). Doi: 10.1186/s13047-018-0270-5

Office for National statistics. (2018). *Living Longer – Office for National Statistics*. Retrieved from <https://www.ons.gov.uk/releases/livinglongerhowourpopulationischangingandwhyitmatters>

Office for National Statistics. (2017). *National population projections: 2016-based- Office for National Statistics*. Retrieved from <https://ons.gov.uk/releases/nationalpopulationprojections2016basedstatisticalbulletin>

Oppenheim, A, N. (2005). Questionnaire Design, Interviewing and Attitude Measurement (2nd ed.) London: Continuum

O'Reilly, M., & Parker, N. (2012). 'Unsatisfactory Saturation': a critical exploration of the notion of saturated sample sizes in qualitative research. *Qualitative Research*, 13(2), 190-197. Doi: 10.1177/1468794112445106

O'Reilly, P., Lee, S.W., O'Sullivan, M., Cullen, W., Kennedy, c., & MacFarlane, A. (2017). Assessing the facilitators and barriers of interdisciplinary team working in primary care using normalisation process theory: An integrative review. *PLoS ONE*, 12(5). Doi: 10.1371/journal.pone.0177026.

Ormston, R., Spencer, L., Barnard, M., & Snape, D. (2014). The Foundations of Qualitative Research. In J. Ritchie., J. Lewis., C. McNaughton Nicholls., & Ormston, R. (Eds.), *Qualitative Research Practice* (2nd Ed.) (pp.1-23). London: Sage.

Ousey, K., Chadwick, P., Jawien, A., Tariq, G., Nair, H.K.R., Lazaro Martinez, J.L...& Moore, Z. (2018). Identifying and treating foot ulcers in patients with diabetes: saving feet, legs and lives. *Journal of Wound Care*, 27(5 Suppl 5b).

Parkinson, S., Eatough, V., Holmes, J., Stapley, E., & Midgley, N. (2016). Framework analysis: a worked example of a study exploring young people's experiences of depression. *Qualitative Research in Psychology*, 13(2), 109-129. Doi: 10.1080/14780887.2015.1119228

Passman, M., McLafferty, R., Lentz, M., Nagre, S., Iafrati, M., Bohannon, T.,...Caprini, J. (2011) Validation of Venous Clinical Severity Score (VCSS) with other venous severity assessment tools from the American Venous Forum, National Venous Screening Program. *Journal of Vascular Surgery*, 54, 2S – 9S.

Passman, M. (2010) Non-medical initiatives to decrease venous ulcers prevalence. *Journal of Vascular Surgery*, (52) pp 29S – 36S doi: 10.1016/j.jvs.2010.05.071

Pearcey, P. (2007). Tasks and routines in 21st century nursing: student nurses' perceptions. *British Journal of Nursing*, 16(5), 296 -300.

Philpin, S.M. (2002). Rituals and nursing: a critical commentary. *Journal of Advanced Nursing*, 38(2), 144-151.
256

Pitsch, F. (Vein Consult Program: interim results from the first 70,000 screened patients in 13 countries. *Phlebology*, 19(3), 132 – 137.

Polanyi, M. (1967). *The Tacit Dimension*. London: Routledge

Polit, E.F., & Beck, C.T. (2017). *Nursing Research: Generating and Assessing Evidence for Nursing Practice* (10th ed.). Philadelphia: Wolters Kluwer.

Porter, M. (2018). Can early detection prevent venous leg ulceration? *British Journal of Community Nursing*, 1(23 sup 12), s14 – s17. Doi: 10.12968/bjcn.23.sup12.s14

Public Health England. (2018) *Health profile for England:2018*. Retrieved from <https://www.gov.uk/government/publications/health-profile-for-england-2018>

Public Health England. (2017) *Health matters: obesity and the food environment*. Retrieved from: <https://www.gov.uk/government/publications/health-matters-obesity-and-the-food-environment/health-matters-obesity-and-the-food-environment--2>

Public Health England. (2016) *Making every Contact Count: Consensus statement* Retrieved from <https://www.england.nhs.uk/wp-content/uploads/2016/04/making-every-contact-count.pdf>

Pursell, E. (2019). Using GRADE to reduce the theory-practice gap. *Nurse Education Today*, 74, 82-84. Doi: 10.1016/j.nedt.2018.12.008

Rabe, E., Partsch, H., Hafner, J., Lattimer, C., Mosti, G., Neumann, M.,...& Carpentier, P. (2018). Indications for medical compression stockings in venous and lymphatic disorders: An evidence-based consensus statement. *Phlebology*, 33(3), 163 – 184.

Raju, S., Knight, A., Lamanilao, L., Pace, N., & Jones, T. (2019) Peripheral venous hypertension in chronic venous disease. *Journal of Vascular Surgery: Venous and Lymphatic Disorders, CHECK vol 1 – 9*

Rapley, T. (2011). Some Pragmatics of Qualitative Data Analysis. In D. Silverman (Ed.), *Qualitative Research* (3rd ed.) (pp.273- 290). London: Sage.

Ratliffe, C.R., Yates, S., McNichol, L., And Gray, M. (2016). Compression for Primary Prevention, Treatment, and Prevention of Recurrence of venous leg ulcers. *Journal of Wound Ostomy and Continence Nursing*, (40)4, 347 – 364

Renwick, P. (1992). Quality Assurance in Podiatry. *International Journal of Health Care Quality assurance*, 5(6), 18-24.

Rhynas, S.J. (2005). Bourdieu's theory of practice and its potential in nursing research. *Journal of Advanced Nursing*, 50(2), 179-186.

Richens, J., Imrie, J., & Copas, A. (2000). Condoms and seat belts: the parallels and the lessons. *The Lancet*, 355, 400-403.

Rigg, L. (2004). Action Research. In C. Bassett (Ed.), *Qualitative Research in Health Care* (pp. 30 - 56). London: Whurr.

Ritchie, J., Lewis, J., Ellam, G., Tennant, R., & Rahim, N. (2014). Designing and Selecting Samples. In J. Ritchie., J. Lewis., C. McNaughton Nicholls., & Ormston, R. (Eds.), *Qualitative Research Practice* (2nd ed.) (pp. 111-142). London: Sage.

- Robertson, L., Lee, A.J., Gallagher, K., Carmichael, S.J., Evans, C.J., McKinstry, B.H.,...& Fowkes, F.G.R. (2009). Risk factors for chronic ulceration in patients with varicose veins: A case control study. *Journal of Vascular Surgery*, 49, 1490 – 1498.
- Robertson, L., Yeoh, S., & Kolbach, D. (2013) Non-pharmacological interventions for preventing venous insufficiency in a standing worker population. *Cochrane Database of Systematic Reviews*, Issue 10. Art. No.: CD006345. DOI: 10.1002/14651858.CD006345.pub3.
- Robson, M., Cooper, D., Aslam, R., Gould, L., Harding, K., Margolis, D., ...Thomas, D. (2008). Guidelines for the prevention of venous ulcers. *Wound Repair and Regeneration*, (16), 147 – 150.
- Robson, C. (2002). *Real World Research* (2nd ed.). Oxford: Blackwell.
- Rothman, K.J., & Greenland, S. (2005). Causation and Causal Inference in Epidemiology, *American Journal of Public Health*, (95) S1, S144-S150.
- Rubin, H. & Rubin, I. (1995). *Qualitative Interviewing: the art of hearing data* London: Sage
- Sackett, D.L., Rosenberg, W.M., Gray, J.A., Haynes, R.B., & Richardson, W.S. (1996). Evidence based medicine: what it is and what it isn't. *British Medical Journal*, 312(7023), 71 – 72. Doi: 10.1136/bmj.312.7023.71
- Seale, C. (1999). Quality in Qualitative Research. *Qualitative Inquiry*, 5(4), 465-478.
- Schoenhaus, J. (2007). Current Treatments for Venous Disease. *Podiatry Management*, 26(4), 129-134.
- Scottish Intercollegiate Guideline Network (2010) 'Management of chronic venous leg ulcers.' Edinburgh: SIGN
- Serra, R., Amato, B., Butrico, L., Barbetta, A., Dr Caridi, G., Massara, M.,...& de Franciscis, S. (2016). Study on the efficacy of surgery of the superficial venous system and of compression therapy at early stages of chronic venous disease for the prevention of chronic venous ulceration. *International Wound Journal*, 13, 1385 – 1388.
- Shai, A., & Helevy, S. (2005). Direct triggers for ulceration in patients with venous insufficiency. *International Journal of Dermatology*, 44(12), 1006 – 1009.
- Shenton, A.K. (2004). Strategies for ensuring trustworthiness in qualitative research projects. *Education for Information*, 22, 63 – 75.
- Sherwin, S., & Wright, J. (2019). 'Prevention is Better than Cure': New beginnings for an old idea? *British Journal of School Nursing*, 13(10), 490-491.
- Simmons, M. (2007). Insider ethnography: tinker, tailor, researcher or spy? *Nurse Researcher*, 14(4), 7 – 17.
- Smith, J., & Firth, J. (2011). Qualitative data analysis: the framework approach. *Nurse Researcher*, 18(2), 52-62.
- Spradley, J.P. (1979). *The ethnographic interview*. London: Harcourt Brace Javanovich College Publishers.

Spencer, L., Ritchie, J., Ormston, R., O'Connor, W., & Barnard, M. (2014). Analysis: Principles and Processes. In J. Ritchie., J. Lewis., C. McNaughton Nicholls., & Ormston, R. (Eds.), *Qualitative Research Practice* (2nd ed.) (pp 269-290), London: Sage.

Stana, J., Maver, U., & Ptochnik, U. (2019). Genetic biases related to chronic venous ulceration. *Journal of Wound Care*, 28(2), 59 – 65.

Stephen-Haynes, J., & Sykes, R. (2013). Development and evaluation of a hosiery selection algorithm in an acute and community healthcare NHS Trust. *Wounds UK*, 9(4), 30 – 35.

Stressing, S.J., & Borthwick, A. M. (2014). The impact of workforce redesign policies on role boundaries in 'generalist' podiatry practice: expert views within the professional body. *Journal of Foot and Ankle Research*, 7(52), 1 – 6.

Stryker, S. (1968). Identity Salience and Role Performance: The Relevance of Symbolic Interaction Theory for Family Research. *Journal of Marriage and Family*, 30(4), 58 – 564.

Stryker, S., & Burke, P.J. (2000). The Past, Present, and Future of an Identity Theory. *Social Psychology Quarterly*, 63(4), 284-297.

Swallow, V., Newton, J., & Van Lottum, C. (2003). How to manage and display qualitative data using 'Framework' and Microsoft Excel. *Journal of Clinical Nursing*, 12, 610-612.

Tehan, P.E., & Chuter, V.H. (2016). A targeted screening method for non-invasive vascular assessment of the lower limb. *Journal of Foot and Ankle Research*, 9(48), doi: 10.1186/s13047-016-0181-2

Tennvall, G.R., & Hjelmgren, J. (2005) Annual costs of treatment for venous leg ulcers in Sweden and the United Kingdom. *Wound Regeneration and Repair*, 13, 13 – 18.

The Health Foundation, The Kings Fund, & Nuffield Trust. (2018). *The health care workforce in England. Make or Break?* Retrieved from https://www.health.org.uk/publications/the-health-care-workforce-in-england?gclid=EA1aIQobChMIqYL_o-fa5wIVhrHtCh1HAWNjEAAAYASAAEgK5U_D_BwE

Timmermans, S. (2005). From Autonomy to Accountability: the role of clinical practice guidelines in professional power. *Perspectives in Biology and Medicine*, 48(4), 490-501.

Timmons, J., & Bianchi, J. (2008) Disease progression in venous and lymphovenous disease: the need for early identification and management. *Wounds UK*, 4(3), 59 – 71

Todd, M (2012). Strategies to prevent the progression of venous and lymphovenous disease. *British Journal of Community Nursing*, 17(sup9b), 3-14.

Tonuma, M., & Winbolt, M. (2000). From rituals to reason: Creating an environment that allows nurses to nurse. *International Journal of Nursing Practice*, 6, 214-218.

Tracy, S.J. (2010). Qualitative Quality: Eight "Big-Tent" Criteria for Excellent Qualitative Research. *Qualitative Inquiry*, 16(10), 837-851. Doi: 10.1177/1077800410383121

United Kingdom Parliament. (2017). *NHS: Wound Care*. Retrieved from <https://hansard.parliament.uk/Lords/2017-11-22/debates/6C57E65A-A04D-449B-82E9-C836F088A696/NHSWoundCare>

Van Hecke, A., Beeckman, D., Grypdonck, M., Meuleneire, F., Hermie, L., & Verhage, S. (2013). Knowledge deficits and information-seeking behaviour in leg ulcer patients: an 259

exploratory qualitative study. *Journal of Wound Ostomy and Continence Nursing*, 40(4), 381-387. Doi: 10.1097/WON.0b013e31829a2f4d.

Van Maanen, J. (2011). *Tales of the Field: On writing ethnography* (2nd ed.). London: The University of Chicago Press.

Vernon, W., Borthwick, A., Farndon, L., Nancarrow, S., & Walker, J. (2005). Issues of podiatry status in the UK. *British Journal of Podiatry*, 8(1), 6 – 10.

Vernon, W. (2011). Prevention of falls through podiatry care. *British Medical Journal*, 342(d3052). Doi: 10.1136/bmj.d3052

Vlajinac, H., Marinkovic, J., Maksimovic, M., & Radak, D. (2014). Factors Related To Venous Ulceration: A Cross-Sectional Study. *Angiology*, 65(9), 824 - 830.

Walsh, M., & Ford, P. (1989). *Nursing Rituals, Research and Rational Action*. Oxford: Butterworth Heinemann.

Ward, D.J., Furber, C., Tierney, S., & Swallow, V. (2013). Using Framework Analysis in nursing research: a worked example. *Journal of Advanced Nursing*, 69(11), 2423-2431. Doi: 10.1111/jan.12127

Webster, S., Lewis, J., & Brown, A. (2014). Ethical Considerations in Qualitative Research. In J. Ritchie., J. Lewis., C. McNaughton Nicholls., & Ormston, R. (Eds.), *Qualitative Research Practice* (2nd ed.) (pp 77-107), London: Sage.

Wenger, E. (1998). *Communities of Practice: Learning, Meaning and Identity*. Cambridge: Cambridge University Press.

Wenger, E., McDermott, R., & Snyder, W.M. (2002). *Cultivating Communities of Practice*. Boston: Harvard Business School Press.

White, C., Woodfield, K., Ritchie, J., & Ormston, R. (2014). Writing up Qualitative Research. In J. Ritchie., J. Lewis., C. McNaughton Nicholls., & Ormston, R. (Eds.), *Qualitative Research Practice* (2nd ed.) (pp. 367-396), London: Sage.

Williams, K.J., Ravikumar, R., Gaweesh, A.S., Moore, H.M., Lifshitz, A.D., Lane, T.R.,...& Davies, A.H. (2017). A Review of the Evidence to Support Neuromuscular Electrical Stimulation in the Prevention and Management of Venous Disease. *Advances in experimental medicine and biology*, 907, 377 – 386.

Williams, A.E., Graham, A.S., Davies, S., & Bowen, C.J. (2013). Guidelines for the management of people with foot health problems related to rheumatoid arthritis: a survey of their use in podiatry practice. *Journal of Foot and Ankle Research*. (6)23. Doi: <https://doi.org/10.1186/1757-1146-6-23>

Wolfram Cox, J. (2012). Action Research. In G. Symon & C. Cassell (Eds.), *Qualitative organizational research: core methods and current challenges* (pp 371 – 388.). Los Angeles: Sage.

Woodburn, J., Hennessy, K., Steultjens, M.P., McInned, I.B., & Turner, D.E. (2010). Looking through the 'window of opportunity': is there a new paradigm of podiatry care on the horizon in early rheumatoid arthritis? *Journal of Foot and Ankle Research*, 3(8), doi:10.1186/1757-1146-3-8

Wound Management and Healing Node Group (Joanna Briggs Institute). (2012). Primary Prevention of Venous Leg Ulcers. *Wound Practice and Research*, 20(1), 36 – 37.

Wounds UK. (2013). Optimising venous leg ulcer services in a changing NHS: A UK consensus. London: Wounds UK Available at www.wounds-uk.com

World Health Organisation (2017) *Operational definitions*. Retrieved from <http://www.emro.who.int/about-who/public-health-functions/health-promotion-disease-prevention.html>

Wunderlich, R. (2011). Venous Stasis Ulceration in the Diabetic Patient. *Podiatry Management* 30(9), 147-148.

Wrona, M., Jockel, K.H., Pannier, F., Back, E., Hoffmann, B., & Rabe, E. (2015). Association of Venous Disease with Leg Symptoms: Results from the Bonn Vein Study 1. *European Journal of Vascular and Endovascular Surgery*, 50, 360-367.

Wylie, G., Menz, H.B., McFarlane, S., Ogston, S., Sullivan, F., Williams., ...& Morris, J. (2017). Podiatry intervention versus usual care to prevent falls in care homes: pilot randomised controlled trial (the PIRFECT study). *BMC Geriatrics*, 17(143), doi: 10.1186/s12877-017-0541.

Yam, B., Winokur, R., & Khilnani, N. (2016) Screening for lower extremity venous disease. *Clinical imaging*, 40, 325 – 329.

Yeo, A., Legard, R., Keegan., & Ward, K. (2014). In-depth Interviews. In J. Ritchie., J. Lewis., C. McNaughton Nicholls., & Ormston, R. (Eds.), *Qualitative Research Practice* (2nd ed.) (pp. 177-208). London: Sage.

Yuncken, J., Williams, C. M., Stolwyk, R.J., & Haines, T.P. (2018). People with diabetes do not learn and recall their diabetes foot education: a cohort study. *Endocrine*, 62, 250-258. Doi: 10.1007/s12020-018-1714-1.

Ziaja, D., Chudek, K.P., & Ziaja, K. (2011). Compliance with compression stockings in patients with chronic venous disorders. *Phlebology*, 26(8), 353 – 360. Doi: 10.1258/phleb.2010.010086.

Zisberg, A., Young, H.M., Schepp, K., & Zysberg, L. (2007). A concept analysis of routine: relevance to nursing. *Journal of Advanced Nursing*, 57(4), 442-453. Doi: 10.1111/j.1365-2648.2006.04103.x