

This item was submitted to Loughborough's Institutional Repository (<https://dspace.lboro.ac.uk/>) by the author and is made available under the following Creative Commons Licence conditions.



For the full text of this licence, please go to:
<http://creativecommons.org/licenses/by-nc-nd/2.5/>

**The impact of the Working Time Directive on junior doctors' working
lives**

Myanna Dee Duncan, BSc., MSc., C.Psychol.

Submitted in partial fulfilment of the requirements for the award of Doctor of
Philosophy at Loughborough University

April 2010

© Myanna Dee Duncan, 2010

Abstract

This thesis is concerned with the regulation of working hours in the medical profession. Specifically, the research examined the impact of the Working Time Directive on the quality of working life of doctors in Foundation Years 1, 2 and Specialty Trainee Year 1. In order to achieve this objective, the research employed a mixed-methods, cross-sectional design, using qualitative and quantitative methods over the course of four studies. Data were collected over a two year period, between August 2007 and July 2009, in order to coincide with the staged implementation of the Working Time Directive in the medical profession.

The data indicated that junior doctors largely welcomed a regulation of working hours and recognised the importance of regulation within the medical profession. In this vein, participants largely viewed the Directive a welcome initiative, recognising the positive impact on health, wellbeing and work-life balance. However, concerns were raised at the impact of the Directive on training and education, with the research highlighting frustration at the means through which the Directive had been implemented particularly in terms of rota design and workforce reconfiguration. In many instances, concerns regarding the impact of the Directive stemmed from a lack of clarity in the change initiatives introduced. In turn, this resulted in confusion regarding the remit of the Directive.

The research has identified concerns and negative perceptions of the Directive and considered how these may be addressed. In particular, the research has highlighted issues such as management of expectations, providing greater clarity of information and the importance of staff engagement. This thesis therefore presents a range of policy and practical implications stemming from the research.

Acknowledgements

First and foremost, I would like to express my gratitude to my research supervisor Professor Cheryl Haslam who has been an endless source of support and encouragement. Thank you for recognising my potential and believing in me. We got there in the end!

I would like to acknowledge the support of the East Midlands Healthcare Workforce Deanery for their assistance in data collection. In particular, I owe many thanks to Dr. Richard Higgins and Simon Mallinson who have been excellent sources of advice and guidance. I would also like to thank all the participants who have engaged in my research.

Over the course of my research I have been surrounded by numerous fantastic colleagues who have maintained my sanity and motivation. Special thanks go to Lindsey Cooper, Aadil Kazi, Lauren Morgan, Sophie O'Connell, Kate Sang and Jane Ward. A particular mention must also go to Hilary McDermott who has been an unwavering source of support and friendship.

On a more personal note, I would like to acknowledge my friends who have supported me and kept me well supplied with tea. Thanks especially to my wonderful housemates, both past and present: Doug Ashton, Julia Kettlewell, Kuldeep Panesar, and Sam Ranson. Specific thanks go to my long standing friend Alec Knight without whom I would not have embarked on nor completed this thesis. I would also like to recognise the support and encouragement of Kelly Barklamb, Jen Cade, Claire Hardy and James McKenzie. It's finally over!

Finally, I would like to thank my Mum for her wonderful listening skills and consistent encouragement over the course of my academic career. This is for you Mum.

Publications

Duncan, M. (2009). Junior Doctors' views on the Working Time Directive. *Calling Time*, 17. National Workforce Projects, Skills for Health, September 2009. Page 10.

Duncan, M. (2009). EWTD calls juniors' shifts into question. *British Medical Association Newsletter*, 10th January 2009. Page 2.

Duncan, M., & Haslam, C. (2009). Junior Doctors' views on the Working Time Directive: Perceived Impact on Training, Education and Quality of Working Life. *Proceedings of the Division of Occupational Psychology 2009*, Blackpool. January 14 - 16, 2009. Page 85.

Duncan, M., & Haslam, C. (2008). Junior doctors' views on the value of out-of-hours working patterns. *Proceedings of the Association for Medical Education in Europe 2008*, Prague. August 30 - September 3, 2008. Page 18.

Contents

Abstract	ii
Acknowledgements	iii
Publications	iv
List of Tables	xiii
List of Figures	xv
Preface	1
1.Introduction	
1.1 Problem Statement	6
1.2 Scope of the thesis	8
1.3 Research aims	9
1.4 Development of research and research approach	9
1.5 Ethical issues	13
1.6 Thesis structure	14
2.Literature review	
2.1 Introduction	17
2.2 The postgraduate education years: defining the junior doctor	17
2.2.1 Postgraduate education and training:	
The Foundation Programme	18
2.3 Doctors' job characteristics and associated effects	20
2.3.1 Junior doctors' work and associated effects	22
2.4 Long working hours and associated effects	22
2.4.1 Long working hours and the junior doctor	26
2.5 The regulation of working hours in the medical profession	27
2.5.1 The New Deal	28

2.5.2 The European Working Time Directive and Working Time Directive	31
2.5.3 Opting out of the Directive	33
2.5.4 Calculating working hours	33
2.6 Implementation of the Working Time Directive	35
2.6.1 Impact of the Working Time Directive across the UK healthcare profession	36
2.6.2 Impact of the Working Time Directive on UK junior doctors	39
2.6.2.1 Impact of the Directive: The PMETB survey	40
2.6.2.2 Impact of the Directive: the reviewed literature	41
2.6.2.3 Impact of the Directive: specialty specific studies	44
2.7 Section Summary	46
3. Interviews with junior doctors	
3.1. Introduction	49
3.2. Research objectives	49
3.3. Research methodology	50
3.3.1 Analytic traditions	51
3.3.2 Interview schedule development	53
3.4 Method	54
3.4.1 Interview schedule content	54
3.4.2 Sampling	54
3.4.3 Procedure	55
3.4.4 Participant and interview characteristics	56
3.5 Results	57

3.5.1 Data analysis	57
3.5.2 Interview theme 1: The need for regulation of working hours	58
3.5.3 Interview theme 2: Reported compliance with the Working Time Directive	64
3.5.4 Interview theme 3: Perceived impact of Working Time Directive on quality of working life and training	70
3.5.5 Interview theme 4: Utility of different working schedules	74
3.5.7 Interview theme 5: Night working and sleep quality	75
3.5.7 Interview theme 6: Psychosocial working conditions	82
3.6 Discussion	84
3.6.1 Summary of key finding	84
3.6.2 Strengths and limitations	85
3.7 Summary and conclusions	86
4. Questionnaire survey of junior doctors: quantitative dimension	
4.1 Introduction	89
4.2 Research objectives	89
4.3 Research methodology	90
4.3.1 Questionnaire development	91
4.4 Method	93
4.4.1 Measures and materials	94
4.4.1.1 Parts 1 and 2: Project overview and working arrangements	94
4.4.1.2 Parts 3 and 4: Working Time Directive and out-of-hours working experiences	94

4.4.1.3 Part 5: General Health Questionnaire	95
4.4.1.4 Part 6: Health and Safety Executive Management Standards Indicator tool	96
4.4.1.5 Part 7: Lifestyle	98
4.4.1.6 Part 8: Demographics and future working arrangements	98
4.4.2 Procedure	99
4.4.3 Participant characteristics	101
4.5 Results	107
4.5.1 Data screening and cleaning	107
4.5.2 Survey sample	107
4.5.3 Reported working hours	108
4.5.4 GHQ-12	112
4.5.5 Work-related ill-health and self-reported absence	115
4.5.6 HSE Management Standards Indicator tool	120
4.5.7 Job satisfaction and intention to quit	124
4.5.8 Health and lifestyle	125
4.5.9 Socially desirable reporting	129
4.6 Discussion	132
4.6.1 Summary of key finding	132
4.6.2 Response rate and generalisability	138
4.6.3 Strengths and limitations	138
4.7 Summary and conclusions	140
5. Questionnaire survey of junior doctors: qualitative dimension	
5.1 Introduction	143

5.2 Research objectives	143
5.3 Research methodology	144
5.4 Method	145
5.4.1 Measures and materials	145
5.5 Results	147
5.5.1 Data analysis	148
5.5.2 Working Time Directive - overview	150
5.5.2.1 Work-life balance	153
5.5.2.2 Wellbeing	156
5.5.2.3 Training	159
5.5.2.4 Education	163
5.5.3 Working schedules and working conditions	166
5.5.3.1 Comparison of out-of-hours and day shifts	170
5.5.3.2 Work related stressors	172
5.6 Discussion	175
5.6.1 Summary of key finding	175
5.6.2 Strengths and limitations	177
5.7 Summary and conclusions	178
6. Focus Groups	
6.1 Introduction	180
6.2 Research objectives	180
6.3 Research methodology	181
6.4 Method	182
6.4.1 Focus group schedule development	182
6.4.2 Procedure	182

6.5 Results	185
6.5.1 Participant characteristics	185
6.5.2 Data analysis	188
6.5.3 Working Time Directive: overview	189
6.5.4 Compliance with the Directive	192
6.5.5 Work intensity under the Directive	194
6.5.6 Wellbeing and work-life balance	198
6.5.7 Training and education	201
6.5.8 Working schedules	206
6.6 Discussion	210
6.6.1. Summary of key finding	210
6.6.2 Strengths and limitations	212
6.7 Summary and conclusions	214
7. Expert Panel	
7.1 Introduction	216
7.2 Research objectives	216
7.3 Research methodology	217
7.4 Method	218
7.4.1 Procedure and participant recruitment	218
7.4.2 Participant characteristics	219
7.4.3 Expert panel presentation	220
7.5 Results	221
7.5.1 Data analysis	221
7.5.2 Hours monitoring and compliance with the Directive	222
7.5.3 Working hours and training	223

7.5.4 Implementation of the Directive across the specialties	225
7.5.5 Working schedules	226
7.5.5.1 Extracting the benefits of out-of-hours working opportunities	227
7.5.5.2 Autonomy, role identity and working schedules	230
7.5.5.3 Work intensity	231
7.5.5.4 Health and wellbeing	233
7.5.6 Managing expectations	236
7.6 Discussion	237
7.6.1 Summary of key finding	238
7.6.2 Strengths and limitations	241
7.7 Summary and conclusions	242
8. Discussion, implications and recommendations	
8.1 Introduction	245
8.2 Summary of key findings	245
8.3 Discussion	249
8.4 Limitations of the research	252
8.5 Original contribution to knowledge	253
8.6 Recommendations for future research	254
8.7 Final conclusions	256
References	257
Appendix A. Invitation to participate – information for organisations	275
Appendix B. Interview Schedule	278
Appendix C. Invitation to participate in interview study	281
Appendix D. Participant characteristics: interview study	282

Appendix E. Interviews coding template	283
Appendix F. Invitation to participate in questionnaire research	296
Appendix G. Questionnaire	297
Appendix H. Questionnaire coding templates	316
Appendix I. Invitation to participate in focus group study	320
Appendix J. Focus group schedule	321
Appendix K. Focus groups coding template	324
Appendix L. Expert panel invitation letter	330

List of Tables

Table 1. Demographic breakdown of questionnaire respondents	102
Table 2. Questionnaire respondents by training grade	103
Table 3. Respondents by Foundation School	105
Table 4. Breeches of working hours by training grade	109
Table 5. Working hours in a seven day week, description by training grade	111
Table 6. GHQ scores by training grade and gender	113
Table 7. Work-related ill health conditions	116
Table 8. Work-related ill health and GHQ scores	117
Table 9. Logistic Regression Model predicting likelihood of reporting work-related ill-health condition	118
Table 10. Sickness absence - descriptive statistics	120
Table 11. Hierarchical Multiple Regression model predicting GHQ scores	123
Table 12. Smoking behaviours by gender	127
Table 13. Alcohol intake by gender	128
Table 14. Participants' views on the WTD - descriptive statistics	150
Table 15. WTD and work-life balance - descriptive statistics	154
Table 16. WTD and wellbeing - descriptive statistics	157
Table 17. WTD and training - descriptive statistics	160
Table 18. WTD and education - descriptive statistics	164
Table 19. Out-of-hours working practices	167
Table 20. What out-of-hours offer beyond day shifts	171
Table 21. Stressful aspects of work	173
Table 22. Focus group participants by gender	186

Table 23. Focus group participants by training grade	187
Table 24. Members of the expert panel	220

List of Figures

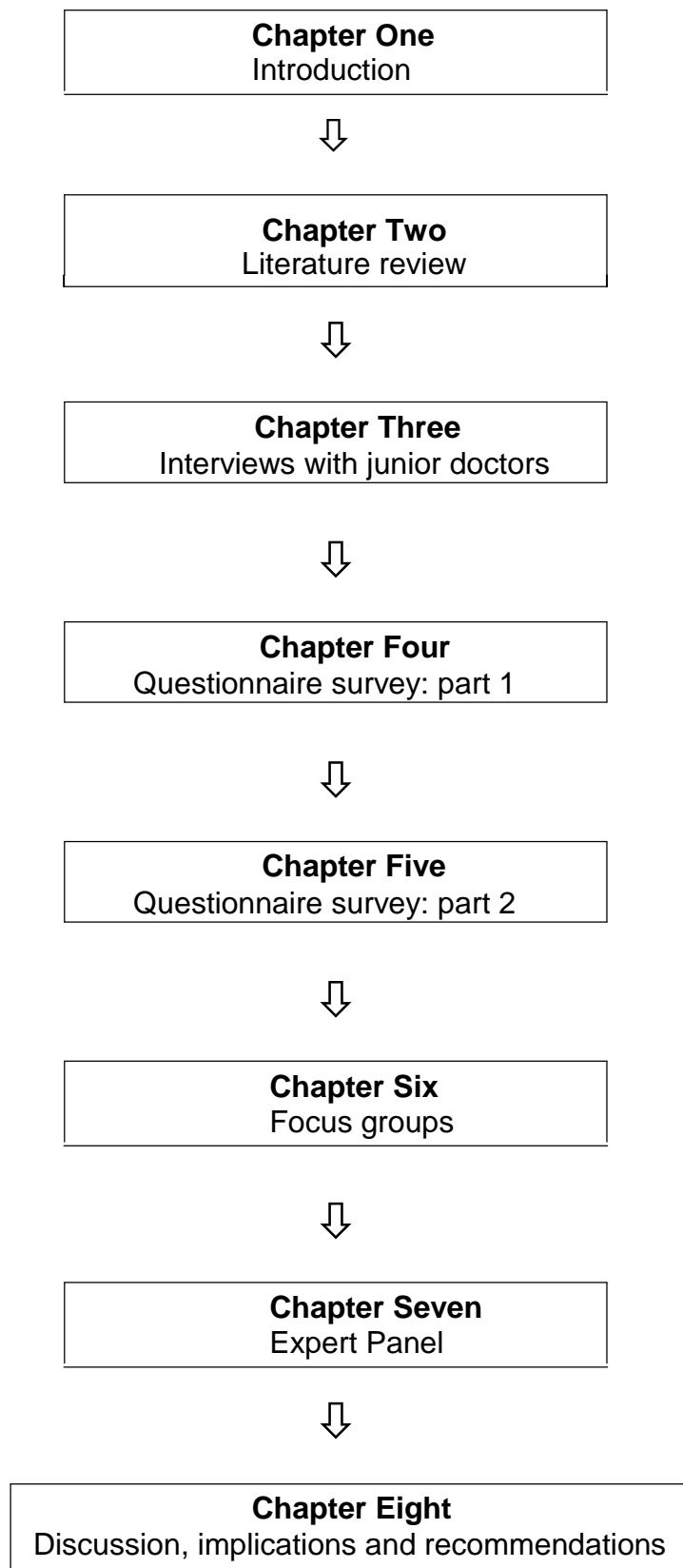
Figure 1. Thesis structure	2
Figure 2. Diagram of research phases	12
Figure 3. HSE Management Standards Indicator tool scores	121
Figure 4. Demographic breakdown of job satisfaction scores	124

Preface

This thesis is concerned with the regulation of working hours in relation to doctors-in-training. The Working Time Directive came into effect for this occupational group who, until 2004, were one of a select number of professions to receive exemption from the legislation. The staged implementation of this piece of health and safety legislation, over a period of five years, represented a unique period in the National Health Service. The present research documented the implementation of the Working Time Directive and specifically examined the impact of the legislation on the working lives of doctors-in-training.

This research comprised four studies, using a mixed-methods design of both qualitative and quantitative studies. The structure of the thesis is outlined in Figure 1 below.

Figure 1. Structure of thesis



The justification for the research design is outlined in Chapter 1 along with the Research Objectives. Chapter 2 then proceeds to discuss the relevant medical, psychological, management and health literature and identifies gaps in the literature.

The first research phase, outlined in Chapter 3, comprised 36 in-depth, semi-structured interviews with Foundation Year 2 doctors. Findings from this exploratory study indicated that whilst participants recognised the need for a regulation of working hours, there was some confusion regarding the remit of the Directive. In addition, participants voiced a degree of frustration at the way in which the Directive had been implemented particularly in terms of rota design.

Chapters 4 and 5 present the findings from a second research phase, a cross-sectional questionnaire. This study was conducted in order to canvass opinion from a wider population. Findings from 423 participants indicated mixed views regarding the Working Time Directive and highlighted trainees' concerns at the impact on training. The data echoed the frustration at rota design and lack of support, as highlighted by research phase one.

The third research phase, detailed in Chapter 6, comprised five focus groups with 23 doctors-in-training. Research findings highlighted value placed on out-of-hours shifts owing to the opportunities they afforded for experiential learning. However, excessive workload demands, poor rota design and understaffing during these shifts identified issues in terms of stress and sickness absence.

The final research phase, discussed in Chapter 7, comprised an expert panel of eight participants, representing a range of user groups. This research examined how the presenting challenges outlined from the research might be managed at an organisational level. Finally, Chapter 8 discusses the findings from the research in relation to the relevant literature. The research findings are then developed in terms of recommendations and implications for future workforce planning and rota design.

This thesis has highlighted the present concerns of doctors-in-training working under regulated hours imposed by the legislation. Through identifying the challenges the legislation had introduced and through consultation with appropriate user groups, this thesis has endeavoured to provide evidence-based recommendations as to how a suitable balance may be achieved for doctors-in-training within the remit of this piece of health and safety legislation.

Chapter One
Introduction



Chapter Two
Literature review



Chapter Three
Interviews with junior doctors



Chapter Four
Questionnaire survey: part 1



Chapter Five
Questionnaire survey: part 2



Chapter Six
Focus groups



Chapter Seven
Expert Panel



Chapter Eight
Discussion, implications and recommendations

Chapter 1

1.1 Problem Statement

The European Working Time Directive, Directive No 93/104/EX was introduced on 23 November 1993 and incorporated into UK Law as part of the Working Time regulations, 1998/1883 on 1 October 1998. In the UK, this piece of health and safety legislation, referred to as the Working Time Directive (WTD), governs the working hours of employees, providing employers with criteria on maximum weekly working hours. The Directive further stipulates work and non-work definitions and outlines entitlements for break and rest times.

The Working Time Directive came into force for hospital consultants and other grade career doctors in October 1998. The Directive was largely enforced as a means of preventing excessive working hours and improving the working conditions of hospital based medical doctors (Bamford & Bamford, 2008). However, it was not until August 2004 that the Directive was applied to doctors-in-training. Since this point, the WTD has imposed a staged reduction in the average working hours of doctors-in-training from 58 hours in August 2004; an interim 56 hours in August 2006; to 48 hours in August 2009; representing a 14 percent reduction in working hours. In accordance with the SiMAP¹ and Jaeger² judgements in the European Court of Justice, the

¹ Sindicato de Médicos de Asistencia Pública (SIMAP) v Conselleria de Sanidad y Consumo de la Generalidad Valenciana. Judgement of 3 October 2000. Case C-303/98 European Court Reports 2000:1-7963.

² Landeshauptstadt Kiel v Dr Medical Norbert Jaeger. European Court of Justice, Case C-151/02 2002.

Directive also stipulates a number of minimum rest requirements. These requirements include a minimum of 11 hours continuous rest in every 24 hour period. Given that healthcare provision is a 24 hour service, the Directive has had a major impact on the practise of UK based medicine.

The Working Time Directive has led to widespread and ongoing changes to the working patterns of doctors-in-training, as UK Postgraduate Deaneries and National Health Service (NHS) Trusts have strived to ensure compliance with targets set by the Directive. Whilst NHS Trusts have a legal requirement to meet the minimum requirements of the Directive, since the insurgence of the Directive for doctors-in-training, there has been no nationwide standardisation in implementation. For example, the NHS Healthcare Workforce established National Healthcare Workforce Project pilots (National Workforce Projects, 2007) in order to implement trial solutions for 2009. Under these, and other such local initiatives, a proportion of NHS Trusts applied the average 48 hour working limit ahead of the 2009 deadline, some as many as five years early. Such staged implementation has also been observed between different specialties, with the Directive presenting a major challenge for the craft and surgical specialties.

Historically, the literature has raised a number of concerns regarding general reductions in junior doctors' hours. These concerns include the impact on continuity of care (Lowenstein, 2003) and an associated reduction in training opportunities (Cass et al, 2003). More recently, research has identified specific concerns regarding the impact of the Directive on junior doctors' opportunities for clinical experience, training, continuity of care and job satisfaction (Mather & Pounder, 2006; Shah et al., 2004). Further research has indicated that the observed changes to working hours have had major negative effects on the working life, free time, and education of junior doctors (Lowry & Cripps, 2005).

In order to comply with WTD requirements, an increasing proportion of doctors now work in shift patterns. In line with this, it appears that under the Directive junior doctors have to spend more of their working time 'handing

over' tasks to incoming staff. This, the literature suggests, has led to a reduction in time available to provide direct patient care, increased doctors' administrative duties and had an overall adverse impact on training (Cairns et al, 2008). Furthermore, there have been anecdotal concerns, particularly among senior medical staffing, regarding shift practices undermining of the traditional medical 'team' structure. In particular, there have been associated commentaries regarding increased absenteeism among junior doctors due to diminished team cohesion and support (Duffy et al., 2008).

Despite the manifold editorials, commentaries, and opinions which have been expressed regarding the WTD, analysis of published literature indicates a lack of research examining the impact of the legislation on junior doctors' working lives. In particular, there appears to be a lack of qualitative research in this area and little research which has attempted to explore the staged implementation of the Directive for junior doctor cohorts experiencing the reform of working hours. Consequently, the present research sought to address the gaps in the literature by exploring the personal views and experiences of junior doctors' operating under WTD rotas. The overarching aim of the research was to identify the impact of the Directive on junior doctors' quality of working life.

1.2 Scope of the thesis

This thesis presents a series of studies conducted to explore the experiences of doctors-in-training in order to identify their views on the Working Time Directive and their perceptions regarding its impact. The thesis presents the findings from four research phases which yielded both qualitative and quantitative data. The data collection was timed in order to coincide with the staged implementation of the Working Time Directive as applied to doctors-in-training. Specifically, the data presented in this thesis was collected over a two year period, between August 2007 and July 2009, which represented a unique period. The thesis culminates by extrapolating findings from the four research phases for the purpose of developing policy and practice. The data is discussed in relation to work design, working conditions and the

psychological contract. Further to this, the research findings are used to develop tangible suggestions regarding future design of rotas, new ways of working and requirements for workforce planning.

1.3 Research aims

The research contained in this thesis sought to broaden existing knowledge through investigating the personal views and experiences of junior doctors operating under the Working Time Directive. Specific objectives of the research were four fold:

- Examine the views of doctors-in-training regarding the regulation of working hours as introduced by the Working Time Directive
- Examine the views and experiences of trainee doctors working within the remit of the Directive, with specific references to the perceived impact on quality of working life and training
- Explore psychosocial working conditions and examine the perceived utility of different working schedules
- Feedback findings to key stakeholders to inform future policy, rota design and workforce reconfiguration

1.4 Development of research and research approach

The development of the research was an iterative process, as may often be the case when conducting organisational research (Griffiths, 1999). From the outset, the research was informed by reviews of the relevant literature.

Following this, the research was formulated based on consultations with key stakeholder groups conducted at a series of time points. These consultations

included: formal and informal networking events, formal and informal meetings and personal communications at conferences.^{3,4}

In order to address the research aims, the thesis adopted a mixed-methods approach. The premise behind mixed-methods research is that the use of both quantitative and qualitative approaches in combination affords a greater, more detailed understanding of a given research problem than either approach when used in isolation (Creswell & Plano-Clark, 2007). As Magnusson et al. (2005) note, the combination of different research methods allows for the weaknesses of one method to be addressed through the strength of another. Denzin (1989) suggests that when investigating social problems it is advisable to use as many methodological approaches as possible. For the present research, the justification for the use of the mixed-methods approach was three fold. Firstly, it served a complementary purpose, facilitating elaboration, enhancement and clarification of results (Morse, 2003), facilitating a greater understanding of the problem under investigation. Secondly, the approach provided a developmental function, whereby the findings from one method helped inform subsequent methods (Tashakkori & Teddlie, 2003). Thirdly, mixed-methods offered an expansive purpose wherein it was possible to extend the range and breadth of the research through the use of different methods to investigate different aspects of the research (Greene et al., 1989).

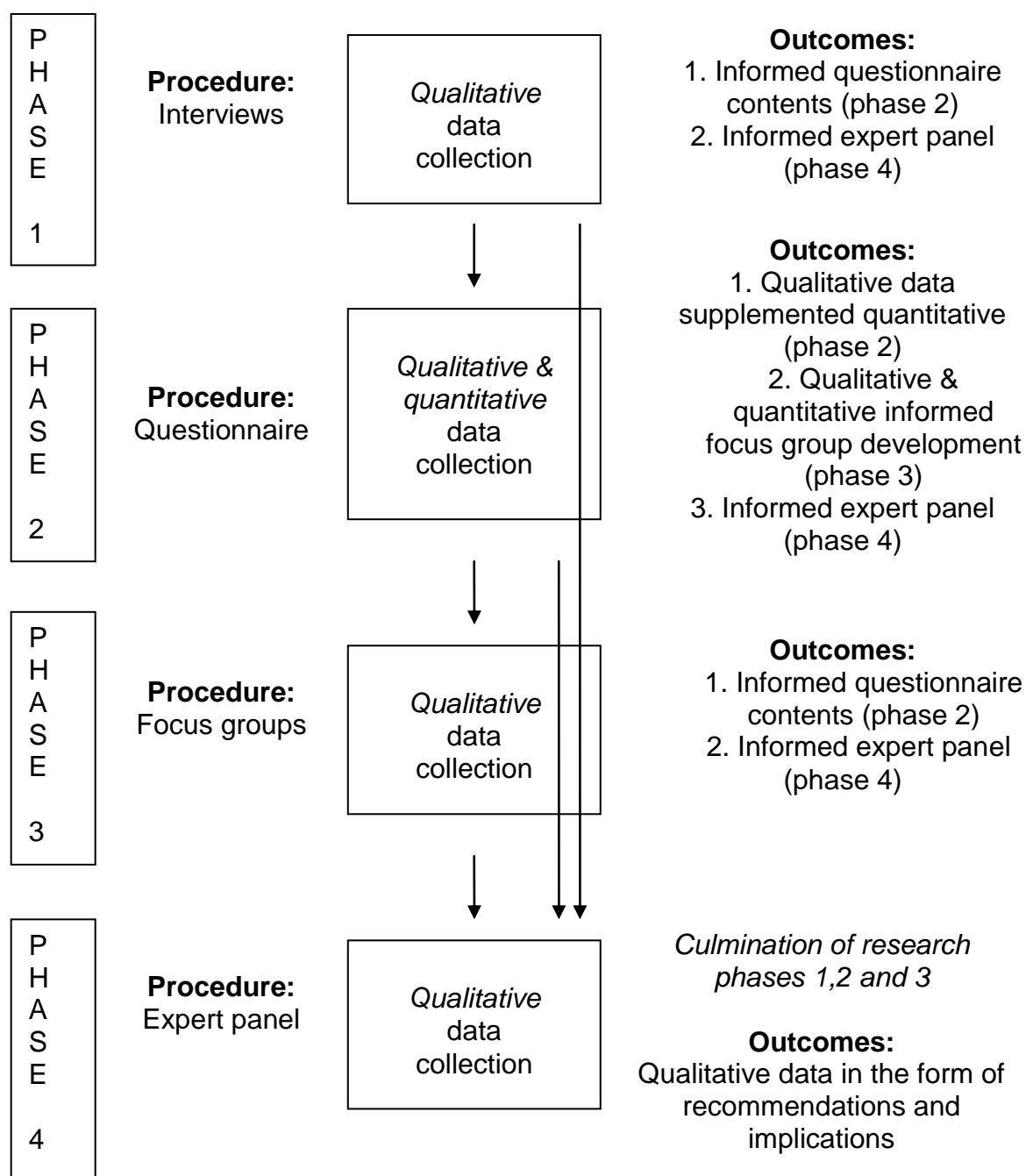
The literature indicates that there are a wide range of mixed-methods designs (see for example Tashakkori & Teddlie, 2008), with research design being influenced by a number of factors (Ivankova et al., 2006). For the present research, pertinent factors influencing the research design included: the timing of the research; the relative weighting of the methods to answering the research objectives; and the integration of the different methods. Taking these factors into account, the research in this thesis employed an embedded design whereby the research is principally based on one type of data (in this

³ Transforming Care Delivery: National Workforce Projects 2007 Conference: London (17/04/07)

⁴ Division of Occupational Psychology Conference: Stratford (10/01/07-12/01/07)

instance qualitative) and a secondary source of data (herein quantitative) provides a supportive role (Creswell, 2003). The premise underlying this design is that the research seeks to answer a range of questions and that questions cannot be answered using a single source of data. The research contained within this thesis places a greater emphasis placed on qualitative data which is used to develop the quantitative research phase and to explore in greater detail the findings from the quantitative research phase. An illustration of the research design is outlined in Figure 2. below.

Figure 2. Diagram of research phases



KEY: → Direction of research findings

As Figure 2 illustrates, the research approach employed in the thesis was sequential insofar as the four research phases were conducted at discrete time periods, with the findings from each individual research phase informing subsequent research phases. Therefore, the findings from all research phases were used in combination to create a detailed understanding and interpretation of the phenomena under investigation.

Whilst the overall research design was sequential, one of the research phases (phase 2: questionnaire) was also concurrent in that both qualitative and quantitative data were collected at this point. As denoted in Figure 2, in research phase 2, two sets of data, quantitative and qualitative were converged, with the qualitative data supplementing the quantitative data by providing additional depth and meaning to responses. This supplementary piece of concurrent research was deemed useful as a means of providing an account of general trends among those sampled but also an in-depth knowledge of participants' perspectives on the matters under investigation in this research phase.

1.5 Ethical issues

This research was conducted in compliance with the requirements of Loughborough University's Ethical Advisory Committee in relation to research carried out with human participants. For each of the research phases an ethical clearance checklist was completed and, for the interview and focus group studies, a full submission to the Ethical Advisory Committee made. Permission to proceed was obtained prior to commencing the research. In addition, ethical approval for the research was sought from the supporting Deanery with whom the research was conducted. An invitation to participate in the research, research proposal and ethical submission form were submitted to the East Midlands Healthcare Workforce Deanery's Regional Ethical Advisory Committee in May 2007 (see Appendix A). Full ethical approval was granted by the Advisory Committee on August 2007 who classified the research as an audit.

Research was conducted in accordance with the ethical principles specified by the British Psychological Society (British Psychological Society, 2006). In particular, informed consent was obtained from each individual invited to participate in the research. All participants received a detailed explanation of the research and assurances of the confidentiality of their participation and the data they provided. All raw data was stored securely in protected storage on a University computer.

1.6 Thesis structure

The research presented in this thesis is documented over eight chapters. Following the present introductory chapter, Chapter 2 proceeds to identify and outline the relevant literature across the medical, health, psychological and management disciplines. This review describes the regulation of working hours within the medical profession at a national and international level, outlines postgraduate medical training within the UK, and discusses the implementation of the Working Time Directive in terms of its impact to the practise of UK based medicine.

Following the literature review, the thesis proceeds to outline four discrete studies. Firstly, Chapter 3 presents findings from an exploratory interview study conducted with Foundation Year 2 doctors. The purpose of this study was to obtain an in-depth insight into doctors' experiences of working under the Directive on a day-to-day level. This first study informed the research presented in Chapters 4 and 5, a questionnaire survey conducted with doctors-in-training at Foundation Year 1, 2 and Specialty Trainee level 1. The purpose of this study was to canvass wider opinion from the junior doctor population. The research presented in Chapter 4 details the quantitative aspect to the study, providing frequency data on existing measures incorporated into the questionnaire. Chapter 5 presents the qualitative element of this second research study, detailing the findings from bespoke items incorporated into the questionnaire, which serve to explore participants' views and experiences. Following this, Chapter 6 reports on findings from of a

series of focus groups conducted to further investigate the findings from the interview and questionnaire studies. This study therefore served to explore in greater depth emergent themes from the studies.

Chapter 7 presents the results of an expert panel which synthesises the findings from the previous three research studies. This exercise details the conclusions drawn from experts who develop and translate research findings into practical implications. In Chapter 8, implications of the research are explored in relation to the relevant literature and recommendations discussed. The thesis concludes by outlining the contribution to knowledge presented by the author and highlights suggestions for prospective research.

Chapter One
Introduction



Chapter Two
Literature review



Chapter Three
Interviews with junior doctors



Chapter Four
Questionnaire survey: part 1



Chapter Five
Questionnaire survey: part 2



Chapter Six
Focus groups



Chapter Seven
Expert Panel



Chapter Eight
Discussion, implications and recommendations

Chapter 2

2.1 Introduction

This chapter provides a review of the published literature on the junior doctor, with particular reference to the UK workforce. The chapter firstly defines this unique occupational group, describes postgraduate medical training in the UK and outlines the nature and characteristics of the junior doctor workload. Specific attention is then given to long working hours, identified as characteristic of doctors' work. The review outlines the effects of extended working hours generally before focusing on studies which have assessed the impact of extended working in the medical profession and, more specifically, the impact among junior doctors. The chapter proceeds to describe the regulation of working hours in the medical profession at a national and international level, outlining regulation in the UK terms of the New Deal and the Working Time Directive. The review then discusses the implementation of the Working Time Directive in terms of its impact to the practise of UK based medicine, explores the literature which has assessed the effects of this regulation on the working lives of junior doctors and finally identifies the gap in the research literature.

2.2 The postgraduate education years: defining the junior doctor

In the UK, the junior doctor years are the first two years of employment that a junior hospital doctor undertakes following their five (or sometimes six) years of medical undergraduate training. These two years after graduation are an important time for acquiring the key skills needed to practise medicine. Consequently, the junior doctor years have been referred to as the final period of basic medical education (General Medical Council, 1997). The junior doctor

years are a pre-requisite in order to obtain full registration under the General Medical Council. Upon successful completion of these years doctors continue training in either a specialist area of medicine or in General Practice.

2.2.1 Postgraduate education and training: The Foundation Programme

In recent years there have been a number of major changes to the delivery of postgraduate medical education training in the UK. One such reform occurred in August 2005, when there was a national implementation the Foundation Training Programme for junior doctors. This reform was delivered in conjunction with the Modernising Medical Careers initiative (MMC) which has been introduced by the Department of Health as a way of streamlining postgraduate training and education in the UK and reducing the amount of time it takes to reach consultant grade posts. The Foundation Programme is delivered to national standards as set out by the General Medical Council in Good Medical Practice (2001) and the Postgraduate Medical Education Training Board (PMETB). Whilst the United Kingdom is the first country to formalise the junior doctor training system, similar moves to implement an analogous programme are presently undergoing consideration in other countries (Hayes, 2005).

The Foundation Programme replaces the traditional 'House Officer' years (which comprises the Pre-registration year and Senior House officer years) providing a two year planned programme of general training which aims to form the bridge between medical school and specialist or General Practice training (Department of Health, 2005). This piece of educational reform stemmed from research evaluations of the traditional house officer grade which identified concerns including lack of clear curricula, variability in training, poorly structured supervision and lack of career progression (Paice, 1998). Such research highlighted a greater need for coherence in early postgraduate medical training and the recognition that doctors should have increased opportunity to consider career options. In addition, the Foundation Programme was a response to concerns of the potential negative impact of

reduced working hours which have occurred in recent years (Robertson, 1998; Kapur & House, 1998), full details of which are outlined in 2.5. As applied, the Foundation Programme has provided greater definitions of training, service and education by operationalising these terms into competency-based assessment measures which can be directly applied under supervision in the workplace. Thus, it has been stated that the Foundation Programme:

‘...aims to make every clinical experience a relevant, more standardized, better supported, and educationally valuable experience with specific and achievable learning objectives’ (Hayes, 2005, 465).

The Foundation Programme is highly structured and comprises of a series of placements in a variety of specialties and healthcare settings. Many of these specialties which were not previously available to junior doctors under the traditional House Officer training scheme, including: Diagnostics; Palliative care; Community hospitals; General Practice; Psychiatry; and Paediatrics. Learning objectives for each stage of the Foundation Programme are clearly specified and there is a heavy focus on demonstration of clinical competencies which are recorded in the trainees learning portfolio. The Programme also provides structured training in learning sets focussing on generic skills and acute care skills which are fortnightly, and supplement the junior doctors’ weekly teaching sessions. The assessment tools employed to monitor the juniors training and development are manifold and include case-based discussions, direct observation of procedural skills and multi-source feedback. The assessment process under the Foundation Programme has been standardised and made more uniform, enabling junior doctors to see how they are doing in comparison to their peers. It has therefore been suggested this will provide the juniors with a greater insight into their strengths and target training on areas which need development (Davies et al., 2005).

For clarity and consistency purposes, in the context of this thesis, the term ‘junior doctor’ is used to describe doctors undergoing a prescribed course of training in the grades of Foundation Year 1, Foundation Year 2 (or Pre-

registration House officer and House officer under the traditional training system).

2.3 Doctors' job characteristics and associated effects

Doctors have consistently been identified as an 'at risk profession' for stress and stress-related disorders (Wall et al., 1997). Rates of stress and stress-related disorders are amplified among hospital doctors and General Practitioners (Goldberg et al., 1998) and are reflected in the elevated rates of burnout, alcohol and drug abuse, and suicide within the profession (Hawton et al., 2001, Lawrence, 1997; Goldberg et al., 1996). Studies examining stress and stress-related disorders among doctors have often employed the General Health Questionnaire (Goldberg, 1988) as a means of assessing their psychological health and levels of stress. Findings have indicated that the proportion of doctors and other healthcare professionals showing above threshold levels of stress has stayed remarkably constant over the years, remaining in the region of 28 percent compared to a figure of around 18 percent in the general population (Firth-Cozens, 1999a; Wall et al., 1997). This reported figure remains consistent in both longitudinal and cross sectional studies (Firth-Cozens, 2003).

Several explanations have been proposed for this elevated level of stress among doctors across all training grades, including: the nature of the work; the pressure and sheer volume of the work; and additional organisational issues (Cox & Griffiths, 1995). In terms of workload, Smith, (2006) highlights a range of sources of stress at work including: organisational structure and culture; career development factors; relationship with colleagues; conflicting demands between home and work life; role-based stress (including role ambiguity and responsibility); and factors intrinsic to the job (Smith, 2006, p. 135). With regards to intrinsic job factors, this includes aspects such as physical working conditions, work overload, time pressures and working hours (further discussed in 2.3.1 and 2.4.1). In terms of role based factors, a further issue consistently identified as a prominent stressor among healthcare

professionals concerns control. This is particularly in terms of discretion or control over how tasks are carried out (Payne & Firth-Cozens, 1987). Studies examining pre-registration house officers have illustrated that those working in teams with clearly defined roles when working in teams (specifically multidisciplinary teams) have significantly lower stress levels and report greater levels of support compared with individuals who were not provided with clearly defined roles (Firth-Cozens, 1999b).

In line with role ambiguity and worker control, at this point it is useful to examine the nature of doctors' work in relation to models of job design and job characteristics. A pertinent job characteristics model which may prove insightful to our understanding is that of Hackman and Oldham (1976). The original model claims that an individual will experience positive affects to the extent that: they learn (has knowledge of actual results of work activities); they personally have performed well (experienced responsibility); on a task they care about (experienced meaningfulness). These positive affects result in personal and work outcomes which include: high internal work motivation; high quality work performance; high satisfaction with the work; and low absenteeism and turnover (Hackman & Oldham, 1976; Hackman & Oldman, 2010). Whilst the original model cited the five core job dimensions as: skill variety; task identity; task significance; autonomy; and feedback, for all the changes in contemporary workplaces, the social aspect of work (both colleagues and 'customers') has become increasingly important (Humphrey, Nahrgang & Morgeson, 2007; Grant & Parker, 2009).

Indeed, the literature now suggests that in terms of work characteristics, that low job control and poor social support have negative health impacts with regards to: absenteeism; job dissatisfaction; longstanding physical illness; and psychological distress (Humphrey, Nahrgang & Morgeson, 2007). In line with this, research by Vincent (1996) has identified doctors' pertinent sources of stress to include: increase in litigation and complaints; growing expectations of patients; and fear of making mistakes. These findings may therefore lend some support to the importance of managing social aspects of the workload in addition to control elements. However, with regard to the generalisability of

these findings, it seems that these factors appear more salient to senior doctors. Indeed, it appears that stressors vary at different points throughout a doctor's careers and may also be associated with age-related factors.

Further job characteristic issues which have been highlighted as stressors unique to medicine have included: the emotionally demanding nature of work; and dealing with death and dying. Both of these aspects may be particularly pertinent for young doctors, typically those in the early training years, with research by Firth-Cozens (1995) identifying stressful incidents as primarily associated with patients' death or suffering. The literature therefore suggests that work based stressors may vary according to years experience practicing medicine. Bearing this in mind, section 2.3.1 focuses specifically on the nature of junior doctors' work and the associated effects.

2.3.1 Junior doctors' work and associated effects

Rates of stress and stress-related disorder appear acutely high among doctors in their first year of postgraduate training (Bogg et al., 2001; Guthrie et al., 1999). Research examining the junior doctor years has identified the transition period from final year medical student to first year junior doctor as being one of the most demanding phases of a medical career (Robinson et al., 2006), with the literature colloquially referring to the postgraduate education years as a 'baptism of fire' (Robinson, 2006, p. 138). Whilst historically this baptism was regarded as a character building exercise and part of the initiation to becoming a senior doctor, the work of Firth-Cozens (1987) served to highlight that the cost of this prevailing attitude equated to a high degree of psychological morbidity in the junior doctor workforce. Early research by Firth-Cozens identified doctors in their first year of postgraduate training as at particular risk for both depression and psychiatric disorders (Firth-Cozens, 1987). Prominent stressors identified included: overwork, with its impact on sleep and personal life; treatment failures; and speaking to distressed relatives.

More recent research by Paice et al. (2002) identified further job characteristics elements which were viewed by junior doctors as pertinent stressors to include: limited control over work; further postgraduate training and examinations; professional isolation (occurring as a result of anti-social working hours); and variability in supervision and support. It would appear that these stressors seem to increase the doctors' vulnerability to psychological and medical illnesses (Thomas, 2004). Furthermore, it has been proposed that excessive levels of stress among junior doctors may lead to dissatisfaction, lower morale and poorer work performance and a reduction in quality of care provided (Firth-Cozens, 1987; Bellini et al., 2002; Shanafelt et al., 2005). As such, these studies appear to lend further support for the need to carefully manage core aspects of job characteristics as highlighted by Hackman and Oldham, (1976) and indeed Humphrey, Nahrgang and Morgeson, (2007)

Nonetheless, returning our attention to working hours, as described in 2.3, this aspect of work has been consistently highlighted as a prominent source of stress for all grades of doctor. In particular, long or extended working hours are associated with the profession as are shift working and anti-social hours. The following section briefly outlines the literature on extended working hours whilst 2.4.1 proceeds to examine the research exploring extended working hours and the junior doctor.

2.4 Long working hours and associated effects

There is a plethora of evidence that demonstrates the effects of long working hours extend to implications for both the employee and employer (Kodz et al., 2003). At an employee level, evidence indicates that working in job that require particularly long hours or non-standard shifts increases workers' risks for injury or disease (Dembe, 2009; Scott; 2000; Spurgeon, 2003; White & Beswick, 2003). There is general consensus that work schedules which involve long hours per day (12 or more), long hours per week (60 or more) or which involve long overtime work, can adversely affect both the health and

wellbeing of workers. In terms of health effects, numerous studies have demonstrated that long working hours is associated with: medical ailments, such as cancer (Schernhammer et al., 2003), hypertension (Yang et al., 2006); cardiovascular disease (Bøggild & Knutsson, 1999); digestive problems (Segawa et al., 1987); reproductive problems (Axelsson & Rylander, 1989); musculoskeletal injuries (Trinkoff et al., 2006); and diabetes and heart disease (Nakanishi et al., 2001). The evidence further suggests that extended working can lead to stress and fatigue (Costa, 2003; Hughes & Stone, 2004), and a range of psychological conditions such as depression (Shields, 1999). The literature also indicates that there may be a socio-emotional impact of extended working hours. It appears that shift work in particular may have an impact on workers' social relationships (Scott, 2000) such as family life suffering (Spurgeon, 2003; Simon, 1990). Furthermore, employees may have an increased likelihood of experiencing social isolation (Scott & LaDou, 1990) which may in turn be associated with psychological conditions (as previously described).

The health, fatigue and stress problems resulting from excessive working hours can extend into cognitive problems such as errors in judgement. In line with errors in judgement, there is a wider range of research which demonstrates an association between long working hours and worker injury and accidents (Akerstedt et al., 2002). In these circumstances, sleep deprivation and insufficient recovery time are suggested to operate as potential risk factors. The literature has heavily documented the associations between long hours, injuries and accidents, and the interested reader is directed to Dembe et al (2005).

The literature has identified a range of effects of long work hours at the employer/organisational level. In particular, studies have examined the impact on performance, which exert both direct and indirect effects (Beswick & White, 2003; Kotz et al., 2003). With regards to indirect performance effects, the literature has explored outcomes in terms of surveys of employees or tests which approximate work tasks. In terms of direct effects, research has explored productivity outcomes such as using measures for input-output ratio

and percentage of full worker capacity (Kotz et al., 2001). However, reviews of the literature have reported mixed findings of the effects of long work hours on performance (Beswick & White, 2003). This has principally been attributed to methodological issues such as lack of clarity in measurement. Nonetheless, reviews suggest that increases in productivity which has been cited in early studies (prior to 2000) coincided with significant reduction in hours (Shepard & Clifton, 2000) and the rising working hours of more recent years may explain why performance increases are less evident (Beswick & White, 2003, p. 28). The literature has also identified that there may be further organisational impacts in terms of increased absenteeism and increased staff turnover (Shepard & Clifton, 2000).

In terms of physiology, explanations for the effects of long working hours on performance have suggested that efficiency in performance may depend on circadian rhythm, with efficiency paralleling the circadian variation in body temperature (Harrington, 2001). Research has demonstrated that a circadian disturbance, combined with sleep deficit, is associated with workplace inefficiency, a decline in cognitive performance (Lingenfelser et al., 1994) and a decline in mood (Orton & Gruzelier, 1989). Studies examining sustained wakefulness (in a sample of doctors) established that after nineteen hours this was equivalent to a blood alcohol concentration of 0.05 percent, and 0.1 percent at 24 hours (Dawson & Reid, 1997). Whilst this has extensive implications for cognitive performance, a particular issue of concern in this sample was the wider organisational impact in terms of patient safety. Indeed, such research demonstrates the association between employee and employer/organisational factors.

There is therefore overwhelming evidence to suggest that extended working has a myriad of negative effects in workers generally. It should however be noted that the effects of long work hours is complex and goes beyond a direct relationship between a given (high) number of work hours and risks. Indeed, the literature indicates that both characteristics of the worker and the job itself are mitigating factors (Caruso, 2006). In line with this, the following section explores the links between long working hours and the junior doctor,

describing and incorporating the nature of doctors' work as a factor in this relationship.

2.4.1 Long working hours and the junior doctor

The literature has consistently identified long working hours as a salient source of stress for junior doctors (Paice et al., 2002). Until relatively recently it was convention for UK junior doctors to work excessive hours, with some studies indicating juniors habitually performing 84 (plus) hour weeks (Leslie et al., 1990; Health Policy & Economic Research Unit, 1999). Traditionally the effects of extended working hours among doctors have been examined from a physiological perspective. There is therefore a substantial body of literature which has examine the impact of extended hours with regard to juniors' performance as assessed by success on clinical tasks and measures of cognitive functioning. A comprehensive meta-analysis of 60 studies investigating the effects of sleep loss resulting from extended working hours established that sleep deprivation of 24 to 30 hours profoundly impaired junior doctors' cognitive and clinical performance (Philibert, 2005). Consequently, the consensus among the literature is that tired doctors typically fail to work to their full potential owing to the very physical effects of sleep deprivation (Jacques et al., 1990).

Working continuously for extended periods also increases the risk of errors and injuries among junior doctors, particularly so when working hours occur at night (Folkard at el., 2005). Recent reviews of extended working among junior doctors, particularly from studies conducted in the United States, have indicated that the rate of serious medical errors are substantially higher when doctors are on duty for periods of 24 hours or more compared to when continuous duty is limited to 16 hours (Barger et al., 2006; Landrigan et al., 2004). In the case of those working in healthcare, mistakes and medical errors may not only cause harm to the employee in question but also to patients.

Further research which has explored the social aspects of performance among junior doctors have focused on areas such as attitude toward colleagues and patients, judgement and social cognition. In terms of social performance, McKee and Black (1992) identified impatience and intolerance as an effect of long hours. The literature also suggests impact of extended working hours has implications for the social-emotional wellbeing of junior doctors. However, this has been a somewhat neglected area of research when compared to performance and patient safety aspects. It is nevertheless evident that juniors engaging in long working hours may experience considerable disruption to family life and their social arrangements (Gabbard et al., 1987), with work precluding involvement with social activities. This may lead to the doctor experiencing social isolation (Cooligan & Rosa, 1990). In turn, social isolation has been associated with increased rates of psychological morbidity (Bogg et al., 2001). Interestingly, in terms of studying the social-emotional impact of long working hours among junior doctors, critics have argued that research typically focused on negative dimension, notably relating to depression, depersonalisation and burnout (Bellini & Shea, 2005; Shanafelt et al., 2002). Accordingly, it may be that the emphasis on negative dimensions fails to capture the full meaning of wellbeing and the wider impact of long working hours on junior doctors' working lives (Ratanawongsa et al., 2007).

2.5 The regulation of working hours in the medical profession

Concerns regarding junior doctors working hours surfaced in the early 1990s, resulting from early research literature, and have taken an increasing role in parliamentary discussions until the present day. As outlined in 2.4.2, it is for physiological, psychological socio-emotional and patient safety reasons that the medical profession provided limits in the number of hours of continuous duty. Sections 2.5.1 and 2.5.2 outline regulation of hours in the medical profession, with specific emphasis on the UK.

2.5.1 The New Deal

In June 1991, The New Deal was launched with the aim of phasing in an improvement to the working conditions of for junior doctors (NHS Management Executive, 1991). The New Deal was launched as an agreement between the government, the royal colleges and the British Medical Association (BMA) as a response to the health and safety concerns over long working hours. Originally, the New Deal agreement set out to reduce continuous on-call duties and average weekly working hours. However, logistical and financial considerations meant that in order to implement the New Deal it was not possible to simply increase junior doctor staffing numbers. Rather, the solution presented was the introduction of a new shift system for junior medical staff (Kapur & House, 1997). These specific shift definitions were as follows:

- On-call: Periods of duty must not exceed 32 hours (56 at weekends) and the average duty hours for the week should not exceed 72 hours. Rest requirement: approximately 8 hours of rest in total (12 per weekend day), of which 5 should be continuous between 10pm and 8am
- 24-hour partial shift: This is similar to an on-call rota except that the period of duty must not exceed 24 hours and the average duty hours for the week should not exceed 64 hours. Rest requirement: 6 hours of rest in total, of which 4 should be continuous between 10pm and 8am
- Full shift: The maximum length of duty for a full shift is 14 hours and the maximum average should not exceed 56. Natural breaks of 30 minutes' uninterrupted rest should be taken every four hours
- Partial shift: The maximum length of duty for a partial shift is 16 hours and the average duty hours for the week should not exceed 64 hours.

Rest should total one quarter of the out-of-hours duty period (NHS Healthcare Workforce, 2008)

In addition to shift descriptions, the New Deal provided general definitions of 'work', citing 'actual work' (as opposed to 'duty hours/period of duty') as 'time spent performing the duties of the post, such as admitting patients, carrying out investigations, giving treatments but it excludes time spent resting in the hospital or elsewhere' (Pickersgill, 2001, p. 1266). Under the New Deal, junior doctors 'actual work' hours were limited to 56 and 'on duty' hours restricted to 72.

Whilst the New Deal was launched in 1991, it was not until December 1996 that the maximum contracted working hours for the different working patterns was implemented for junior doctors. Consequently, although changes enforced from December 1996 ensured a reduction in the majority of junior doctors' contracted hours, the research literature suggested that many doctors still continued to be on duty for excessively long periods of time without adequate rest provisions (Bamford & Bamford, 2008). Indeed, according to data released from the Department of Health (2006), figures from 2003 suggested some 92 percent of PRHO posts and 85 percent of SHO posts were breaching working hours' limits.

Further to this, Burke (2002) highlighted the difficulties implementing the New Deal, describing junior doctors themselves and the consultant workforce as being the main barriers to achieving New Deal compliance. As Burke described:

'They do not wish to change either just because they do not wish to change, or because they genuinely fear that such a change is a threat to their own working pattern, to patient care or to training. It is not uncommon for juniors and consultants to work together to reinforce each others' fears or illusions about the New Deal in a "folie a deux".' (Burke, 2002, p. 3).

Indeed, research identified great opposition to change in terms of the workforce adjusting to the New Deal, with evidence indicating that hours monitoring data was being manipulated to show that non-compliant rotas were compliant. In the literature, the New Deal has therefore been colloquially referred to as 'a gentleman's agreement' (Pickersgill, 2001, p. 1266).

In response to the concerns regarding excessive working and varied success in applying the New Deal, a new employment contract for junior doctors was introduced in December 2000 which contained a new banded pay structure (Department of Health, 2002a, p.5). The contract was principally aimed at restoring the impetus to achieve compliance with the New Deal and required employers to compensate junior doctors for work at high intensity or during unsocial hours through a salary multiplier. However, whilst the employment contract was agreed in 2000, it was not until August 2003 that it became a contractual obligation for all NHS hospital Trusts to ensure that the working patterns of all doctors-in-training were complying with the requirements of both the New Deal and new pay banding structures.

Alongside the changes introduced by the New Deal and pay banding structures, the European Working Time Directive was also introduced as part of a means to regulate working hours in the medical profession. However, unlike these two initiatives, the Directive provided explicit criteria on working time, removing any ambiguity regarding what constituted work and non-work activities, thus providing stricter regulation. Indeed, the Directive did not replace the criteria enforced by the New Deal agreements, but rather provided additional support and protection for employees. As such, both the New Deal and European Working Time Directive operate simultaneously. The following section proceeds to outline full details of the Directive as applied to the healthcare profession within the context of the UK.

2.5.2 The European Working Time Directive and Working Time Directive

The European Working Time Directive (EWTD), Directive No 93/104/EX was introduced on 23 November 1993 and incorporated into UK Law as part of the Working Time regulations, 1998/1883 on 1 October 1998. Within the UK, the Directive has therefore become known as the Working Time Directive (WTD). The Directive concerns the health and safety of workers provides basic principles regarding the maximum weekly hours an employee is required to work, daily break and rest times, weekly rest times, the duration of night work for night shift workers and annual holiday entitlements. Whilst the original Directive became law in 1993, doctors-in-training were excluded along with a number of other select professions including workers in the road, air, rail, sea and inland waterway industries. However, in August 2000 the original Directive was revised by the European Commission with a timetable for including exempt workers. Pertinent aspects of the Directive are as follows:

- Employees may not work continuously for more than 13 hours without a minimum period of 11 hours off between duty periods
- Employees have a minimum of 24 hours continuous rest in each 7 day period (or 48 hours in a 14 day period)
- Employees are entitled to a minimum of 4 weeks paid annual leave
- Employees are considered to be working if he or she is required to be in the hospital, whether awake or asleep. Therefore, there is no provision for time to be anything other than work or rest

Further to this, judgement rulings in the *SiMAP* (2000) and *Jaeger* (2002) cases dictated that all time spent on-call should be classified as working time. This is even the case where an employer provides employees with a place to sleep while employees are not actively engaged in their duties. One consequence of these rulings has been that Member States who failed to consider all on-call time as working time have become non-compliant with the

Directive. Notable examples include Greece, which has been taken to the European Court over disputes regarding active versus inactive rest. In the UK, an incremental implementation of the Directive was agreed which comprised: a 58 hour week by August 2004; a 56 hour week by August 2007; and a 48 hour week by August 2009. This move therefore represented a major reduction in hours of work. However, working hours are based on an average number of hours over a given reference period, the details of which are outlined in 2.5.4.

Whilst the Directive provides a framework for weekly working hour limits, at European Union (EU) level individual member states are able to set lower limits in the national implementation of the legislation. As of 2009, within the 27 EU Member States 10 countries set their statutory maximum working week at 40 hours, one set hours at 38 hours, whilst the remaining 17 states transposed the 48 hour weekly limit as set by the Directive (European Industrial Relations Observatory: EIRO, 2007). However, reports have indicated that owing to the complexity of many countries' rules regarding variable working time and overtime, in practise, the difference between countries with maximum thresholds of 48 and 40 hours may not be that notable (European Foundation for the Improvement of Living and Working Conditions: EFILWC, 2007).

Individual employers are responsible for ensuring doctors-in-training are compliant with Directive requirements however, in the UK, the Health and Safety Executive (HSE) is responsible for the enforcement of the Directive. The HSE closely regulates: the maximum weekly working time limit; night work limits; and health assessments for night work. Penalties for non-compliance include possible employment tribunal proceedings by employees, orders for compliance (from the Health and Safety Executive) and fines of up to £5,000 per doctor per day for non-compliance. In addition, the Department of Health may also be at risk of enforcement proceedings by the European Commission.

2.5.3 Opting out of the Directive

Between 2005 and 2009 the European Parliament and national governments continued in discussions regarding revisions to a new text of the EWTD drafted by the European Commissions. The two bodies became polarised on a number of issues relating to the proposed legislative changes. In particular, the European Parliament sought to end the 'opt-out' agreement which allows individual workers to work longer than an average 48 hour week if they so choose. This stirred great debate as of 2009, 15 of the 27 EU member states utilised the opt-out clause. A series of meetings spanning December 2008 to April 2009 failed to break the deadlock between the European Parliament seeking to scrap the opt out and governments aiming to negotiate an agreement for a 65 hour week upper limit. The collapse of the final series of talks on April 29th 2009 meant that governmental opt-outs in place at this time would be retained until the European Commission came up with new legislative proposals. This potentially opens the way for years of further negotiations during which the current working week opt-outs would be retained.

The landmark rulings regarding the opt-out have proved of great interest to the practise of medicine in the UK. The rulings suggest that the long working hours culture in medicine may continue but only for senior medics. This is because unlike Foundation Year 1 and 2 doctors, senior trainees (such as consultants and Specialist Registrars) are able to opt of the 48 hour working week. However, no employee is able to opt-out of the provisions for rest requirements.

2.5.4 Calculating working hours

In order to calculate working hours, monitoring exercises are conducted at NHS Trust level at least biannually and data is collected regarding compliance with both New Deal and Working Time Directive requirements. This data is submitted for ministerial returns in March and September of each year

(Department of Health, 2002a). Monitoring exercises are conducted for a minimum of two weeks during which time data is collected from all grades of doctors and other non-training grade medical staff. Locum doctors-in-training are included as are trainees in flexible training posts. Monitoring systems record a range of information including contracted duty hours; actual hours of work; total and continuous rest periods; gaps between shifts; natural breaks; and leave and cover arrangements (British Medical Association, 2004). Where compliance problems are identified, or where a minimum return rate has not been achieved, further monitoring exercises are conducted. In addition, hours monitoring must be conducted when new rotas have been introduced. In these circumstances, the monitoring exercise must occur within six weeks of the introduction of the new rota (Department of Health, 2002a).

There have however been a number of debates in the literature regarding the way in which hours compliance has been measured by NHS Trusts (NHS Employers, 2009). In particular, it seems that rather than using the recommended European measurement when calculating hours, some half of Trusts are believed to be calculating compliance by using pay banding data. In this instance, pay is calculated according to work intensity and weekly hours of work and in so doing, hours estimates are based on New Deal measures. However, unlike with recommended European measurement, where average working hours are calculated over a twenty-six week reference period, under the New Deal measurement working hours are calculated over an eight week period. In so doing, New Deal measurements incorporate prospective cover whereby an allowance is given within contracted hours to accommodate the fact that junior doctors are required to personally arrange suitable cover in advance of taking leave.

In light of the differences regarding the methods of calculation, recent research suggests a possible 10 percent error when using New Deal pay bands as a proxy for WTD compliance (Skills for Health, 2009a, p 4). Consequently, there has been conflicting information and a lack of standardisation with regards to current estimates of hours' compliance which reflect in the reported literature. Whilst EWTD law states that measurement

and monitoring for doctors in training should be over a 26 week reference period, in the NHS it is generally accepted that continuous monitoring over 26 weeks is not an achievable method of assessing compliance rates. Compliance is therefore typically assessed using snapshot rather than continuous methods. Such assessment methods include the use of commercial software such as Zircadian and DRS (Doctors Rostering System).

2.6 Implementation of the Working Time Directive

The implementation of the Working Time Directive has led to widespread and ongoing changes as NHS Trusts have endeavoured to adhere with its requirements. The following section outlines the way in which the healthcare sector has responded to meet the changes, specifically examining both long and short-term strategies. Particular attention is given to changes in the design of work and working schedules, with relevant literature drawn from the occupational psychology and management disciplines. The section then explores the impact of the Directive on the practise of medicine generally before proceeding to examine the literature regarding the effects on the junior doctors. Whilst the relevant literature is reviewed, it is interesting to note the comments of Landrigan (2006) who points out:

‘Good data regarding the effects of the WTD in general, the Hospital at Night program and other initiatives are lacking.... measured work hours, sleep, patient safety, and resident safety, education, and quality of life are needed across a range of attempted initiatives are needed to make evidence-based decisions regarding optimal scheduling structures, rosters, and proposed intervention plans.’

(Landrigan, 2006, p.13)

2.6.1 Impact of the Working Time Directive across the UK healthcare profession

In order to address the requirements of the Working Time Directive, there has been major reform to the practise of UK based medicine. The following section details four specific initiatives which have been introduced as a response to the Directive. These initiatives include: the move to shift-based working practices; the reallocation of work including the creation of new job roles for healthcare assistants; increased collaboration between specialties including increased use of cross specialty cover; and increased staffing numbers. Each of these initiatives are discussed and explored in relation to the impact on healthcare professionals within the UK.

Firstly, with regards to long-term strategies to manage the requirement of the Working Time Directive, there has been wide expansion in doctor numbers over the past decade. Data indicates an increase of doctors-in-training from 30,000 in 1997 to approximately 49,000 in 2008 in England alone (PMETB, 2009a, p. 53). This has, in turn, been accompanied by and expansion in the numbers of medical students graduating has been necessary, in addition to an increase in the number of training grades available. There has also been a 60 percent increase in consultant numbers from 21,500 in 1997 to 35,000 in 2008. However, research by the Department of Health suggests that simply increasing doctor numbers, particularly junior doctor numbers is not the most effective use of human and financial resources (Department of Health, 2002b) meaning a range of other solutions have been required.

Secondly, in order to comply with the requirements of the Working Time Directive, many changes have been introduced to rota patterns. Traditional resident on-call patterns (as described in 2.5.1) were no longer viable and therefore alternative working patterns had to be developed. The literature notes that the Directive has necessitated a move towards shift-based working practices which has had manifold effects. Firstly, the literature indicates that shift-based working has served to increase the frequency and detail of patient handovers (Cairns et al., 2008). Furthermore, anecdote has suggested that

the move to a shift based model has served to increase consultant workload and commitments. Despite consultants being covered by the terms of the Directive, commentaries suggest that their ability to opt-out and increased autonomy has meant they are working harder than ever with some arguing that senior medics may be pressurised to take on extra hours to support the drop in hours of junior trainees (Richards, 2009).

As a response to the Directive, greater attention has been paid to the working patterns of consultants and specialist registrars. Indeed, as junior doctors hours have been reduced, one solution which has been implemented across some NHS Trusts has been the increased involvement of consultants during out-of-hours working periods (namely nights and weekend periods). However, there have been concerns that in so doing this may decrease their availability in day time periods and, as such, adversely impact junior trainees (Chesser et al, 2002).

There have also been additional concerns expressed regarding the impact of increased anti-social hours on the quality of life of senior medics. This was particularly noted in quantitative research conducted by Bowhay (2008) among a sample of 73 Specialist Anaesthetic Registrars. The data indicated problems regarding balancing work and family life. In particular, it was noted that many were working extra anti-social shifts and those with school age children reported rarely seeing their children as when they were not working during the week their children were at school. Further problems were reported in terms of doctors seeing their partner/spouse. However, due consideration is given to the generalisability of this data as it is specialty specific. Whilst examining the impact of the Directive on senior medics is not central to this thesis, this is nevertheless an important issue to consider as doctors-in-training are the future generation of consultants.

Thirdly, a number of short-term strategies have been developed which have included greater cross-cover working between specialties, an increase in multi-professional working and a reallocation of traditional tasks and roles (particularly for doctors). One particular multi-professional working initiative

which has been introduced is entitled the 'Hospital at Night' scheme. This has redefined the traditional model of out-of-hours clinical cover in a hospital based environment (McDonald & Eccles, 2004). The Hospital at Night model initiated a move from the provision of cover by means of professional delineation or staff grade, towards a multi-disciplinary team based approach, defined by competence. In some instances this also extends to cross-cover working between Hospital at Night solutions advocate having a generic night team which has access to specialist advice when needed (from senior medical doctors) and multi-disciplinary handover of jobs in the evenings. The increased use of such multi-disciplinary working initiatives are reflected in the growth in the non-medical workforce has expanded some 30 percent from 1997 to 2008 (PMETB, 2009a). This therefore illustrates the link between short term and long term strategies to manage the Directive.

Multi-professional working initiatives, such as Hospital at Night appear to address restrictions on working hours through a number of mechanisms. Firstly, it has been suggested that through reallocating non-essential jobs to other members of the healthcare team reduces work pressures on doctors (Wilkinson, 2008). Secondly, this may also enhanced the roles of other professional groups who are looking to acquire new skills meaning they are suitably skilled to provide staff cover when necessary. In line with the reported success of such multi-professional working initiatives (Department of Health, 2005b), there have been a range of proposals about translating the Hospital at Night scheme to a 24 hour period.

Interestingly, whilst there appear to be benefits of managing reduced working hours through the increased use of multi-professional working initiatives, there are fewer formal links to do this than might be anticipated. To illustrate, the Hospital at Night Assessment (Skills for Health, 2008), explored connections between Hospital at Night and the Working Time Directive. Findings from 72 responding UK NHS Acute Trusts stated that just under half of the Trusts had any formal linkage between the two initiatives. The report asserted:

‘Those (Trusts) without formal linkage(between WTD and Hospital at Night) are strongly advised to create this link as the two work streams are closely related and there is enormous benefit in a close working relationship between the two projects’ (Skills for Health, 2008, p. 12).

The above quote therefore illustrates the work that has yet to be done in terms of developing and managing solutions to assist with achieving sustainable Working Time Directive compliance.

In line with the reallocation of tasks as a response to the reduction in available hours for junior doctors, a number of new working roles have been created for healthcare workers. Specific roles include those of Nurse Practitioners and Specialist Nurses who increasingly perform tasks which were traditionally allocated to junior doctors. For example, there has been support for the use of these staffing groups to carry out cannulation, phlebotomy and some vascular procedures (Department of Health, 2004). However, research from the nursing literature has highlighted the resistance of doctors, particularly junior doctors, to the changes in these working roles and practise (Wilkinson, 2008) and this has been cited as one of the major barriers to effective multi-disciplinary working initiatives. In line with this, the following section explores the ways in which the solutions developed as a response to the Directive have impacted on junior doctors. Due consideration is given to the ways in which the increased involvement that other staffing groups have had on junior doctors and the wider changes in the nature of job characteristics.

2.6.2 Impact of the Working Time Directive on UK junior doctors

The literature has noted the Working Time Directive has impacted junior doctors at a number of levels including effects on health, wellbeing, training and education. This section examines the published literature reported in these areas from 2004 onwards (since the inception of the Directive) in order to develop a comprehensive account of the ways in which the Directive has impacted on junior doctors’ working lives. The section firstly begins by

describing the annual review of UK junior doctors, before proceeding to explore studies which have sought to explore the experiences of this occupational group in greater depth.

2.6.2.1 Impact of the Directive: The PMETB survey

Since 2006 the Postgraduate Medical Education and Training Board (PMETB) has collated annual data on the working experiences of trainees. The annual report, National Training Surveys, explores the experiences of the range of doctor training grades, from doctors-in-training, to consultants. Furthermore, the survey samples doctors working in all specialities, including General Practice. However, it was not until the 2008 survey that the regulatory body attempted to sample the Foundation trainee grades at a national level. Whilst the questions contained in the survey are comprehensive, and tailored according to specialty grade, much of the focus is on training experiences, teaching experiences, compliance with the Working Time Directive, and includes some questions regarding self-reported stress (PMETB, 2009b, p. 59).

Data from latest PMETB 2009 survey (PMETB, 2009b) were collected prior to the full implementation of the 48 hour working week in August 2009.

Therefore, although many of the trainee respondents were reporting compliance with the 48 hour week, the wider survey data refers to the 56 hour week which had been in place since 2004. The findings, from 42,714 doctors-in-training indicated that two thirds of trainee doctors were already working a 48 hour week in September 2008. However, the literature notes that this may not be a true reflection of what occurs at ground level. Indeed, Ahmed-Little and Bluck (2006) have noted that:

‘the gap between the hours actually worked and those hours juniors are contracted to work on inappropriately sized rotas will become apparent as full EWTD implementation occurs.’

Data further suggests that 97 percent of junior doctor rotas were compliant with the 48 hour working week as of August 2009. However, where rotas were non-compliant, NHS Trusts have sought derogation from the Directive wherein doctor-in-training have been granted lieu of a 52 hour week. (PMETB, 2009a, p. 46). This therefore has meant variability and a lack of uniformity of junior doctors working hours across NHS Trusts. This lack of standardisation has been reflected in the diverse working practices of junior doctors, and variability in experiences, as illustrated by findings from the 2009 trainee survey.

Consequently, whilst the PMETB survey has served to provide some useful data regarding the working experiences of trainees, what the survey fails to include are questions about broader working life. Furthermore, the study does not examine trainees views and experiences of working within the remit of the Working Time Directive. Rather, the principal focus is on hours compliance.

2.6.2.2 Impact of the Directive: the reviewed literature

In terms of studies which have explored the effects of changes to working practices, the literature has reported an interesting phenomenon among junior doctors, describing a wider cultural move towards a shift mentality. Doctors have therefore been described as focused on 'clocking on and clocking off' (Bamford & Bamford, 2008). Indeed, Ahmed-Little and Bluck (2006) have commented that:

'...some argue EWTB is creating a generation of clock-watchers and gradually eroding away good will amongst juniors and seniors alike'
(Ahmed-Little & Bluck, 2006, p. 373)

In line with the introduction of shift-based working, studies have highlighted a concerns regarding continuity of care insofar as junior doctors being involved in the whole patient journey from the admission stage through to diagnosis, management, discharge and finally follow up (Mather & Pounder, 2006). There have therefore been concerns reported in the literature regarding the

impact of the Directive on training opportunities and general morale in the workforce.

A 2008 study by Tan et al. examined the impact of the Working Time Directive and night working specifically on junior doctors' lives (at the Foundation Year 1 and 2 grades). A questionnaire was developed to examine perceived benefits of the Directive to work-life balance, training, education and views on the split versus seven night shift working arrangement. However, the study did not contain any validated instruments. The study yielded a small response of 106 fully completed questionnaires, a 21 percent response rate. The findings reported that 47 percent of the sample would like to work more than a 48 hour week, but that 75 percent would favour working less than seven consecutive nights citing improvements in personal health and wellbeing as the principal reasons for this (Tan et al., 2008). However, this study offers limited generalisbilty owing to its relatively small sample size.

In order to further examine the impact of the 48 hour working week on junior doctors, research by Cappuccio et al (2009) set about developing and implement rotas which addressed issues of both patient safety and trainee fatigue. The study employed a single blind between-groups intervention design over a 12 week period using 19 junior doctors. Nine of these doctors worked less than 48 hours per week and 10 doctors worked less than 56 hours per week where both groups were based within medical wards. Results form the study demonstrated that a 48 hour working week combined with specific initiatives to improve junior doctors sleeping patterns significantly improved patient safety as measured by a number of objective measures. However, the research did serve to highlight concerns regarding reduced educational opportunities as measured by questionnaire collection methods.

Evidence also indicates that under the WTD junior doctors have to spend an increasing proportion of their working time 'handing over' work to incoming staff which has reduced time available to provide direct patient care and consequently adversely impacted training (Cairns et al., 2008). Given the

demands WTD 2009 has presented, the literature has indicated the importance of maximising time spent at work, particularly in terms of training. In order to facilitate this, studies and internal audits have been conducted examining the range and frequency to which junior doctors' engage in tasks during the course of a shift. Whilst data collection methods such as diary card exercises may be employed to do this, the literature reveals these methods often fail to provide sufficient depth and furthermore have also been criticised on the grounds of biases in self-reporting.

Research conducted by Norgate & Okunuga (2008) sought to address the criticisms of self-reported working by developing a novel method of data collection for capturing the workload of the junior doctor over a course of a shift. The research involved shadowing junior doctors and collecting minute by minute information on the tasks they were engaged in. Eighty junior doctors working under a range of specialties and schedules were shadowed by two auditors who independently assessed their working practices using a detailed task schedule. The schedule was developed by a range of doctors working in individual specialties and consisted of five overarching strands: patient care; interaction with staff; admin; teaching time; and break. The research found that on average junior doctors spent 20 percent of their time on administration, with FY1 doctors in particular spending some 35 percent of their time engaged in these tasks. Indeed, for all grades of junior doctor audited approximately 37 percent of their time was spent on direct patient care. The research therefore demonstrated that the way in which doctors work is organised requires careful attention and planning, as it highlighted that a significant proportion of the work doctors performed could be done by other groups of healthcare professionals. The research was also particularly insightful as it helped determine precisely what the skills required for these tasks were so that they can be developed can be transferred to other members of the multi-professional teams and, in so doing, maximise doctors time and address the issue of hours reduction.

Whilst the literature has highlighted the advantages of multi-professional working initiatives (Department of Health, 2005b), as previously outlined in

2.6.2, research has pointed to junior doctors resistance to the changes in these working roles and practises. Research by Wilkinson (2008) involved semi-structured interviews with a range of healthcare professionals, including doctors (training grade not specified), nurses and healthcare managers. The findings from the study highlighted some ambivalence towards reforms in working practices owing to the major shift in culture for the medical profession per se. The research detailed some interesting findings regarding a perceived blurring of role boundaries particularly between junior doctors and nurses resulting from the up-skilling of nurses. Findings indicated this had, in some instances, resulted in friction between the different working groups, with the study pointing towards 'some resentment on a personal level' (Wilkinson, 2008, p. 207). The study suggested that the reported tension may be attributed to issues such as demonstrating authority and changes in levels of autonomy. Indeed, this study highlighted some important issues relating to core components of job characteristics as previously discussed in relation to Hackman & Oldham (2010). As such, the literature has pointed to a perceived detrimental impact of changes in working practices, as implemented in response to the Directive, on junior doctors' morale and levels of job satisfaction.

2.6.2.3 Impact of the Directive: specialty specific studies

Much of the research examining a reduction in junior doctors' working hours has been conducted by the surgical and craft specialties. The craft specialties are defined as specialties in which trainees develop particular skills that are best learnt by direct experience with patients, often in elective settings (British Medical Association, 2009, p. 2). These include specialties such as Anaesthesia, Obstetrics and Gynaecology, Cardiology and Interventional Radiology. Among these specialties and, in particular, among the surgical specialties, the wide spread view is that fewer hours in hospital equates to fewer practical procedures. As such, an overarching view reported in the literature is that the Directive is not only detrimental to training but also the

working lives of these trainees who are frustrated by the constraints of the legislation.

A nationwide survey by Lowry and Cripps (2005) aimed to examine the views of trainee surgeons on the effect the EWTD had had on training, patient care and personal quality of working life. The online survey comprised 681 responses from Senior House Officers and 65 Pre Registration House Officers but also included the responses from 577 Specialist Registrars. Among the Senior House officer respondents (analogous to Foundation Year 2 doctors), 90 percent of the sample ($n = 613$) felt that revised working patterns had diminished training, with 84 percent perceiving that continuity of care had suffered and 47 percent reporting that quality of life had deteriorated. The survey suggested, that even at the first stage of WTD implementation, with the upper 56 average working week, that the observed changes to working hours have had major negative effects on the working life, free time, and education of junior doctors.

More recently, joint research by the Royal College of Anaesthetists and Royal College of Surgeons (Skills for Health, 2009b) set about identifying the implications of the Directive and developing suggestions to achieve compliance with the 48 hour week. Whilst the research had a particular emphasis on implications in terms of training opportunities, the study also included a discussion of trainees perceived work-life balance. The research was also insightful owing to its use of mixed methods including: questionnaires, structured interviews, and working groups. However, junior doctors were only included in one of the research phases, structured interviews, whereby they were selected due to their hospital trust reporting WTD compliance. A further limitation to the research concerns the relatively small sample size, 16 participants, with an equal balance of surgical and anesthetic trainees. Nonetheless, findings from this structured interviews conducted with trainee doctors suggested that participants agreed that work-life balance had, in most cases, improved as had working conditions. In particular, trainees commenting they were less fatigued. This was further supported by the interviews with Human Resource managers who reported, in

some instances, anecdotal evidence of a reduction in sickness level absence. However, the observed benefits to trainees were albeit at the expense of training. As such, many trainees reported still coming into hospital outside of their rostered hours in order to gain additional experience.

Findings from a study by Wade and Henderson (2009) examining the perceived impact of the Directive on surgical trainees using questionnaire based methods, indicated that majority of trainees sampled were averse to moving towards a 48 hour working week. The data from this study, representing 120 replies from a range of specialties, indicated that two thirds of the responding trainees and trainers believed that implementing the Directive would worsen patient care and medical training. Furthermore, findings suggested that the move from the apprenticeship model to competency based model involving shift working served to increase medical errors, fatigue and adversely affected training. Additionally, the survey indicated a proportion of NHS Trusts were employing their junior doctor staff in locum posts in order to address staff shortages. Similar findings have been reported in a sample of 117 Specialist Registrar anaesthetic trainees (Bowhay, 2009: as previously outlined in 2.6.1). However, both studies may be criticised for their limited sample size, emphasis on trainees in the craft and surgical specialties and focus on the views of senior trainees.

2.7 Section summary

The staged implementation of the Directive over the 2004-2009 period has represented a unique period in medicine. Whilst the review of the literature proved fruitful in identifying the studies published during this period, the review highlighted the overarching emphasis on quantitative means of data collection. In particular, the review pointed towards a focus on questionnaire based methods for the purpose of understanding the ways in which the Directive has impacted junior doctors. Indeed, among these studies, there was a particular emphasis on the impact of the Directive in terms of training opportunities. Further to this, there has been a particular focus of research on

junior doctors working in the craft and surgical specialties rather than on the general experiences of a Foundation doctors.

Finally, as highlighted, much of the published research has explored how to achieve compliance with the 48 hour working week rather than how doctors feel about the changes introduced as a result of the 48 hour working week.

As such, research conducted to date has not sufficiently explored the impact of the Directive on junior doctors undergoing the many reforms presented by the Working Time Directive. The aim of this research was therefore to investigate the effects on doctors' working lives including impact on general health, wellbeing and job satisfaction.

Chapter One
Introduction



Chapter Two
Literature review



Chapter Three
Interviews with junior doctors



Chapter Four
Questionnaire survey: part 1



Chapter Five
Questionnaire survey: part 2



Chapter Six
Focus groups



Chapter Seven
Expert Panel



Chapter Eight
Discussion, implications and recommendations

Chapter 3

3.1 Introduction

This chapter presents the findings from a first research phase, comprising 36, in depth, semi-structured interviews with Foundation Year 2 doctors. Whilst a review of the literature was valuable in developing a theoretical account of the scope of the Working Time Directive, this study was necessary in order to provide an in-depth insight into doctors' experiences of working under the Directive on a day-to-day level. Interviews were specifically selected for the initial research phase in order to further familiarise with the subject area and to gather information and opinions from a group with particular knowledge and experiences. The semi-structured interview schedule was formulated on the basis of the literature reviews, consultations with key stakeholders, discussions with junior doctors and delegates at a range of conferences. The topics incorporated into the interview schedule included: working hours; hours compliance; views regarding the Directive; experiences of working the night shift; and psychosocial working conditions. However, the nature of the interview technique allowed for a flexible exploration of topics in light of interviewees' responses. The purpose of this study was to inform the contents and scope of subsequent research phases and assist in the development of future rota design and workforce reconfiguration given the upcoming challenges the WTD presents the healthcare profession.

3.2. Research Objectives

The aim of this exploratory research study was to obtain information on the experiences of foundation doctors working under the Working Time Directive. Specifically, the research sought to:

- 1: Explore doctors' views and opinions on the Working Time Directive.
- 2: Examine reported compliance with the Directive.
- 3: Investigate doctors' views on the perceived impact of the WTD on quality of working life and training opportunities.
- 4: Assess the perceived utility of different working schedules.
- 5: Examine the psychosocial working conditions of doctors operating under Working Time Directive.

3.3 Research methodology

For the purpose of this study, interviews were deemed more suitable than questionnaire methods, with the former allowing for a richer and more in depth exploration of issues (Gillham, 2000). The selection of a semi-structured interview technique over structured or unstructured method was determined by a number of reasons. Firstly, the approach adheres to the research epistemology as described in Chapter 1. Secondly, the method allows for a great deal of flexibility. Whilst semi-structured interviews typically comprise a pre-defined schedule, providing an element of standardisation with regard to question phrasing, interviewers are able to vary the sequence of questions. For example, if participants provide an answer to a question before they were explicitly asked, the interviewer is able to deviate from the schedule to avoid repetition. Furthermore, questions can be specifically general in their frame of reference, allowing participants a wide scope for response and also providing the interviewer some latitude to ask further questions in response to what were seen as significant replies (Bryman, 2004).

3.3.1 Analytic traditions

Qualitative research is a diverse field situated among a series of debates regarding quantification (Hayes, 1997). The qualitative doctrine adopts the approach that knowledge is the product of our social practices (Gasper, 1999), with knowledge and social action operating symbiotically. Accordingly, the aim of qualitative research is to understand and represent the experiences and actions of people as they encounter, engage and live through situations (Elliott et al., 1999). In order to achieve these aims, the qualitative researcher attempts to develop an understanding of the phenomena they serve to investigate based upon the perspectives of those being studied.

However, the domination of Psychology by the positivist doctrine has meant that subtle nuances of the qualitative research approaches have failed to gain sufficient recognition (Holloway & Todres, 2003). A principal reason for this lies in the fact that the connection between theory and research is more ambiguous than quantitative research. Whilst a number of qualitative methods subscribe to a specific epistemological or theoretical position, such as the traditions of conversational analysis and grounded theory, there are also those which are largely independent of both epistemology and theory. Whilst this theoretical freedom has also received a great deal of criticism owing to the lack of consistency and coherence the methods afford (Baker et al, 1992; Antaki et al 2002), the academic community is increasingly recognising the benefits offered by these methods, such as their flexibility and applicability across a range of approaches (King, 1998).

One qualitative method independent of theory includes thematic analysis. This method:

‘...provides a method for identifying, analysing and reporting patterns (themes) within data.’ (Braun & Clarke, 2006, p. 79).

The umbrella term ‘thematic analysis’ covers a range of approaches including content and template analysis. Whilst content analysis principally concerns

itself with '*systematic, objective, quantitative analysis of message characteristics*' (Neuendorf, 2002, p. 1), template analysis offers a more meaningful way of interpreting data in relation to a study's objectives. The process of template analysis involves producing an initial 'template', devised prior to analysis of the textual data. The template comprises a list of codes which are assigned to sections of text as a means of indexing it to a relevant issue or theme (Braun & Clarke, 2006), whereby themes provide a means of capturing important issues pertaining to the research question(s) under investigation (King, 1998). This method allows the researcher to develop some codes prior to the analysis of data, as based on theory and expectations, but these codes and the higher order template can be modified, developed and refined during data analysis (King, 1998). Accordingly, the analysis is a recursive process that develops over time (Ely et al., 1997).

The selection of a template analytic method for the analysis of the interview data described in this chapter was influenced by a number of factors. Firstly, as noted, the traditions of template analysis allow for a great deal of flexibility. As such, the technique offers several advantages over the content analytic method which has been criticised for overemphasis on frequency outcomes and disengagement with meaning from the context of research (Joffe & Yardley, 2004). Secondly, the aim of the study was to obtain a detailed insight and understanding of the qualitative data whilst adhering to pragmatic research traditions. Consequently, the structure yet corresponding flexibility afforded by template analysis meant this method addressed this objective and, moreover, neatly aligns to the mixed-methods approach employed by the wider research (Boyatzis, 1998). Thirdly, the literature notes that the method can be useful for producing qualitative analyses suited to informing policy development (Braun & Clarke, 2006), which meets the overarching aim of the thesis. Finally, the analytic traditions of this research method recognises the active part played by the researcher (Taylor & Ussher, 2001) who is intimately involved in identifying, selecting and reporting patterns and themes from the data. As such, the method is openly transparent with regards to the relationship between researcher and data.

3.3.2 Interview schedule development

The semi-structured interview schedule was formulated in conjunction with reviews of the relevant literature and in consultation with a range of key stakeholder groups at a range of stages. Equal importance was placed on both the contents of the interview schedule and the design of the schedule. With regards to the latter, the methodological literature reiterates the importance of wording in the design of questions. As Sapsford (2007, p.105) points out:

‘The precise meaning of a question may be much influenced by its precise wording.’

The interview schedule went through a lengthy development phase before it was applied for the purpose of data collection. Firstly, at the planning phase, this included key discussions with a range of user groups at a conference,⁵ and a series of informal and formal meetings with organisational representatives and junior doctors. At the pre-implementation phase, key stakeholders were consulted regarding the wording of the interview schedule. In addition, two independent researchers trained in qualitative research methods inspected the interview schedule for phrasing and design. In order to check for understanding, wording and question relevance, two pilot interviews were conducted with foundation year 1 doctors in June 2007. The initial interview schedule was subsequently revised in light of feedback and comments from the pilot interviews. Finally, the revised schedule was inspected by a researcher trained in qualitative techniques before being used for data collection.

⁵ Transforming Care Delivery: National Workforce Projects 2007 Conference (17/04/07)

3.4 Method

3.4.1 Interview schedule content

The final schedule comprised 37 questions which were based around the key aims and objectives of the research. The questions were specifically broad so as to allow participants a flexibility and broad scope for response. The literature notes that questions which are phrased in too straightforward a manner may evoke rhetorical or ideological responses (Sapsford, 2007). Consequently, the specific phrasing and design of questions enabled participants to comment on pertinent issues from their own perspective. Supplementary questions were used to clarify responses and prompts were included in case participants were unable to answer questions. Prompts were not used unless absolutely necessary. The interview schedule is shown in Appendix B.

3.4.2 Sampling

The study used a combination of sampling strategies in order to achieve the research objectives. Firstly, a purposive sampling technique was employed through the selection of the group itself, namely foundation year 2 doctors. This group were selected as they had been working as junior doctors for at least one year and, as such, were deemed able to provide an in-depth insight into junior doctors' working lives. Secondly, the research employed a convenience sampling technique insofar as the foundation year 2 doctors who participated in the study, did so on the basis of self-selection. Whilst it is acknowledged that the nature of the convenience sampling technique is not free from bias, as Baker (2003) notes, a great deal of bias inherent in this type of sampling can be eliminated by using experienced interviewers. Indeed, there is a general consensus in the literature that with careful management, this form of research sampling can serve as useful for qualitative research, providing both depth and meaning (Patton, 2002).

3.4.3 Procedure

In August 2007 an invitation to participate in the study was sent via electronic methods to all foundation year 2 doctors working in the participating Deanery (n = 398). Two further invitation reminders were sent in September and October 2007 (see Appendix C for invitation) which served to reiterate the research opportunity. Participants expressing an interest in the study responded directly to the researcher who proceeded to provide supplementary information. Once respondents communicated a firm interest in participating, a mutually convenient time, date and location was arranged for the interview.

Thirty-six individuals responded to the study invitation and proceeded to participate in the research. Prior to conducting the interview, interviewees were verbally briefed about the nature of the research. The researcher explained that the purpose of the study was to explore participants' working experiences of WTD rotas and examine their views on the Directive. Participants were advised the interview would last approximately 30 to 40 minutes and that they were free to withdraw from the interview at any point. Verbal, informed consent was obtained from all participants, with all, bar one participant, consenting for the interview to be audio recorded using a dictation machine. In this instance, the participant provided their consent for detailed written notes to be made for all questions. All interviews were conducted by the same (principal) researcher, trained in interview techniques to ensure consistency. No incentive was offered for participation in the research.

The interview medium was heavily determined by participant availability. Due to the professional nature of the participants, time constraints were, on occasion, problematic. Whilst it may have been useful to conduct all interviews via the same medium, in practise, this became unfeasible. Where time and logistic constraints permitted, interviews were conducted in person. Where this was not possible, interviews were conducted via the telephone. The lack of standardisation regarding the interview mediums was not regarded as problematic, as evidence suggests telephone interviewing can be

just as effective as face-to-face interviewing (Miller, 1995; Sturges & Hanrahan, 2004)

The researcher was conscious of the pitfalls of confirmation bias in data collection, which often been cited as a principal criticism of qualitative research (Onwuegbuzie & Leech, 2007). This bias is described as the propensity for interpretations and conclusions to be overly fitting with a priori hypotheses (Greenwald et al., 1986) and is also associated with an insufficient sampling of words and or behaviours from the study participants. However, Lincoln and Guba (1985) state this form of bias is particularly problematic if either persistent observation or prolonged engagement with participants does not occur. In the context of this research, persistent observation of the sample population was conducted, and the choice to cease after the 36 interviews was made because it was felt that data saturation had been reached and no new information was emerging. Furthermore, in the present research because hypotheses were not defined a priori, it was viewed that confirmation bias did not pose a threat to the validity of the data.

3.4.4 Participant and interview characteristics

Twenty-one females and 15 males responded to the research invitation and proceeded to participate in the study. Participants ages ranged from 23 to 34 years (mean 24.19 years). Four of the participants had completed their previous training year in a Deanery different to than that in which they were presently working. Nineteen interviews were conducted in person and, owing to logistic constraints, 17 interviews were conducted via the telephone. The interview duration ranged from 22 to 57 minutes, lasting on average 39 minutes. Appendix D documents participant demographics, specialty at time of data collection and average working hours.

3.5 Results

3.5.1 Data analysis

The 35 audio recorded interviews were transcribed verbatim and imported into the qualitative software management tool NVivo (Version 7.0). The one interview for which written notes were made was also transcribed and also imported into NVivo. This software package allows for the management of large volumes of written data and is used widely for the purpose of qualitative research (Kelle, 2004). Whilst a number of analytic approaches could have been employed for the analysis of the transcribed data, the approach selected template analysis for reasons outlined in section 3.3.1. In line with the traditions of template analysis, a number of codes had been pre defined prior to the analysis of the transcribed data. These codes were largely developed from the literature, but several were also based on the researchers personal thoughts and expectations.

The template comprising the initial coding scheme was arranged in a hierarchical manner whereby lower level codes served to illustrate specific issues and higher level codes represented overarching or general issues. The researcher employed a method of parallel coding whereby more than one code can be applied to the same selection of text. The use of parallel coding was important as a section of text can often represent a number of themes and, moreover, themes are not always necessarily mutually exclusive (Bazeley, 2007). The coding of the interview data were performed once all 36 interviews had been completed and done so on a transcript by transcript basis. During the data coding process, wherein the researcher engaged with the data, the initial template formulated prior to analysis of the transcribed text was continually revised and developed. Several codes were deleted from the initial template because the data failed to report that particular theme. Conversely, a large number of new codes were added into the template in light of emergent themes. In all instances the coded text represented sentences, or parts thereof, as opposed to individual words. Typically, each transcript was examined three times and initially coded then reviewed on a

second occasion. Data coding by the principal researcher ceased once codes had been assigned to all sections of text relating to the research objectives. The coding template can be located in Appendix E and details those codes which were deleted, revised and added in light of data analysis.

Following coding of interview data by the author, a random ten percent sample (four transcripts) of the fully coded raw data were given to an independent researcher trained in qualitative data analysis. The independent researcher was provided with the coding template was asked to apply codes to sections of text according to the template. The independent researcher was also able to generate new codes which had not been created in the final coding template. The two researchers compared their sets of independently coded data and discussed any inconsistencies regarding definitions. Inconsistencies occurred in only two instances due to descriptive differences, and the terms of these codes were revised until consensus was achieved. This method of inter-rater reliability for qualitative analysis pertains to that recommended by the literature (Miles & Huberman, 1994) and has been suggested to increase coding clarity and, moreover, reliability of results. The final coding template is included in Appendix E and serves to chart those codes which were added or removed in light of data analysis.

Sections 3.5.2 – 3.5.6 present key findings from the research phase which pertain to the Research Objectives outlined in 3.2. Results are displayed in accordance with main themes from the final coding template. For illustrative purposes, quotes are drawn from individual interview transcripts. Participants' identity has been removed to protect confidentiality however, participants age and gender remains as this was viewed as important to the data.

3.5.2 Interview theme 1: The need for regulation of working hours

The overwhelming majority of participants largely recognised the need for a regulation of working hours in the medical profession and understood why the Directive had come into force. Participants frequently discussed the dangers

of a return to the 'old days' whereby 110 hour working weeks were typical and the detrimental consequences of such working practices:

'I think I'm in favour of a time directive. I think the past has shown that doctors were working ridiculously long hours and it was affecting them and the care and safety of their patients.' (Male, 25)

Doctors typically recognised that regulation has been instrumental in creating a shift in the medical mentality whereby doctors are encouraged to take better personal care and not just work until they reach burnout. Moreover, a number of doctors recognised that improved self-care benefits doctors in terms of their effectiveness within the workplace:

'I also think an extremely tired doctor isn't particularly going to learn effectively so learning-wise if you're working more reasonable hours then you're more alert and you're more capable of learning and progressing at work.' (Male, 24)

However, whilst acknowledging the importance of some form of regulation and the accompanying benefits of this, a large proportion of the participants felt that 'the pendulum has swung too far' with regards to the restriction on hours imposed by the WTD. In particular, participants expressed frustration at what they described as 'excessive limits':

'I can understand that they want to limit hours but I think they're setting the limit too low. I think a 60 hour week limit would be reasonable. I don't really think any of us went into medicine expecting to work a 48 hour week and that's not why we went into medicine, we did that because we want to work the hours to get the experience' (Female, 27)

A number of participants mentioned feeling 'cheated' out of a career in medicine which they entered into knowing and embracing the commitment required to be a medical doctor. Consequently, several doctors interviewed reported feeling despondent about their future in the profession.

Some two thirds of the doctors interviewed contended that the WTD has not necessarily served to address its aims of preventing excessive working hours and improving the conditions of hospital based medical doctors. In particular, participants mentioned that excessive hours still occur under the WTD due to the calculation of working hours over the reference period:

'If you do a week of nights you're doing 12 maybe more hours for seven days, that still adds up to over 90 hours, or if you work 11 days straight because you do a weekend on call...Yes, they might give you the days off in lieu but in terms of the main aim of the working time directive which is to reduce the number of hours done in any one stretch, and make people less tired, it doesn't really achieve that, it seems to be quite a creative reworking of the rota so that overall it's compliant but actually if you look at any one bit in isolation it's not.'
(Male, 24)

The above quote illustrates participants' general frustration at the manner in which the Directive has been implemented due to the ongoing excessive hours worked. As noted, whilst participants typically welcome a regulation on working hours, interviewees stated that the WTD is not addressing its principal aims of protecting doctors. However, participants appear to acknowledge that this is not the fault of the Directive per se but rather that it has been executed in a 'creative' manner.

With regards to the 48 hour working limit, nearly all doctors interviewed regarded this as too stringent and, moreover, unworkable for the medical profession. Just under half of the participants stated that they did not think the 48 hour week would come into effect. Several interviewees alluded to insufficient staffing as a reason for this and associated concerns that meeting the target would be reliant on the good will of doctors:

'People therefore just work more hours and just go unpaid for them.'
(Female, 24)

Participants mentioned that the nature of medicine invariably means that a shift can overrun because emergencies arise and patients cannot be left if they are ill. Doctors also commented that often it takes longer to fully 'handover' a job to the next doctor on shift than it would do complete the job oneself. Accordingly, the majority of doctors reported staying beyond their shift as a regular occurrence. Whilst doctors did not appear to begrudge this, accepting it as their medical duty, several commented that without the willingness of staff to do this, the NHS system would collapse. In this vein, a number of participants regarding the 'clocking off mentality' of upcoming trainees who do not share the value of previous cohorts and the increased strain this will place on the system.

With regards to short-term personal apprehensions regarding the 48 hour working week, a number of doctors discussed issues relating to insufficient exposure and an associated lack of confidence:

'I was worried that I wouldn't be able to see enough and manage enough on my own to feel confident doing it later on, because I know this year and next year they're going to be looking at me saying you do this, you manage it, you are the more senior person here, and I just think that's a bit unfair because you've not let me build up the skills and the experience to get to that position.' (Female, 25)

The above quote emphasises this participant's anxiety at getting to a more senior level and being expected to complete a certain job or procedure yet having inadequate preparation and experience of this. This serves to highlight that WTD necessitates a shift in expectations from both senior and junior colleagues. Several doctors also mentioned their restricted experiences, resulting from fewer hours, had impacted their immediate choice of career specialty:

'Bear in mind we only get to do 3 out of 6 (rotations) for the whole foundation programme and that 3 of mine were very restricted I do feel that I perhaps may have had certain doors closed. For example, if I

was applying for a specialty post and was up against a candidate who had had greater experiences within that speciality I personally would feel disadvantaged.' (Male, 24)

This issue about a fragmentation within junior doctor cohorts, owing to the different ways in which individual hospitals have gone about implementing WTD, came up several times during interviews. Participants reported this lack of standardisation as unfair and commented that they felt misled having not had information prior to starting their jobs about their proposed working schedules. A number of doctors who had experienced their foundation year 1 within the remit of a 48 hour working week commented that they would not have agreed to this job had they known this prior to starting the post. However, for the majority of these participants, this frustration appeared to be associated with the fact that a means of achieving 48 hour compliance was addressed through the removal of out-of-hours shifts. This issue is further discussed in 3.5.5.

In terms of long-term personal concerns regarding the 48 hour working week, a number of interviewees reported apprehension at the lifestyle choices they may be forced to make as a result of the Directive. Two participants commented that they were anticipating leaving the UK in order to pursue opportunities in medicine which, they felt, cannot be provided under the Working Time Directive. A number of participants commented that they fear the NHS will lose the most 'talented' doctors as they pursue a career beyond the UK. For example, one participant commented that to be 'the best' necessitates a medic leave the UK:

'I'm going to be a consultant but I won't be as good as them so I'm going to have to go to America or Australia to do a fellowship for 3 or 4 years to get that extra training to be a decent consultant...and the problem with that is by 8 years time you'll probably be married, have kids and you don't want to be uprooting to a different country.'
(Male, 24)

The issue of 'downgrading' the UK medical training system emerged several times. A number of participants commented that they feared the reputation of the NHS as providing a world leading training would be severely compromised under WTD. In this vein, approximately half of the interviewees reported apprehension for the medical profession as a whole with the 48 hour working week:

'My biggest concern is that this is going to push the burden up to our senior colleagues who have obviously worked the hours & proved themselves. But because Trusts are cutting the hours of the junior doctors and not letting them opt out then the burden will move up the profession.' (Male, 26)

This theme appears to represent participants' concerns for current seniors who may have to continue experiencing long working hours owing to their 'opting out' of the Directive. All the while, foundation year 1 and 2 doctors' hours diminish owing to their restrictions on 'opting out' of the WTD. This theme alludes to issues raised in the medical literature (Richards, 2009) which emphasises the expansion required in consultant numbers resulting from the WTD. Furthermore, this quote alludes to doctors' personal career concerns insofar as once they reach a higher career grade they too will have to be working long hours and not having the work-life balance they might wish at this age. There were also issues discussed regarding the unease at the standard of the new and upcoming doctors and associated burden on seniors. One participant commented:

'I will probably not trust them (new doctors) as much and may therefore take more of the workload and responsibility upon myself.' (Male, 30)

A further theme that emerged was the issue that a 'one size fits all' approach to hours is neither necessarily feasible nor beneficial. Participants made reference to work intensity being a determinant of working hours

'I think that a 48 hour week in A & E is plenty because its very tiring and it feels like we're doing a lot more hours than that most weeks and I don't think I could work more than the hours I'm working now because it is so constant, there's no sitting down for an hour in the middle of the day, there is no if you've finished a list of jobs you can potter around on the computer, there is no break, you're constantly working for 10 hours with maybe a half hour break and it's a constant stress level. I think it would be difficult to do any more hours in A & E plus because you're getting exposed to things all the time you feel like you're learning things all the time so because of that I feel like you don't need to do any more.' (Female, 27)

3.5.3 Interview theme 2: Reported compliance with the Working Time Directive

At the time of data collection, the upper working limit to the WTD was an average 56 hour week and every participant stated they believed their working schedule, at the point of data collection, was WTD compliant. However, participants varied considerably with their reported average working hours at the time of interview with a number of interviewees citing an average working of 48 hours or under. However, in a number of cases this was because participants were in a General Practice attachment at the time of interview (see Appendix D for reported working hours).

Participants varied considerably in their reported working experiences for the Foundation Year 1 of training. Just under half of the participants interviewed reported experiencing one, or more, rotations in their first year as being restricted with regards to working hours. When asked about average working hours during these reported 'restricted' periods, participants typically found it difficult to recall. This issue was additionally confounded by the fact that doctors changed rotations every four months meaning time became slightly blurred. As one participant commented:

'I'm not too sure. I know they were very aware of rest requirements and us having the appropriate days off but overall I'm not sure.' (Male, 25)

The way in which the participants appeared to gauge if hours were restricted amounted to whether or not they felt they had sufficient working experiences in an 'out-of-hours' context. This, in itself, was an interesting finding because a common emergent theme was that many participants were unsure about their individual hospital's compliance with the WTD, even with regards to their working attachment at the time of interview. As illustrated above, a number of participants commented that they were well briefed with regards to the provisions for rest. However, in terms of working hours, information was not readily communicated. As such, participants' assessment of hours appeared to translate into their out-of-hour exposure. In line with this, approximately half of participants associated reducing and or removing out-of-hours working as synonymous with the WTD. This issue was further confounded by participants general lack of information regarding the Directive.

With regards to WTD breeches, only a handful of participants reported major breeches of the Directive owing to problems with design of rotas.

Case study 1: Breeching hours

A 25 year-old female described her experience working as Foundation Year 1 doctor in a large teaching hospital:

IV: *So what was the schedule?*

PP: *It wasn't very clear ... what it was, was a 24 hour on call with six hours protected sleep time, but it wasn't ever said where we were supposed to get this protected sleep time and then you would get the following day off.*

IV: *Right.*

PP: *Traditionally the house officer had worked from 8.00am till 2.00am the following morning and then there tended to be work to do until around that time.*

IV: *Sure.*

PP: *So that's what we were expected to do by our senior colleagues, and then we had a visit from the Dean who asked us about our working patterns and we told him, and he said that's not right because you're supposed to have 11 hours between shifts and even if you get a compensatory day rest you shouldn't be doing so many hours in a row. So he advised us to write to the Trust which we did. They wrote back to us saying just follow the timetable you've been given, which of course we haven't been given. We'd got an old example of hours monitoring that we'd been told to follow but that didn't actually follow our rota so Person A wasn't on.*

IV: *I see.*

PP: *... when we were supposed to be, so basically we ended up writing to the BMA (British Medical Association) and we got ... we got extra money because it broke our contract and it broke the regulations.*

IV: *And was it ...*

PP: *We got a band 3.*

IV: *Has it changed?*

PP: *It was changed after that.*

Code: IV: Interviewer

PP: Participant

Case study 1 serves to highlight doctors' lack of information regarding the regulations of the WTD, as illustrated by their compliance with this seemingly non-compliant rota. Whilst the experience of the above participant is unique in the extent of Directive breach, compared to the experiences of participants generally, the case study serves to exemplify the lack of information doctors have received regarding the WTD.

Excluding the above example, the majority of participants reported that the rotas they had worked under during their time in training were designed as WTD compliant. Most participants regularly mentioned working beyond their scheduled hours but that this was rarely documented. A number of participants commented that working late was inherent in the nature of medicine and that this issue remains the status quo in the prevailing medical culture. With regards to documenting hours, one participant reported that a 'fudging' of monitoring forms is common place in hospitals:

'They do this monitoring of your hours but then they basically tell you to lie and get you to put on that you finished at 4.30 because if you put on you left at 6 you have to have told a senior person, and you're not

going to go and find them at 6 o'clock if you're still here. And you have to have done all these other things like put in a complaint or put in a breach of contract form and like my first job of course we were there late and we were expected to be there late because we were learning a job.' (Female, 34)

As noted in section 3.5.2, participants regularly cited staying beyond shifts to 'finish off' jobs rather than handing over work. Participants commented that as trainee doctors' jobs customarily take longer to complete jobs due to being unfamiliar and inexperienced in hospital rules and procedures. However, specialty specific differences arose in relation to the need, and moreover willingness to stay late:

'In medicine or ward-based jobs typically I've been working maybe up to two hours on the end of what I should be doing on a shift, which obviously adds up. I mean that's on the end of a normal 9 to 5 day, I don't know, 6.30, 7.00 sometimes, but certainly very rarely left on time, whereas in my current role I'm leaving pretty much on time, a maximum of 30 minutes late really'. (Male, 25)

Participants commented that in ward based jobs, such as that described above, the nature of the work typically carries some urgency and time pressures which is why doctors feel compelled to work late. The participant above proceeded to elucidate why the nature of the work necessitates working beyond rostered hours:

'You're very conscious that there are certain tasks such as putting out blood test requests for the next day that you cannot hand on to the next person, partly because they don't know that patient, and partly because that's not really what they're there to do, if they are covering ten wards they have to be there to deal with the ill patients who are deteriorating. and typically because those are the things that immediately affect the patients, those are the things that you get back at the end of the day,

and those are the things that take the most time, they're really tedious and time consuming to do.' (Male, 25)

The above quote suggests that the sheer number of tasks trainee doctors are expected to perform within a shift often means that these cannot be completed within scheduled work hours. However, participants frequently referred to the work pressures of their incoming on-call colleagues and reluctance to add to this workload. This therefore seems to highlight not only issues with regards to understaffing during the out-of-hours working period but also inefficient assignment of tasks more generally speaking. Whilst some administrative duties are invariable in the workload of a junior doctor, it would appear that a number of duties could be redistributed in such a way as to maximise the available time of doctors. For example, as illustrated by the above quote employing phlebotomists or senior nurse practitioners to put out blood test requests would reduce the workload of this particular junior.

In addition to working beyond scheduled hours after a shift ceases, a number of participants reported actively coming into work early owing to work volume:

'There are times when I know it's going to be busy. One day we had 60 patients in so you just know its going to be a busy day. You have to make sacrifices, you probably have to come in an hour early or stay a couple of hours later just to get the work done and if you know you've got to do that then things aren't stressful during the day. So I, when I know it's going to be a bad day I make sacrifices and come in early or stay a bit later on.' (Male, 25)

Participants referred to working until work is complete as being 'the done thing' in medicine and part of the professional oath doctors take. One participant alluded to the organisational climate and the manner in which this transcends from senior colleagues:

'It's the culture that's involved in medicine. I think if you're told by your boss that you have to be in at 7.30 or something starts at 8 that you've

got to prepare for, people will always just come in early so you know, I just don't think it will ever actually work out as a 48 hour week.'

(Female, 24)

This reference to the medical climate provided an interesting insight into the expectations placed on junior doctors and challenges of addressing the status quo currently dominating the medical mindset.

3.5.4 Interview theme 3: Perceived impact of Working Time Directive on quality of working life and training

As noted in section 3.5.2, participants largely welcomed a regulation in working hours, recognising the potential benefits of the change in legislation for both staff and patients. Accordingly, the large majority of the participants recognised the positive impact the Directive has had on their general wellbeing, work-life balance and opportunities for personal and professional development:

'I am personally in favour of it (WTD) having worked in hospitals and knowing the value of on-calls but knowing you need to get the balance between being able to work safely and work happily and being able to work happily is quite important to me' (Female, 34)

'I think it makes for more cheerful, happier doctors who are going to be more alert, more awake, more open to learning and going to get on better with each other and with the rest of the multi-disciplinary team and with their patients.' (Male, 24)

Participants made frequent reference to the cognitive difficulties associated with long hours of work and associated impact this has on their personal learning and also patient care:

'I mean patients skills and clinical thinking and clinical decision making they are obviously influenced by how many hours of sleep you managed to get the previous night. Its as simple as that. I think also you become a better doctor when you have a couple of hours after work to revise and read and study for exams than just work and do some boring clerical stuff during those hours. I think there is little room for personal development and sleep basically and that makes us less dangerous and more efficient.' (Male, 26)

An overarching theme doctors alluded to was their recognition that sheer hours spent at the workplace doesn't necessarily equate to beneficial outcomes. Indeed, participants regularly discussed reaching saturation point at work due to fatigue and their appreciation that learning and moreover decision-making is exceptionally difficult if not impossible at these times.

Participants also discussed senior colleagues views on the Directive, with the majority stating that in general their contemporaries acknowledged the positive impact the Directive has had on the wellbeing of junior medics:

'They just kind of make jokes often that we don't know how easy we have it these days compared to them. But I think if you ask them honestly then they would agree that it's better that we work fewer hours. Because you do just work better.' (Female, 23)

Interviewees made reference to a boarder cultural shift the Directive had introduced into medicine insofar as doctors taking better personal care. Doctors also discussed the way in which the WTD had been instrumental in heightened awareness of the deleterious effects of former years and reducing stigma regarding discussing this in the profession. However, whilst participants generally recognised that the Directive has been beneficial, a large number of interviewees emphasised that the way in which rotas were designed had, in some cases, not been propitious to juniors' quality of working life. Firstly, participants alluded to still working excessive hours under WTD compliant rotas:

'If you do a week of nights you're doing 12 maybe more hours for seven days, that still adds up to over 90 hours, or if you work 11 days straight because you do a weekend on call up to 11 in the evening or 13½ hours which some of the weekends I did last year, it's still adding up to 90 or so. Yes, they might give you the days off in lieu but in terms of the main aim of the Working Time Directive which is to reduce the number of hours done in any one stretch, and make people less tired, it doesn't really achieve that, it seems to be quite a creative reworking of the rota.' (Male, 25)

The above quote exemplifies doctors concerns that whilst typically on paper hours appear balanced, at ground level a working week may still be representative of the hours worked by senior colleagues pre WTD. In line with this, a number of participants alluded to the WTD reference period as a means of manipulating numbers and doctors associated distrust with this:

'So you'd still do 12 hours a day but, they (the Trust) say you get a couple of hours off in the morning when you can't take them. Or after you've done a week of nights or something they give you the next two days off which means that they comply but it is still not very social so you're still missing weekends and things like that. They've tried to be quite sneaky about it and that's what a lot of people don't like.'
(Male, 25)

This theme implies that whilst WTD has gone some way in addressing excessive working in the profession, doctors are still dubious as to whether WTD has, as yet, served to achieve its overarching aims. Secondly, participants discussed the detrimental consequences of a wider move towards a shift based system and the associated negative impact on wellbeing and quality of working life:

'They (the hospital) have this bizarre rota system which is disruptive to both our working and social lives. In order to make us compliant we have to come in one day a week and just do half day. So this could be

in the morning say 8-12 or could be in the evening so we do 5-10. Its very frustrating and its all about meeting the “requirements”.

(Male, 24)

This quote illustrates participants' perceptions of the WTD as an exercise in manipulating figures, as opposed to the Directive being in place for the benefit of medical professionals. Furthermore, the above quote highlights participants' frustration at the shift based-system in terms of disruption to commitments outside of work with other participants citing recreational and family based activities. Interviewees also cited increased social isolation resulting from anti-social working hours and the disruption to team based working practices associated with the move to a full shift system. A number of participants also indicated concerns in relation to patient safety issues insofar as this serving to increase the number and frequency of handovers and, in so doing, the likelihood of 'things' being missed or errors occurring.

With regards to training under the remit of the WTD, nearly all participants expressed concerns for their own personal careers and the medical profession generally. Participants frequently referred to the comprise WTD presented in terms of improved wellbeing in exchange for a lesser standard of training:

'I certainly think it is protective in some senses because it gives you free time outside of work but it does swings and roundabouts because it does mean that you see a lot less, you learn a lot less, and you end up a lot less competent or you'll have to take a lot longer to reach the same competency as your colleagues had to back in the 'old' days.'

(Male, 24)

A number of participants described the frustration WTD has created for recent medical graduates, who are reportedly fairly enthusiastic about medicine and eager to apply their knowledge. Indeed, it was commented that early on in the medical career is an important time for acquiring experiences and 'learning

the ropes'. However, a number of participants blamed WTD restrictions for cubing the experiences and zeal of recent medical cohorts:

'If you're going to take away nights which I think they are going to do for my job in my F1 for the next set of F1's you really are just down grading junior doctors more and more to the fact that they're really going to just be good medical students.' (Male, 25)

As the above quote highlights, many participants associated the reduction in working hours with a downgrading and reductionism of the medical profession. Related to this issue, a large number of interviewees cited an accompanying increased pressure on senior colleagues who trained under the old system insofar as they are, and will continue to, 'mop up' the residual heavy work load. In turn, participants discussed the negative impact this would have on seniors' training:

'I worry that more of the simple house officer jobs such as taking bloods and doing cannulas will be given to senior colleagues which is ridiculous because they've spent so many years doing this so now they shouldn't have to, however because of the hours issue they probably will have to. So I predict that a good proportion of the working hours and also responsibilities will simply be bumped up to seniors but seniors will be wanting to study and work on their own professional development issues but instead of being able to do so they will be having to cover the work of juniors which isn't fair.' (Female, 26)

Related to the wider impact of the WTD on the training of all medical grades, the majority of participants made reference to the change the Directive will bring about in terms of training pathways. A number of participants recognised that WTD invariably means medical training will change and the profession needs to adjust their expectations in line with this:

'In the long run it depends whether the whole of the system adapts to accept that training will take a longer time to get to a standard that

current senior doctors are at. You can't be expected to get there working the same number of years, but less hours, or even in the way it's proposed at the moment, less years and less hours, and still become consultants, it's just stupid because you just don't have the experience behind you.' (Female,25)

3.5.5 Interview theme 4: Utility of different working schedules

Each participant had experienced a unique working arrangement as a Foundation trainee. However, at the time of data collection, all had, at some point, encountered day shifts, day on-call shifts, weekend on-call shifts and night shifts, albeit in different hospitals and specialties. This meant that doctors were able to discuss the opportunities afforded by different working arrangements. The overarching theme was 'out-of-hours' working, referring to evenings, weekends and night shifts. All participants, bar one, were averse to the removal of out-of-hours working for foundation doctors. Approximately half of participants discussed the reasons for this in relation to personal experiences of having out-of-hours shifts reduced or removed:

'I do sometimes kind of feel frustrated that why don't I know this, why haven't I seen this before? Because when I go back into hospitals I'll have F1s who will look at me to be like ... well what do we do in this, and I'll be, well I've never seen it before either! So what do we do? I don't really want to practise medicine like that, I want to learn, be confident and be able to manage situations and not keep asking seniors.' (Female, 25)

As discussed in section 3.5.2, participants understood and, to an extent, favoured a regulation of hours but not at the expense of removing out-of-hours working . All participants discussed the unique nature of this working period in terms of increased autonomy and opportunities for hands-on skills experiences. Increased experience, resulting from less competition, was frequently reported as an advantage of the out-of-hours shift:

'I think that's when you learn the most really. It's not formal teaching that you get at those times but there's more opportunities to get hands on skills experiences because there aren't as many people wanting to do it. Also there's not so many other people around to call for help you get more out of it because you actually have to put what you've learnt in to practise.' (Female, 26)

The data suggests that unique nature of out-of-hours working provides specific learning opportunities as doctors draw on time-management and prioritisation skills. By contrast, the vast majority of participants perceived day-shifts as service provision, associating them with administrative duties. Accordingly, even greater value was placed on out-of-hours:

'I find personally that during the normal working day, really your duties are more secretarial and logistical. When it's an out of hours part of your day, that really is when you're actually doing, you're actually using your training and knowledge that you've gained to assess patients and make decisions about what happens and I think that you know that's the more difficult side of it.' (Male, 25)

The out-of-hours experiences were highly valued by all participants. As such, a number of participants described reports of colleagues who were willing to give up their own personal time to obtain these opportunities:

'Trusts won't give some of the on-calls to the house officers, (1) to help service out here but also to give them training and experience that they're going to need for the rest of their careers and I know the two house officers on the ward at the moment are really irate ... they're even willing to do it and some of them say well I'll even do it unpaid just so that I can get the experience.' (Female, 24)

As the above quote illustrates, participants expressed some anger at the removal of this working period for both themselves and upcoming cohorts. For junior colleagues, specific reference was made to the deleterious effect of this

move on their training. Among those interviewed, although reference was made to the beneficial opportunities afforded by out-of-hours shifts, doctors also discussed the stressful nature of this working period, typically characterised by a lack of staff. Consequently, participants expressed dismay at rota planners reducing junior doctor staffing during these periods. In line with this, several participants associated the reduction/removal of this working period as a cost saving initiative introduced at the expense of trainees. This served to highlight a further ongoing tension between training versus service delivery which is frequently discussed in the research literature (Derrick, 2006).

A further theme participants raised concerned their lack of involvement in rota planning. A number of interviewees discussed their frustration at Trusts designing working schedules without consulting doctors and concerns regarding understaffing. These issues were raised in relation to working schedules generally but also with regards to the removal of out of hours working:

'I think as well we felt annoyed because none of us knew it (removing out-of-hours) was happening until after we accepted the jobs and then there was nothing we could do about it. And I think that a lot of people in our year with children and mature students might have wanted to do un-banded jobs and it would have fitted in better with them and they didn't hear about it happening. I feel that I lost out a lot on my education and I think a lot of my friends feel the same way who got un-banded jobs.' (Female 27)

3.5.6 Interview theme 5: Night working and sleep quality

In line with the perceived utility of working schedules, the interviewer explored participant's experiences of working the night shift. However, an interesting finding which emerged from the interviews was participants' lack of

experience in working nights, particularly as Foundation Year 1 doctors. As the following participant commented:

'My first job as General Medicine and just as I'd started that year (August 2006) they decided to de-band all medical jobs within the area, not in the whole of the Deanery but in a good number of hospitals. So with de-banding it means you're just doing 9-5 so in my medical house job that was all I did. Also this was a surprise to me and I only found out 2 weeks before starting my job. Like I knew people in the years above and knew that you'd be doing on-calls and stuff, so to start and not do on-calls was either a nice or strange surprise. It was obviously nice to introduce yourself with a nice normal working life but the reality of it was that I now have to be an SHO or F2 at some point later in this year in this job in medicine doing on-calls and I'll obviously have to be competent to do the on-calls yet I haven't done it in a medical job. So I've never been on-call, I've never been on my own.' (Female, 25)

The quote from the above participant reflected participants' frustration at lack of information that they would not have the opportunity to engage in night working. This was particularly salient for the following participant who described her disappointment at not having the opportunity to engage in nights in the specialty she was hoping to pursue a future career:

I guess for me although the Directive has generally been okay I would really have liked to work paediatric nights because I particularly want to go into that specialty. I mean I did get to go ward rounds and things before the patients went to bed but it would have been invaluable to work on night admissions and things for the experience but I didn't have the opportunity'. (Female, 26)

Participants who had not engaged in night working were therefore unable to provide responses for a number of questions contained in the interview schedule regarding experiences of night working. However, of those participants who had experienced night shifts, the interviewer posed a range

of questions regarding their experiences of engaging in nights. Whilst participants generally valued these shifts for providing experiential learning opportunities (as previously outlined) there were a number of themes reported regarding difficult aspects of night working. In particular, participants who had worked nights described problems such as the social isolation experienced and exhaustion whilst working nights:

‘The social isolation is difficult and is especially pronounced with the 7 (night arrangement). Also the duration itself is hard as often you’ll have consultants who make you stay on for post night ward round so by the time that’s over the shift can sometimes be 14 hours’ (Male, 25)

With regards to working a seven night stretch, participants discussed the physical side effects of these working arrangements:

‘You would kind of feel ill by the end of the seven days. You’d be like a danger. Like your 12 hour on call would be well 7 lots of 12 hours, what’s that? 84 hours...’ (Male, 24)

‘In my last set of nights, I just suddenly was only able to get four hours (sleep) in between shifts which means that by your last one you’re really, really tired and you’re just running purely on adrenalin. And that’s fine when you’re busy and you’ve got stuff to do and it’s interesting. You just got a lot of adrenalin going round, so you keep running. But by the end of it you are really quite run down and absolutely shattered’ (Male, 25)

The reports, such as those described above, provided a detailed insight into junior doctors’ working lives and highlighted that long working weeks still occurred despite the implementation of the Working Time Directive. In addition to the physical and psychological difficulties encountered during nights, participants described practical and logistical difficulties which made working the night shift even more difficult:

'There are no allocated breaks on nights. I know my colleague has done a lot of nights and it's extremely busy and you just don't get a chance for a break. And also there are no actual facilities for doctors to go to where they can sit or lie down or have some time out for 20 minutes. Like there are no on call rooms, so it's quite hard. Normally it's finding a chair in the middle of the dark seminar room and just curling up with your coat for 20 minutes or going to the canteen that's if it's even open. So it would just be nice if there was a doctors' office or maybe just a room where you could go' (Female, 25)

Therefore, whilst the data from both participants who had and had not experienced night shifts pointed towards their valuing these experiences, the findings also illustrated the difficulties participants encountered whilst working these shifts. This was particularly so in relation to the seven night stretch.

A further issue explored concerned participants' sleep which was investigated in terms of sleep quality. Questions incorporated into the interview schedule included those which explored sleep when engaging in night working (where applicable), when completing extended shifts (such as long days) and when working short days. One particularly interesting finding which emerged from the data concerned the sleep quality of participants working 9-5 shifts. As the following participant commented:

'No, I didn't sleep very well and I think that a lot of it was that I wasn't doing enough. Its really difficult because in medicine you only do 4 month jobs and mine was 9-5. Whilst you do think well during those 4 months I could start a hobby but then you're like well then I might start a job where I can't do that hobby because when I'm doing my G.P job next I could start doing something but then I'd have to give it up straight away because I'd move on and be doing nights and evenings and things like that. So I think I found it difficult because you have to fill your evenings up with temporary things without committing yourself to anything. I think I didn't tire myself out enough. Actually I'd say actually

slept worse during that time in medicine than I have on A & E'.

(Female, 24).

Whilst the account from the above participant provided an interesting insight into sleeping difficulties associated with 9-5 work, generally participants commented that the nature of the job was so tiring that sleep would not present a problem. Indeed, mostly participants commented that after a shift they would be suitably tired, and in some cases exhausted, such that they slept very well:

'Mostly you're so tired you just go home, collapse into bed and then get up again sort of six or so hours later and do it all over again.'

(Female, 24)

'I'm practically unconscious, I get in, I lie down and you won't hear from me again until 9 hours later. I do think that is pure exhaustion though.'

(Female, 25)

Whilst sleeping problems were not typically reported and the use of sleeping tablets rare, some participants commented that when they first commenced work as a junior doctor that they had initial difficulties in sleeping. These difficulties were largely attributed to being unable to detach oneself from work. Indeed, participants stated that with experience they developed strategies which helped them 'switch off' from work. In particular, participants emphasised the importance of taking a designated period of time out after shifts had finished. Such strategies appeared to enable participants to leave work at work:

'Well that used to happen at the beginning when I first started but I think that just happens with everyone whilst you learn how to switch off but then as you get used to it then it doesn't really happen too much. And where I'm at the moment its not really a problem' (Female, 24)

Consequently, the majority of participants stated that after a few months working as a junior doctor they had little difficulty in sleeping, having adjusting to their role and that work did not directly affect their sleep.

3.5.6 Interview theme 6: Psychosocial working conditions

The flexibility afforded by the semi-structured interview method enabled participants to discuss in very broad terms their psychosocial working environment. When describing their job role, participants explored the nature of the responsibilities, their working hours, and general features of their working environment. Each participant was asked about the source and nature of work-related stressors which yielded a wide range of responses. A number of main themes repeatedly emerged during the course of data collection. One of the most common theme participants alluded to concerned their reported workload volume. Interviewees frequently discussed excess expectations and being unable to complete all designated tasks within assigned working hours:

'Its just when you've got so much to do that you physically can't do it all and you're expected to be in about 3 places at once. So if you're the only one on and you've got a couple of sick people that's really stressful because you don't know who to see first and sort them out. So I wouldn't say that one individual part I have to do in my job is particularly stressful, its almost just the collective lot to do that makes is stressful.' (Female, 24)

As the above quote illustrates, interviewees typically reported prioritisation skills as fundamental to their job role and the means in which they managed excess pressures. However, as noted in section 3.5.3, participants often reported a general reluctance to handover residual jobs due to a understanding of excess pressure on staff largely embedded in the medical culture. Accordingly, the demanding workload was often discussed in relation to breaching hours.

A large number of participants specifically commented on excess workload pressures characteristic of the out-of-hours working period. In particular, interviewees associated these pressures with under staffing and general lack of support:

'It's on calls where it's just because you're understaffed and you're running around like a lunatic trying to review all these patients and do all these jobs and see all the new admissions and you don't have time for a break and you're doing one thing and you've got other nurses kind of needing you to review sick patients or do things so that patients go home and you're trying to do five things at once, which becomes quite stressful and you don't ever get a break.' (Female, 24)

This participant's description of the on-call period typified other reports of the out-of-hours work pressures. The majority of interviewees cited out-of-hours working as a largely stressful experience but favoured these working opportunities insofar as they afford unique learning experiences. In particular, the out-of-hours period was discussed in terms of increased autonomy and responsibility:

'The biggest step that you learn is when you're on your own and you have to sort patients out by yourself, it can be stressful because you feel out of your depth but then at the same time, that's when you learn the most. So it's kind of a double edged sword really.' (Male, 25)

The data suggested that whilst participants valued the opportunities afforded by these autonomous working experiences that sheer workload was, in and of itself, excessive. Consequently, whilst the majority of participants viewed stress as adaptive in their working lives, most of these interviewees discussed their personal experiences of out-of-hours working as disproportionately and unnecessarily stressful. This stress was largely attributed to understaffing and general lack of support.

3.6 Discussion

3.6.1 Summary of key findings

This exploratory study provided an insight into views of junior doctors' working under the Working Time Directive. The research highlights that junior doctors typically welcome a regulation of working hours, recognising the benefits for their wellbeing and quality of working life but observes participants concerns regarding the impact of the WTD on training opportunities. The data also underlines junior doctors' frustration at the manner in which the WTD had been implemented, particularly with regards to removing of out-of-hours shifts as a means to meet Directive requirements and removal of worker control and autonomy. As such, the views of the junior doctors' interviewed suggest that the Directive has not necessarily benefitted those it claimed to assist. In so doing, the research further substantiates the recent survey by the British Medical Association (2008) which indicated some 57 percent of junior doctors thought doctors should be able to opt out of the 48 hour week.

The research has identified the perceived utility of the out-of-hours working period and, in particular, explained what out-of-hours offers over and above day-shifts. Whilst the Foundation Programme has served to introduce structured training methods, and commentators therefore claimed that training takes place mostly during the day (Black, 2006) it seems that experiential training opportunities do continue to arise out-of-hours, largely due to decreased staff numbers and competition. By contrast, day-shifts remain well staffed, meaning opportunities for hands-on skills experiences are reduced and consequently the work of the junior doctor often perceived as administrative in nature. However, the study served to highlight the excess workload pressures junior doctors' encounter during the out-of-hours period which was attributed to understaffing and lack of support. As such, the data suggests a balance need be achieved between these working periods and medical staffing carefully plan and consider the requirements. One way in which to do this may be through the inclusion of junior doctors in the design of rotas and through providing doctors with greater control in work design as

supported by the job characteristics literature (Humphrey, Nahrgang & Morgeson, (2007)

The findings in this chapter further reiterate those of Richards (2009) which emphasises that a 'fudging' of hours is largely acknowledged in the medical profession. To a lesser extent, the data provides some support to the 2009 PMETB trainee survey data which revealed that out of 31,360 respondents, one in ten whose hours were compliant on paper said they were being asked to lie (Santry, 2009). Accordingly, the findings from this, and other research suggest that if a 48 hour week is to be implemented with any success, the prevailing medical climate where doctoring of hours forms is common place needs to change.

Finally, the study highlighted findings regarding participants' experiences of night working and underscored the difficulties associated with the seven night working arrangement. In particular, the research affirms findings from Mather and Pounder (2006) regarding the general safety of doctors working the seven night stretch. Furthermore, the research suggests that for doctors engaging in out-of-hours work, in some instances hospitals have failed to deal with doctor fatigue in the design of rotas (Tucker et al., 2005).

3.6.2 Strengths and limitations

The present research offers a number of methodological strengths. Firstly, the study is original by means of its use of qualitative research techniques to provide in-depth, empirical evidence of a broad range of junior doctors' views, not just those from the surgical and craft specialities, which has been the focus of previous studies (Shah et al., 2004; Lowry & Cripps, 2005). Secondly, the research had the additional benefit of being conducted by an independent researcher not affiliated with the NHS. Consequently, participants may have been more open and forthcoming with their answers, safe in the knowledge that their answers would not be personally identifiable.

Limitations of the study include a relatively small sample of self-selecting participants. However, whilst acknowledging this shortcoming, the data does appear to reflect a broad range of working experiences and views. A second limitation of the research is that the findings are from a single Deanery and therefore may offer limited generalisability to other Deaneries. Thirdly, logistic constraints introduced some inconsistency regarding the medium of interview, which may be highlighted as a further limitation. However, whilst previous literature has suggested that the different interview modes might yield different results, recent reviews have concluded that there are no significant differences (Sturges & Hanrahan, 2004).

3.7 Summary and conclusions

This study provided an insight into junior doctors' experiences of working under the WTD. In so doing, the study served to highlight key issues from the perspectives of junior doctors which facilitated the development of the future research phases. In particular, the interviews informed survey development (discussed in chapters 4 and 5) and enabled familiarisation with the topic area. Findings from the study illustrate participants understanding for the need for regulation of working hours in the profession and the positive impact the Working Time Directive has had on doctors' wellbeing and quality of working life. However, the research identified some confusion surrounding the Directive and outlined participants concerns at the reduction of out-of-hours shifts as a means to meet Directive requirements owing to the perceived impact on training opportunities. The findings also highlighted the contrast between day and out-of-hours shifts, and, in particular, the perceived utility of these latter shifts. Overwhelmingly, the data suggested that a balance needs to be achieved between day and out-of-hours working periods through careful rota planning. One way in which to achieve this may be through the inclusion of junior doctors in the design of rotas. Finally, in line with the findings highlighted in 3.5.3, we would recommend junior doctors' receive transparent information regarding the remit of the WTD. Providing doctors with this information may assist in addressing doctors' confusion regarding the

Directive. Furthermore, this may serve to increase doctors' trust both in their direct employer and in the Working Time Directive more generally.

Chapter One
Introduction



Chapter Two
Literature review



Chapter Three
Interviews with junior doctors



Chapter Four
Questionnaire survey: part 1



Chapter Five
Questionnaire survey: part 2



Chapter Six
Focus groups



Chapter Seven
Expert Panel



Chapter Eight
Discussion, implications and recommendations

Chapter 4

4.1 Introduction

This chapter details the findings of a second research phase, a cross-sectional survey using a web-based questionnaire, which was completed by 423 junior doctors. The purpose of the questionnaire was to develop the findings from the first study, outlined in Chapter 3, and canvass wider opinion from the junior doctor population. Therefore, the content of the questionnaire was informed by data obtained from the first research phase, from reviews of the literature and from consultations with key stakeholders and expert user groups. This chapter presents the findings from pre-existing measures incorporated into the questionnaire which include: GHQ-12; Health and Safety Executive Management Standards Indicator tool; Work-related ill-health (using the Health and Safety Executive Labour Force Survey questions); self-reported absence (from the World Health Organization's Health and Work Performance Questionnaire); and job satisfaction (from the Michigan Organizational Assessment Questionnaire). This chapter also presents data on working hours, lifestyle behaviours and demographic information which were incorporated as structured items into the questionnaire. The chapter details the rationale behind the inclusion of measures, presents descriptive statistics, details parametric and non-parametric tests, and discusses key findings and implications.

4.2 Research Objectives

The aim of this research phase was to obtain some frequency data on junior doctors' working experiences. In particular, the research sought to:

- 1: Assess self-reported working hours, compliance with the Working Time Directive and their relationships with demographic and work-related variables.
- 2: Examine the association between self-reported working hours and psychological health status, as measured by the GHQ-12, and work-related ill health.
- 3: Explore psychosocial working factors, as measured by the Health and Safety Management Standards Indicator tool, relationship with psychological health status, as measured by the GHQ-12, and associations with demographic and work-related variables.
- 4: Examine job satisfaction, intention to leave and associations with demographic and work related variables.
- 5: Investigate general health status, including physical activity, alcohol and smoking behaviours, and associations with self-reported working hours.

4.3 Research methodology

In order to achieve the objectives of this study, the questionnaire method was deemed most suitable. Firstly, questionnaires are simple and versatile, offering many cost advantages over other methods of data collection. Secondly, the method allows for the sampling of a large number of people for a given budget, with postal and internet surveys not being geographically constrained (Fife-Schaw, 2006). Finally, the questionnaire method minimises the likelihood of research 'contamination' resulting from interviewer effects, and further allows for data confidentiality, unlike some other methods of data collection.

The research phase used a cross-sectional design whereby the variables under investigation were examined at a one off point in time. In so doing, the research sought to obtain descriptive data about the population, which would

be further probed during subsequent research phases. In line with this, this research does not proffer any direct causal inferences between observed variables. Rather, the research sought to: provide some tentative generalisations about the participants sampled within this research phase; provide frequency data for prospective studies; and examine responses insofar as developing recommendations for and practice.

The research design was shaped by a number of factors including financial constraints, time pressures and participants' accessibility. Unlike with longitudinal research, which permits for the analysis and interpretation of changes over a period of time, cross-sectional studies provide a specific account of the population sampled at one given time point. However, the cross-sectional design aligned with the objectives of the research and was deemed appropriate given the wider research restrictions.

4.3.1 Questionnaire development

In developing the questionnaire, the researcher initially set about developing a series of specific aims. In line with the recommendations of Oppenheim (1992), these aims were then operationalised through the development of research questions which could be examined using a number of defined indicators and variables. The aims of the questionnaire were intrinsically linked to the wider research design and, in line with the sequential design employed in this thesis, were directly informed by the literature review and phase one interview data. In particular, emergent issues were extrapolated from interview data and incorporated into the questionnaire. The interview data was also useful by means of providing the researcher with an insight into the vocabulary used by prospective participants. This facilitated questionnaire development, which helped in terms of question design and phrasing.

The first draft of the questionnaire was reviewed by four academics experienced in questionnaire design. Written and verbal feedback was provided by each individual on the structure and content of the questionnaire.

The first draft version was then revised on the basis of these comments. At the second draft stage, the questionnaire was distributed to user groups working for the participating Deanery, including experts in medical staffing and workforce planning. Feedback was specifically requested in terms of question phrasing and terminology. A number of minor revisions were made in light of this feedback.

The provisional questionnaire was subsequently piloted via electronic methods on six foundation doctors. At this stage, the draft version included additional scope for open-ended comments on the questionnaire and also requested information on the usability of the web-based method. Consequently, the pilot study proved beneficial not only for the development of questionnaire content, but also afforded familiarisation with the use of this technology and examined how pragmatic it was for the sample population. In line with feedback obtained from the six participants, a number of revisions were made. These revisions included the removal of several items as a result of participants' comments which stated that 'the survey was too long and time consuming'. Time pressures were a particular concern given the busy schedules of potential participants. However, survey design represents a compromise between securing maximum information from respondents and the need to keep the survey clear and of appropriate length to maintain respondent interest (Bowen, 1973 cited in Baker, 2003, p.192). Consequently, whilst due consideration was given to all feedback obtained at this stage, it was not practicable to address all comments as some, which pointed to further reducing the length of the questionnaire, would have interfered with achieving the research objectives.

The final version of the questionnaire was divided into nine parts: 1. Project overview; 2. Working arrangements; 3. Working Time Directive; 4. Out-of-hours working experiences; 5. Health and work-life balance; 6. Job satisfaction; 7. Lifestyle; 8. Demographics/future working arrangements. As an incentive to participate in the study, a certificate of completion was offered. This certificate could be included in doctors' learning portfolios as evidence of engagement in applied research. In order to obtain the certificate, participants

provided their contact details in the ninth part of the questionnaire. This ninth part also included options to request feedback on the research findings and the opportunity to express an interest in participating in future research.

The questionnaire was structured in such a way that it would be likely to sustain the interest of participants. Following the recommendations of Dillman (1983), the questionnaire began with items that were more likely to be relevant and interesting to respondents. Additionally, whilst the questionnaire included scope for open-ended responses it was not mandatory for participants to respond to these items, as the literature suggests participants may be deterred from completing questionnaires if there are too many open-ended responses (Bryman, 2004).

4.4 Method

4.4.1 Measures and materials

The decision to include both existing and bespoke measures in the questionnaire was shaped by a number of reasons. Specifically, whilst existing measures offer a number of advantages over bespoke tools, particularly in terms of their reliability and validity (Boynton & Greenhalgh, 2004), it was important that measures used were appropriate to the study population and to the research objectives. As such, a number of suitable existing measures were selected and, where necessary, bespoke items developed. In line with the recommendations of Bryman (2004), a number of steps were taken to ensure bespoke items were appropriately designed and phrased. Bespoke items included personal factual questions which asked participants to provide personal information and also attitudinal questions.

4.4.1.1 Parts 1 and 2: Project overview and Working arrangements

Part 1 of the questionnaire, 'Project overview' provided participants with an introduction to the research. Oppenheim (1992) notes that it is particularly important for self-administered questionnaires that clear instructions are provided, not only to set the scene, but to guide respondents towards answering procedures. Consequently, part 1 of the questionnaire provided clear and detailed instructions and further reiterated the confidentiality of responses. Part 2 of the questionnaire, 'Working arrangements', included eight personal factual items: 1. Job title; 2. Length of time since qualifying from medical school; 3. Geographic area of qualification; 4. Foundation School presently associated with; 5. Foundation School previously associated with; 6. Current specialty; 7. Length in current post; and 8. Hospital type. The responses for all items, excluding item six (current specialty), were coded as categorical variables, with each item having the additional option of an open-ended response. Part 2 of the questionnaire included a further item on participants' ethnicity which offered an open-ended response option. Responses to this item were examined using content analysis (Neuendorf, 2003).

4.4.1.2 Parts 3 and 4: Working Time Directive and Out-of-hours working experiences

Parts 3 and 4 of the questionnaire were entitled 'Working Time Directive' and 'Out-of-hours working experiences' respectively. These parts comprised bespoke tools developed purely for the purpose of the current study. Part 3 of the questionnaire provided participants' with an introduction to the WTD, briefly outlining the remit of the Directive. This section comprised ten items, four of which are discussed in the present chapter, with the remaining five items being outlined in Chapter 5 (one question omitted from discussion and analysis owing to pragmatic reasons). The four items outlined in this chapter concerned rostered and typical working hours and were as follows: 1. 'Are your rostered working hours compliant with the WTD'; 2. 'How often do you

work beyond your rostered hours'; 3. 'How many hours do you estimate that you actually work in a typical seven day week'; and 4. 'Altogether, how many hours do you estimate you have worked in the past four weeks'. The responses for these items were coded as categorical variables, with the additional option of open-ended responses for three of the items: items 1, 3 and 4. Part 4 of the questionnaire is detailed in Chapter 5 for reasons outlined in the preface to the thesis.

4.4.1.3 Part 5: General Health Questionnaire

Part 5 of the questionnaire was entitled 'Health and work-life balance' and examined psychological health using the 12-item version of the General Health Questionnaire (GHQ-12; Goldberg & Williams, 1988). The title of this section was specifically chosen so as not to incorporate the term 'stress' because previous studies have suggested that including the term may unduly influence participants' responses owing to demand characteristics (McManus et al., 1999). The GHQ-12 serves as an indicator of psychological distress or potential psychiatric morbidity and has robust psychometric properties (Goldberg et al., 1997). The questionnaire provides a snapshot of symptom levels at a given time rather than being a change measure and, as such, is often used in cross-sectional research.

When responding to the GHQ-12, participants are asked to consider if they have had any recent medical complaints and how their health has been in general over the past few weeks. Participants indicate their responses on one of five, four-point likert scales (1 = better than usual, 2 = same as usual, 3 = less than usual, 4 = much less than usual; or 1 = more so than usual, 2 = same as usual, 3 = less than usual, 4 = much less than usual; or 1 = more so than usual, 2 = same as usual, 3 = less than usual, 4 = much less useful; or 1 = more so than usual, 2 = same as usual, 3 = less than usual, 4 = much less able; or 1 = not at all, 2 = no more than usual, 3 = rather more than usual, 4 = much more than usual). Responses were scored using the bi-modal scoring method which results in a score between 0 and 12, whereby higher scores

indicate greater distress. Cut-off scores are provided for the bi-modal method, with individuals exceeding the cut-off indicating a 50 percent probability of achieving the diagnostic criterion of psychiatric 'caseness' (Tattersall et al., 1999). Whilst the threshold of GHQ cut-off scores vary across different settings (Goldberg et al., 1998) the cut-off score commonly used for junior doctor and affiliated healthcare professionals is four (Weinberg & Creed, 2000) and this was therefore the level employed for the present study.

Part 5 of the questionnaire also examined health functioning. Firstly, this was examined in terms of work-related ill health, using a question from the HSE Labour Force Survey (Health & Safety Commission, 2006). Participants were asked if over the past six to twelve months they had suffered from an illness, disability, or other physical or mental problem they believed had been caused or made worse by their job. This question was coded as a dichotomous categorical variable. Participants were also given an open-ended response option in which they could provide additional details about their response(s). Secondly, health functioning was examined in terms of self-reported sickness absence using four questions from the World Health Organization's Health and Work Performance Questionnaire (Kessler et al., 2003). Participants were asked to indicate how many days they had missed due to problems with their own physical or mental health, specifically over the previous six to 12 month period. Participants were asked to indicate: number of full days missed for their own physical or mental health; number of part days missed for their own physical or mental health; number of full days missed for any other reason including annual leave; and number of part days missed for any other reason including annual leave. These responses were coded as discrete categorical variables.

4.4.1.4 Part 6: Health and Safety Executive Management Standards Indicator tool

Part 6 of the questionnaire, entitled 'Job satisfaction', encompassed the Health and Safety Executive (HSE) Management Standards (MS) Indicator

tool. This tool has been developed in order to assist in the conceptualisation of job characteristics. The instrument comprises seven separate scales of: 1. Demands; 2. Control; 3. Managerial Support; 4. Peer Support; 5. Relationships; 6. Role; and 7. Change. The scales map onto the six Management Standards which, if not managed well, have been identified as putting employees at risk of stress-related ill-health. The six Management Standards are: Demands; Control; Relationships; Role; and Change. Full details of the development of the tool are provided in Cousins et al. (2004), with the tool demonstrating robust psychometric properties (Edwards et al., 2008). The Management Standards Indicator tool may also prove useful in the conceptualisation and assessment of job characteristics, and the constructs which the tool measure are understood to determine mental health, job satisfaction and turnover intention (Bond, 2006).

The HSE MS Indicator tool comprises 35 questions and participants indicate their responses on one of two five-point likert scales (1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree or 1 = never, 2 = seldom, 3 = sometimes, 4 = often, 5 = always). For each of the seven scales on the indicator tool, a higher score represented a lower risk of work-related stress. The overall score for each of the seven domain areas were calculated by adding the item scores for each question answered in that scale and dividing by the total number of questions answered in that section. This provided a mean score standardised to a range between one and five for each of the scales. Finally, a universal score was derived which purports to provide a single measure of work-related stress. This score was calculated in line with recent research findings by Edwards et al (2008) examining the psychometric factor structure of the HSE MS Indicator tool. Specifically, the researchers noted:

‘...an overall scale reliability of .92 provides further evidence to support the argument that the Indicator tool can be alternatively used as a uni-dimensional measure of work-related stress.’ (Edwards et al, 2008, p.105)

4.4.1.5 Part 7: Lifestyle

Part 7 of the questionnaire was entitled 'Lifestyle' and included four items. Participants were asked to indicate whether they presently smoked and asked to report the frequency with which they did so. Participants were also asked whether they had previously smoked and period since cessation. These responses were recorded as discrete categorical variables. Secondly, alcohol intake was examined using the Department of Health criteria whereby one unit of alcohol was defined as: 25ml pub measure of spirit at 40 percent; half a pint of 3.5 percent beer/lager/cider; and one small (125 ml) glass of wine at 9 percent. Participants were provided with this definition and then asked to estimate their average weekly unitary intake. These responses were recorded as discrete categorical variables. Finally, this section investigated self-reported health activities according to the World Health Organisation definition whereby physical activity was defined as 'planned activity for a minimum of 20 minutes which produces an increase in ones resting heart rate'. Participants were provided with this definition and subsequently asked whether they had engaged in such activity in the past seven days. This response was coded as a dichotomous categorical variable. Participants were then able to specify the frequency to which they had engaged in physical activity during this time period which was recorded as a discrete categorical variable.

4.4.1.6 Part 8: Demographics and future working arrangements

Part 8 of questionnaire was entitled 'Demographics and future working arrangements'. Seven of these items were personal factual questions which asked participants to indicate: age; gender; ethnicity; number of children (and number thereof); other dependents; and present living arrangements. Responses were recorded as discrete categorical variable. Two further questions enquired into participants' future working intentions following completion of the Foundation Training Programme. These responses were also coded as discrete categorical variables. The final question assessed job satisfaction using a 3-item scale taken from the Michigan Organizational

Assessment Questionnaire (Cammann, 1979). Participants were asked to respond on a 7-point likert scale (1 = strongly disagree, 2 = disagree, 3 = slightly disagree, 4 = neither agree nor disagree, 5 = slightly agree, 6 = agree, 7 = strongly agree). The scale was scored by averaging responses, with a possible range of 1-7. Higher scores indicate higher levels of job satisfaction. The literature supports this sub-scale as a reliable measure of job satisfaction with high construct validity (Bowling & Hammond, 2008).

4.4.2 Procedure

A number of factors were considered with regards to the distribution of the questionnaire. Firstly, the questionnaire was planned in a time-ordered design so that it could potentially capture four cohorts of Foundation Doctors working for the supporting Deanery: the 'sample population'. In the first round of invitations, circulated in June 2008, Foundation Year 1 and 2 Doctors were targeted (cohorts 1 and 2 respectively). The second round of invitations were distributed in September 2008 to all Foundation Year 1 and 2 Doctors working in the Deanery at this time (cohorts 3 and 4 respectively). This was the case because the annual 'changeover' for all UK based junior doctors falls on the first Wednesday of August. Consequently, staging the distribution in this way enabled the survey to be circulated to a maximal number of foundation doctors. For each of the two rounds of invitations, two reminder notifications were sent. Therefore, the questionnaire targeted: Foundation Year 2 doctors who had been working in the Deanery for both their Foundation Year 1 and 2 (cohort 2); Foundation Year 2 doctors who had been working in the Deanery for their Foundation Year 2 but had completed their Foundation Year 1 at another Deanery (cohort 4); and Foundation Year 1 doctors who had been working in the Deanery for their Foundation Year 1 (cohorts 1 and 3). It should be noted that at the time of data collection there was no standardisation with regards to working hours both within and across different Foundation Schools. Consequently, during the data collection period whilst legislation ensured that no NHS Trust was operating above an average 56 hour working week for

doctors-in-training, there was still disparity at a local level with regards to working hours and shift patterns.

A second factor considered when planning questionnaire distribution was the issue of extraneous variables which might have affected participants' responses. One particular step taken was to distribute the questionnaire at a point when participants would not be completing job applications or assessments for Specialty Training posts. Research by Whelan et al. (2008) examining stress in junior doctors during the period of job applications found increased rates of psychological disturbance, as measured by the GHQ-12. Consequently, conducting the research around the period of job applications, annually between January and March, may have unduly influenced responses.

The use of web-based technology to administer the questionnaire was informed by consultations with experts and feedback from the pilot questionnaire. Web-based questionnaire research has become increasingly popular in recent years owing to a number of advantages it offers over traditional pencil and paper methods. Firstly, web-based methods offer a number of time and cost saving advantages (Illieva et al., 2002; Schuldt & Totten 1994). Secondly, studies which have examined the validity and reliability of web-based surveys have suggested that the data obtained is comparable to that obtained by traditional methods (Krantz et al., 1997). Whilst previous research has suggested that women may be more likely to participate in web-based research (Eaker et al., 1998), the expansion of the internet and its associated user groups makes it difficult to make assumptions regarding those who are more likely to use it (Best & Krueger, 2002). Eysenbach and Wyatt (2002) suggest that if responders are familiar with using web-based technology then web-based survey methods can prove suitable.

This literature proved insightful because the population under study use web-based technology for the purpose of their training, such as with 'e-portfolios'. The population also have access to these web facilities during working hours,

meaning web-based technology was deemed a suitable and advantageous method of data collection. In addition, anecdotes from consultations with medical staff from the supporting Deanery further indicated that web-based collection methods typically provide better response rates compared to pen and paper methods. For these reasons the research took advantage of web-based technology in order to distribute the invitation to participate in the study. Specifically, this invitation to participate in the study was sent via the participating Deanery's internal electronic communication methods (see Appendix F) owing to issues of data protection and confidentiality. Contained within the invitation was a secure, external web link which, upon clicking, directed participants to the online survey.

4.4.3 Participant characteristics

This section presents the demographic and work-based details of respondents. Firstly, the section depicts demographic details in terms of respondents: age; gender; ethnicity; marital status; and number of dependents. Secondly, the section presents work-based descriptive statistics including respondents: training grade; associated Foundation School; hospital type; and work-based speciality.

Table 1 depicts the breakdown of respondents by gender and age category.

Table 1: Breakdown of questionnaire respondents

<i>Age</i>	<i>Gender</i>			
	Male (n=132)	Female (n=225)	Missing (n=66)	Total (n=423)
22-25	74	136	-	210
26-30	38	68	-	106
31-35	10	15	-	25
36-40	2	3	-	5
41-45	7	2	-	9
46+	1	-	-	1
Missing	-	1	66	67

As Table 1 illustrates, the majority of the sample were female, 53.2 percent, with 31.2 percent male and 14.9 percent missing data. The majority of participants were aged 22-25, 49.6 percent, with those over the age of 31 representing 9.6 percent (15.1 percent missing data).

In terms of marital status, 40 percent of all respondents were single, 16.8 percent in a non-cohabiting relationship, 11.6 percent in a cohabiting relationship, 14.9 percent married/ in a civil partnership, 0.9 percent divorced and 15.8 percent missing data. The majority of participants, 79.4 percent did

not have children, with 5.4 percent having one or more children (15.1 percent missing data). In addition, 2.1 percent of the sample (n = 9) indicated having 'other' dependents. The demographic distribution of the survey sample appears reflective of the UK Foundation Doctor population (PMETB, 2009).

Table 2 indicates demographic breakdown by Foundation Year.

Table 2: Questionnaire respondents by training grade

<i>FY*</i>	<i>Gender</i>			
	Male (n = 132)	Female (n=225)	Missing (n=66)	Total (n=423)
FY1	70	137	33	240
FY2	59	83	33	175
Other	3	4	-	7
Missing	-	1	-	1

*Note: FY = Foundation Year

As Table 2 denotes, the majority of respondents were Foundation Year 1 doctors (56.7 percent). The category with the highest number of responses was female Foundation Year 1 doctors. Of those participants who did not categorise themselves as a Foundation Year 1 or 2 Doctor, namely respondents indicating 'other' (n = 7), analysis of these responses identified: 0.5 percent of participants as unemployed after Foundation Year 2; 0.5

percent as Specialist Registrars; and 0.7 percent as Speciality Training Year 1 Doctors. At the time of questionnaire completion: 54.6 percent of respondents were working in a teaching based hospital; 37.1 percent in a district general hospital; 7.3 percent in a community based setting (including General Practice); 0.7 percent in 'other/unspecified' setting, and 0.2 percent missing data.

In terms of ethnicity: 48.3 percent of the sample described themselves as White British, British, English, Welsh or Scottish; 3.5 percent of respondents indicated 'British Indian' (including Bangladeshi and Pakistani); with 24.3 percent stating 'Other' ethnic origins including European, Asian, African and American. Twenty-four percent of those surveyed did not report their ethnic origin. The majority of participants, 92 percent, had qualified from medical school in the UK, with 2.1 percent qualifying from elsewhere in Europe, 4.3 percent qualifying from Asia, 1.2 percent from Africa, with 0.2 percent indicating 'other' (0.2 percent missing data).

Table 3 indicates the participants' affiliated Foundation School at time of survey completion.

Table 3: Respondents by Foundation School

<i>FS**</i>	<i>Foundation Year</i>				Total (n=423)
	FY1 (n=240)	FY2 (n=175)	Other (n=6)	Missing (n=2)	
Deanery FS	201	144	-	1	346
Other UK FS	34	31	6	-	71
Missing	5	-	-	1	6

Note:

**FS = Foundation Schools

As Table 3 illustrates, the majority of respondents were from the Deanery Foundation School (82 percent). The category with the highest number of responses was Deanery associated Foundation Year 1 doctors. Analysis of 'Other UK Foundation Schools' data, representing 71 participants, revealed responses from 22 different Foundation Schools. Consequently, whilst the majority of participants (n = 346) were working for Foundation Schools associated with the supporting Deanery at the time of questionnaire completion, the remaining responses represented a wide geographic distribution within the UK.

In terms of estimating response rates, data obtained from the supporting Deanery indicated there were 818 Foundation Doctors working for Foundation

Schools associated with the Deanery at the first sampling time point and 820 Foundation Doctors at the second time point. Deanery data revealed that 388 Foundation Year 1 Doctors remained with the same Deanery (that which supported the research) for their second year of the Foundation Programme. This suggests that the invitation to participate in the research was sent to 1,250 doctors working for Foundation Schools affiliated with the supporting Deanery over the two sampling points. Whilst this suggests a response rate of 34 percent, as Table 3 denotes, the questionnaire was completed by doctors from a wide range of Deaneries, beyond those from Foundation Schools affiliated with the supporting Deanery. Analysis of this data revealed that 88.9 percent of respondents were working for Foundation Schools affiliated with the supporting Deanery for their Foundation Year 1 and/or Foundation Year 2, with 7.8 percent of respondents being unaffiliated to this Deanery for either Foundation Year 1 or 2 (3.3 percent of participants did not provide a response). The data therefore suggests that the response rate from doctors working for the supporting Deanery was 28.1 percent.

With regards to the medical specialty participants were working in at time of completing the questionnaire, analysis of 409 open-ended responses reflected 35 different specialties (as written verbatim). These responses were subsequently reduced to 13 distinct specialty codes by a General Practitioner Trainee Doctor. Analysis of this data revealed that the majority of trainees were working in surgery, 30.5 percent, or medicine, 30.7 percent, with the smaller specialties at most representing 7.1 percent of responses.

4.5 Results

4.5.1 Data screening and cleaning

All quantitative data were entered into SPSS (Version 16.0). In the first instance, data were screened in order to identify any data entry errors. Where found, errors were repaired by returning to the raw data files. Secondly, data were screened for outliers and missing values. The data were checked for patterns of missing values and identified as missing completely at random; missing at random (ignorable non response), or missing not at random. For the purpose of analysis, missing data were managed using the exclude cases pairwise option: participants responses were excluded from analysis only if they were missing data required for the specific analysis. Accordingly, all raw data were retained and participants' data were only included in the analyses for which they had the necessary information. Finally, where applicable, data were tested to assess for assumptions of parametric analysis, including tests for homogeneity of variance and normality.

4.5.2 Survey sample

The questionnaire yielded 423 responses, with 171 respondents specifically expressing an interest in participating in subsequent focus group research (see Chapter 6). Three-hundred and thirty-seven participants provided their communication details such that they could be contacted in the future for subsequent longitudinal research and requested a certificate of participation in the research. These individuals were contacted which further served to verify the authenticity of their details, a point which has been advocated when using web-based research tools (Keller et al., 1998).

4.5.3 Reported working hours

This section pertains to Research Objective 1 and provides descriptive statistics on reported compliance, self-reported working hours, as well as examining associations between demographic and work-related factors. In terms of compliance with the WTD, 68.1 percent of participants reported their rostered working hours being compliant with the WTD. Of these respondents, 22.2 percent indicated they were compliant at 56 hours, and 45.9 percent at 48 hours. Four percent of participants stated that their rostered working hours were not compliant with the WTD, with 16.3 percent of participants stating they were 'unsure' whether their working hours were compliant. Missing data accounted for 8.5 percent of responses. When asked how often participants worked beyond rostered hours, 30.3 percent indicated 'daily', 30.7 percent 'weekly', 5.7 percent 'monthly', 18.4 percent 'rarely' and five percent 'never' (9.9 percent missing data). Table 4 provides a breakdown of data by training grade.

Table 4: Breeches of scheduled working hours by training grade

<i>Breach hours</i>	<i>Foundation Year</i>				<i>Total (n=423)</i>
	<i>FY1 (n=240)</i>	<i>FY2 (n=175)</i>	<i>Other (n=7)</i>	<i>Missing (n=1)</i>	
Daily	95	31	2	-	128
Weekly	69	58	3	-	130
Monthly	10	13	1	-	24
Rarely	41	35	1	1	78
Never	4	17	-	-	21
Missing	21	21	-	-	42

As illustrated in Table 4, 30.3 percent of participants reported breeching their scheduled working hours on a daily basis, with 30.7 percent reporting breeching scheduled working hours on a weekly basis. In line with Research Objective 1 (assessing self-reported working hours, compliance with the Working Time Directive and their relationships with demographic and work-related variables), a series of non-parametric tests were conducted to examine frequency of working beyond rostered hours and associations with demographic and work-related factors. In all instances, the data were non-parametric and categorical in nature, therefore a series of Pearson's chi-square tests were performed. Firstly, in terms of explorations with demographic variables, the distributions across categories were explored in relation to gender. Analysis revealed no significant associations [χ^2 (4)

= 2.791; ($p > .05$)] indicating the factor of gender was not associated with working beyond scheduled hours. A second analysis was conducted to explore associations with work-related variables, specifically in terms of differences between Foundation Year and frequency of working beyond rostered hours. Results indicated that the effect of Foundation Year (1 or 2) was significant [$\chi^2 (4) = 33.092$; ($p < .01$)] with the mean amount of time working above rostered hours being more significant in Foundation Year 1 than Foundation Year 2 doctors. Thirdly, the association between hospital type (district general or teaching) and frequency of working beyond rostered hours was explored, with the data revealing no significant association [$\chi^2 (4) = 6.9871$; ($p > .05$)]. This suggested that of the participants who responded to this question item, their responses did not differ in terms of the hospital they worked at.

Further analyses were performed to examine participants estimated working hours in a typical seven day week. This information is depicted in Table 5 and broken down by participants' training grade.

Table 5:**Working hours in a typical seven day week, breakdown by training grade**

<i>Working hours</i>	<i>Foundation Year</i>				
	FY1 (n=240)	FY2 (n=175)	Other (n=7)	Missing (n=1)	Total (n=423)
<48	47	40	-	-	87
48-52	77	57	-	1	135
53-56	46	27	1	-	74
57-60	28	12	5	-	45
61-65	14	11	1	-	26
66-70	6	1	-	-	7
>70	2	4	-	-	6
Missing	20	23	-	-	43

As indicated in Table 5, 48-52 hours were the category with the highest number of responses (31.9 percent) both for Foundation Year 1 and 2 doctors. Nonetheless, 9.2% of participants reported working 61 hours or over (10.2 percent missing data).

A further series of Pearson's chi- square tests were conducted to explore the effect of demographic and work-related factors on hours worked in a typical seven day

week. This data were non-parametric and categorical in nature, which therefore dictated the analysis performed. In terms of work-related factors, in order to satisfy the assumptions for analysis, the categories '66-70 hours' and '>70 hours' were reduced into one category (> 66 hours) owing to there being insufficient numbers of responses in each of the individual categories (the minimum being five cases per category). Results indicated that there were no significant associations between Foundation Year 1 and 2 doctors and hours worked in a typical seven day week [$\chi^2 (5) = 3.637$; ($p > .05$)]. Secondly, the association between hospital type (district general or teaching) and hours worked in a typical seven week was also examined, with the data revealing no significant associations [$\chi^2 (5) = 5.546$; ($p > .05$)]. This suggested that of the participants who responded to this question item, their responses did not differ in terms of the hospital they worked at.

Finally, in terms of demographic variables, the effect of gender on hours worked in a typical seven day week was examined. Results revealed a significant association between the hours female respondents worked in a typical seven day week compared to those worked by male respondents [$\chi^2 (5) = 12.645$; ($p < .05$)]. Specifically, females were likely to work a greater number of hours in a typical seven day week compared to their male counterparts.

4.5.4 GHQ-12

This section pertains to Research Objective 2, (examining the association between self-reported working hours, psychological health status and work-related ill health) and firstly provides descriptive data on respondents' scores on the General Health Questionnaire. Secondly, the section presents a series of analyses conducted to explore associations between GHQ scores and self-reported working hours. Further associations with GHQ scores and work-related ill-health, by means of a logistic regression model, are presented in section 4.5.5.

Analysis of data obtained from the General Health Questionnaire revealed that 27.9 percent of respondents exceeded the accepted cut-off score of 4 (using the bi-modal scoring method). This implies that these individuals have a 50 percent probability of achieving the diagnostic criterion of psychiatric 'caseness'. Table 6

shows mean GHQ bimodal scores and frequency of GHQ defined 'caseness' by staff grade and gender.

Table 6: GHQ scores by training grade and gender

<i>Training grade</i>	<i>GHQ score</i>				
	Gender	N (n=365)	Mean (m=2.430)	SD (sd=3.084)	Total with score >4 (n=102)
FY1	Male	64	2.203	3.277	14
	Female	135	2.407	3.127	38
FY2	Male	59	2.322	3.071	16
	Female	82	2.549	2.812	27
Other	Male	3	6.667	4.041	2
	Female	4	6.000	4.243	2
Not specified		18	1.722	2.270	3

As illustrated in Table 6, the mean GHQ scores of participants from 'other' training grades were markedly higher than those from Foundation Year 1 or 2 respondents. In terms of gender as broken down by training grade, the average GHQ scores of female respondents were higher than those of male respondents (except in the case of 'other' respondents).

GHQ scores were subsequently assessed for the assumptions of parametric tests. Whilst the data slightly violated the assumption of normality, insofar as the data were positively skewed, this reflects the underlying nature of the construct being measured. Furthermore, the skewness and kurtosis values indicated that the distribution of responses did not deviate from the normal distribution to an extent that warranted data transformation ($< \pm 2.0$; Ferguson & Cox, 1993).

Consequently, transformation of the data were not necessary and parametric analysis performed (Tabachnick & Fidell, 2007). In order to explore associations with demographic and work-related variables a series of t-tests were conducted. In the first instance, the variable of gender was explored with results revealing no significant difference between male and female respondents in relation to GHQ scores: $t(346) = -0.452$; ($p > .05$). This finding suggested that males and females did not differ significantly in terms of their GHQ scores. Secondly, the work-related variable of Foundation Year was explored. Results indicated no significant difference between scores for Foundation Year 1 and 2 Doctors: $t(355) = -0.530$; ($p > .05$), suggesting no significant difference in GHQ scores from participants of different medical training grades.

In order to examine inter-relationships between reported working hours and GHQ scores, a series of one-way ANOVAs were performed. Firstly, the association between hours worked in a typical seven day week and GHQ scores were examined. In order to meet the assumptions for parametric analysis categories '66-70 hours' and '>70 hours' were merged into one category (>66 hours) owing to there being insufficient numbers of responses in each of the individual categories (the minimum being five cases per category). Results indicated no significant differences between the number of hours respondents worked in a typical seven day week and respondents GHQ scores: $F(5,329) = 1.064$; ($p > .05$). This implies that participants working a greater number of hours in a typical week did not have significantly different GHQ scores from participants working a lower number of hours worked in a typical week. Secondly, associations between reported hours worked in the past four weeks and GHQ scores were examined. Results indicated no significant differences, with hours in the past four weeks not being associated with GHQ scores: $F(7,330) = 1.421$; ($p > .05$), suggesting participants working increased working hours in a four week period did not have significantly different

GHQ scores compared to participants working fewer hours. The final series of analyses explored associations between GHQ scores and frequency to which respondents worked beyond scheduled hours. Results indicated a significant difference between groups: $F(4,355) = 4.011; (p < .01)$. Specifically, Tukey's post-hoc test identified significant differences between groups who worked 'daily' and 'rarely' ($p < .01$) with those working beyond scheduled hours on a 'daily' basis displaying increased GHQ scores.

4.5.5 Work-related ill-health and self-reported absence

In terms of work-related ill health, 58 participants (13.7 percent of respondents) believed that over the past 12 months they had an illness, disability or other physical or mental problem that was caused or made worse by their job.

Participants were able to provide details of illnesses, disabilities or other physical or mental health conditions, in the form of an open-ended response. Fifty-six of the 58 participants provided one open-ended response detailing their condition, with 11 participants providing a secondary open-ended response, and three participants providing a tertiary open-ended response. This meant that in total, 70 open-ended responses were provided. These responses were classified into categories by a Specialty Trainee General Practitioner Doctor and subsequently imported into SPSS by the researcher. Responses revealed a wide range of conditions ($n = 26$) which are presented in Table 7.

Table 7: Work-related ill-health conditions

<i>Number of WRIH* reports</i> (n=70)	
Other: not specified	11
Back pain	6
Depression	6
Cold & common flu	5
Slips & falls at work	4
D&V	4
Gastroenteritis	4
Fatigue	3
Viral illness	3
Stress	3
Insomnia	2
Anxiety	2
Chrons	2
Headaches & migraines	2
IBS	2
URTI	2
Depleted immune system	1
Neck pain	1
Heartburn	1
Cerebellar symptoms	1
Joint problems	1
Bullying	1
Weight change	1

Note:

*WRIH = Work-related-ill-health

As Table 7 indicates, the most commonly reported work-related ill-health condition was 'other: not specified', followed by back pain and depression. Further analyses explored the relationship between work-related ill health and GHQ scores.

Descriptive statistics for mean GHQ scores of the two samples (those who did and did not report experiencing an illness, disability or other physical or mental problem that they believed was caused or made worse by their job) are presented in Table 8.

Table 8: Work-related ill health and GHQ scores

<i>WRIH condition</i>	<i>n</i>	<i>GHQ score</i>	
		<i>Mean</i>	<i>SD</i>
Reported	58	3.276	3.573
Did not report	306	2.242	2.938

As Table 8 indicates, the majority of participants did not report a work-related ill health condition (84.1 percent). From visual inspection of the data, participants who reported a work-related ill health condition had a higher mean GHQ score (3.276) compared to those who did not report a work-related ill health condition (2.242).

In order to compare means in GHQ scores of participants who reported a work-related illness and those who did not, parametric analysis was performed.

The data revealed a significant difference in the mean GHQ scores of the two groups: $t(362) = 2.376$; ($p < .05$). As such, the average GHQ scores of individuals indicating a work-related illness significantly differed from individuals who did not

report a work-related illness. Specifically, as Table 8 indicates, those reporting a work-related illness had significantly higher GHQ scores.

The relationship between GHQ scores and likelihood of reporting a work-related illness was further explored using a logistic regression model and is in line with Research Objective 2. In this instance, work-related ill health examined as a dichotomous variable (reported/did not report) and GHQ score was examined as a dichotomous variable ($>4/\leq 4$) in line with how it is examined in the literature (Weinerg & Creed, 2000). The data satisfied the assumptions required for analysis including: satisfactory sample size; appropriate screening for outliers; and relevant checks for multicollinearity.

A summary of the regression analysis is displayed in Table 9.

Table 9: Logistic Regression Model predicting likelihood of reporting work-related ill-health condition

	B	S.E	95%CI of Odds Ratio		
			Lower	Odds Ratio	Upper
Constant	1.933	.194	-	-	-
GHQ score	-.0.99	.42	.834	.906	.984
R ²	0.14 (Cox & Snell)		0.24 (Nagelkerke)		

Note. 1= Reported work-related ill-health condition. 2. Did not report work-related ill health condition. 3. GHQ score = >4 . 4. GHQ score = ≤ 4 . Model 1 $\chi^2(1) = 5.147$, $p < .05$.

As Table 9 depicts, the model was statistically significant ($p < .05$) indicating that the model was able to distinguish between respondents who reported and did not report a work-related illness. The logistic regression model explained between 14.0 percent (Cox and Snell R square) and 24.1 percent (Nagelkerke R square) of the variance in work-related ill health, correctly classifying 84.1 percent of cases. Further to this, the odds ratio suggests that the odds of a participant reporting that yes, they did have a work-related ill-health condition was 0.91 times higher for a participant with a GHQ score greater than four than with a participant with a GHQ score of less than four. The model therefore suggests a relationship between levels of psychological distress (as measured by the GHQ-12) and self-reported work-related ill health within the present dataset.

Table 10, below, presents sickness absence data, reporting descriptive statistics for two question items regarding number of full and part working days missed owing to problems with physical or mental health in past four weeks.

Table 10: Sickness absence – descriptive statistics

<i>Working days</i>	<i>Number of days missed owing to problems with physical or mental health</i>	
	Full work day (n=373)	Part work day (n=370)
0 days	302	339
1 - 2 days	51	26
3 days -1 week	14	4
1 - 2 weeks	3	-
2 + weeks	3	1

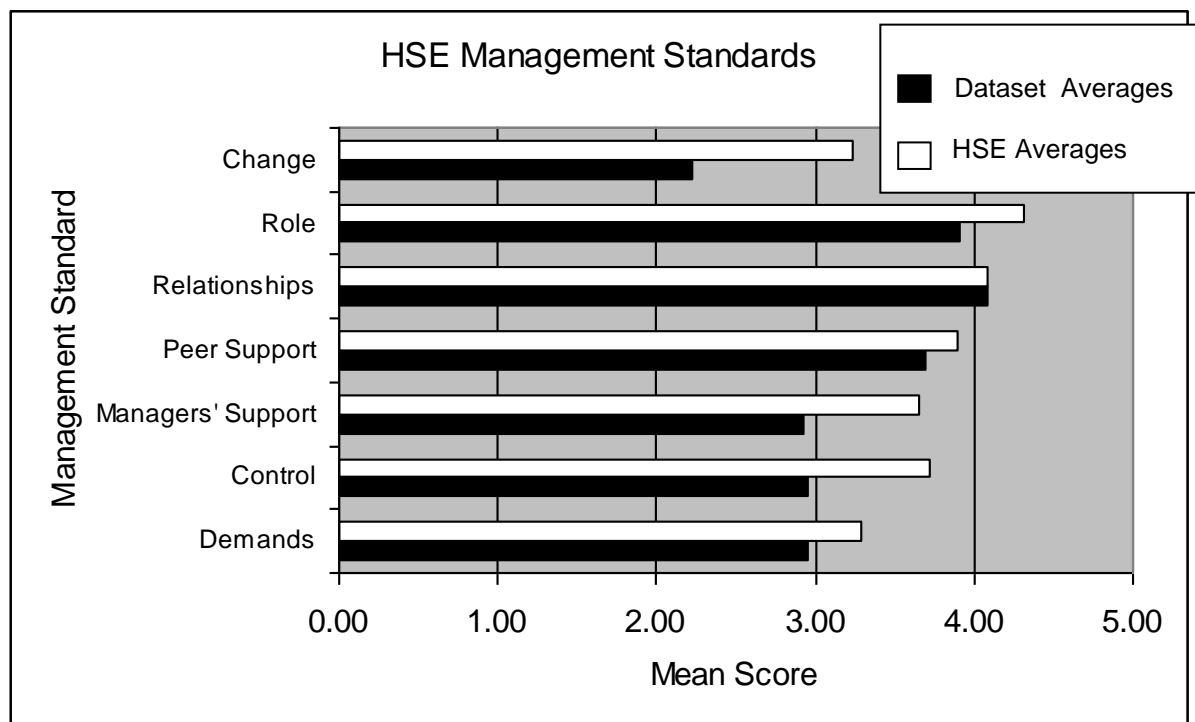
As the data in Table 10 indicates, the majority of participants (86.3 percent of responses) indicated they had not missed any work days (either full or part) owing to problems with physical or mental health. Only 3.7 percent of responses indicated that participants had missed more than three working days in the past four weeks.

4.5.6 HSE Management Standards Indicator tool

This section details Research Objective 3 (exploring psychosocial working factors, relationship with psychological health status and associations with demographic and work-related variables) and initially presents descriptive statistics on the HSE

MS Indicator tool. Figure 3 presents descriptive statistics from the HSE MS Indicator tool from the dataset along with scores from the Health and Safety Executive (2008) dataset which represents data from the general working population.

Figure 3: HSE Management Standards Indicator tool scores



Data obtained from the study was compared to the organisational averages from the HSE 2008 dataset. This dataset served to provide a reference group, meaning comparisons could be made between the two samples. As can be seen from visual inspection of Figure 3, the dataset averages for respondents in the present study for aspects of Change, Role, Managers Support, Control and Demands were less than the recommended HSE averages. Further to this, when comparing the two samples in greater detail, the associated percentiles of the present study for each of the MS scales were as follows: Demands, 20th percentile; Control, 5th percentile; Managerial Support, 1st percentile; Relationships, 30th percentile; Peer Support, 90th percentile; Role, 10th percentile; Change, 1st percentile. These comparisons highlighted key areas of 'concern' which, the HSE would suggest require targeted

interventions (Health and Safety Executive, 2008), with Change, Control and Managerial Support being notable aspects.

The HSE MS data obtained from the study was subsequently tested for assumptions of parametric analysis including: multicollinearity; homoscedasticity; normality, skew and kurtosis. Initially each of the seven subscales and the universal score violated parametric assumptions. However, upon data transformation, namely through the elimination of outliers, the seven subscales and the universal score satisfied the assumptions for parametric analysis. Specifically, the skewness and kurtosis values for these scales indicated that the distribution of responses did not deviate from the normal distribution to an extent that warranted further data transformation ($< \pm 2.0$; Ferguson & Cox, 1993).

The constructs the Management Standards Indicator tool measure have previously been identified as being able to determine mental health (Bond, 2006). Consequently, scores from the Change, Role, Relationships, Peer Support, Managers' Support, Control and Demands scales were examined in relation to GHQ scores. Hierarchical Multiple Regression was performed in order to examine how well the seven Management Standard scales were able to predict a significant amount of variance in GHQ- scores whilst controlling for a number of demographic and work-related variables. In Step 1 of the regression equation, gender (male/female) and hours worked in a typical seven day week were entered (<48; 48-52; 53-56; 57-60; 61-65; >66). In Step 2 of the regression equation, scores from the seven MS scales, were entered. A summary of the model is presented in Table 11.

Table 11: Hierarchical Multiple Regression model predicting GHQ scores

Predictor	Dependent Variable		
	GHQ-12 score		
	<i>B</i>	S.E <i>B</i>	β
Step 1			
Constant	.59	.76	-
Hours	.55	.16	.19
Gender	.32	.356	.05
Step 2			
Constant	11.86	1.44	-
Demands	-.38	.29	-.88
Control	-.66	.26	-.16*
Support-Manager	-.34	.29	-.093
Support-Peer	-.44	.33	-.09
Relationships	-.59	.27	-.13*
Role	-.79	.29	-.16*
Change	.25	.24	.066
Hours	.21	.16	.07
Gender	.41	.32	.06
Step 1 - R^2	.036**		
Step 2 - ΔR^2	.231***		

Note. * $p < .05$. ** $p < .01$. *** $p < .001$.

Gender and hours worked in a typical seven day week were entered at Step 1, explaining 3.6 percent of the variance in GHQ scores. After entry of Change, Role, Relationships, Peer Support, Managers' Support, Control and Demands scales at Step 2, the total variance explained by the model as a whole was 26.7 percent. However, after the effects of gender and hours worked in a typical seven day week

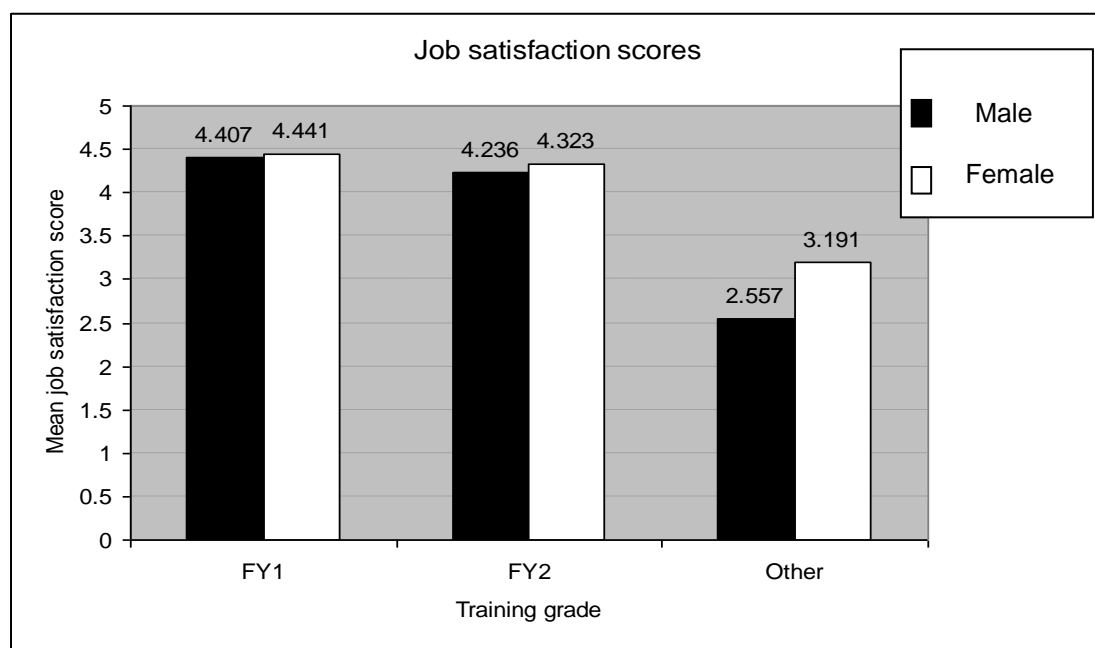
were statistically controlled for, the model was able to explain 23 percent of the variance in GHQ scores $F(9,308) = 12.46, p < .001$. In the final model, Control, Relationships and Role were statistically significant, being able to predict a significant amount of the variance in GHQ scores ($p < .05$). This therefore suggests that these aspects may be pertinent in better understanding the associations between psychological health and psychosocial working conditions.

4.5.7 Job satisfaction and intention to quit

This section pertains to Research Objective 4 (job satisfaction, intention to leave and associations with demographic and work related variables) and firstly provides descriptive statistics on job satisfaction and associations with self-reported working hours. Secondly, the section presents data on intention to quit before exploring associations with job satisfaction.

Figure 4 provides descriptive statistics on job satisfaction scores by staff grade and gender.

Figure 4: Demographic breakdown of job satisfaction scores



As Figure 4 indicates, job satisfaction scores were, among Foundation Year 1 and 2 Doctors, relatively high, with the different training grades reporting similar scores. However, the scores for 'other training grades' were markedly lower but largely due to a small sample size for this group ($n = 7$). Across all training grades, mean job satisfaction scores for females were higher than those for males.

Job satisfaction scores failed to meet the assumptions for parametric testing and were impervious to transformation thus limiting the analyses which could be performed. Consequently, a series of non-parametric tests were performed to explore the effect of participant variables on job satisfaction scores. Firstly, a Mann-Whitney U test was used to examine the effect of gender on job satisfaction scores. Results indicated gender was not significant [$z = -1.119$; $p > .05$] with males and females not exhibiting significantly different scores. Secondly, a series of Kruskal-Wallis tests were used to examine differences in reported working hours and job satisfaction scores. Findings indicated no significant difference in job satisfaction scores and hours worked in an average seven day week: $\chi^2 (5) = 2.242$; ($p > .05$). However, analysis revealed a significant difference in job satisfaction scores and the frequency to which participants worked beyond rostered hours: $\chi^2 (4) = 13.272$; ($p < .01$). This suggests an association between working beyond scheduled hours and levels of job satisfaction, with frequency of working beyond rostered hours being associated with decreased levels of job satisfaction. In terms of intention to quit, 68.4 percent of respondents anticipated remaining in the NHS after completion of the Foundation Programme while 3.3 percent did not and 13.1 percent were unsure (15.2 percent missing data).

4.5.8 Health and lifestyle

In order to gauge a broader account of participants' general health status, a series of descriptive statistics were collected. Subsets of this data were subsequently examined in relation to working hours in order to assess any associations with physical health. In so doing, this section pertains to Research Objective 5.

In terms of physical activity, 49.4 percent of participants (n = 209) reported engaging in physical activity outside of the workplace within the past seven days, with 35.9 percent not having done so (14.7 percent missing data). Of those who had engaged in physical activity in the past seven days, 56.6 percent (n = 118) had done so 1-2 times per week, and 31.1 percent (n = 65) 3-4 times per week. The data therefore suggested that 87.7 percent of the sample failed to meet required levels of activity in line with the international guidelines for physical activity (U.S. Department of Health and Human Services, 2008). In order to explore this non-parametric, categorical data, a Pearson's chi-square test was conducted. This test examined associations between average hours worked in a seven day week and engagement in physical activity (during the past seven days). The data revealed a significant association in hours worked in an average seven day week and participation in physical activity in the past seven days [$\chi^2(5) = 17.344$; ($p < .01$)]. Subsequent visual inspection revealed that increased hours were associated with decreased engagement in physical activity. However, this finding should be interpreted with some caution as it provides a cross-sectional account, reflecting participants' reported engagement in physical activity in the past seven days rather than their typical levels of engagement in physical activity.

Individual variables were also examined in relation to participation in physical activity. Firstly, a Pearson's chi-square test was performed in order to examine the associations in engagement in physical activity between males and females. This revealed no significant association [$\chi^2(1) = 0.010$; ($p > .05$)] with the finding indicating no differences in males and females likelihood to engage in physical activity in the past seven days. Secondly, the variable of age was examined. In order to meet the assumptions for analysis, the two age categories '36-40' and '41-45' were merged into one category (> 36) owing to insufficient numbers of responses within the individual cells (minimum of five cases per cell required). Subsequent analysis revealed that age was not associated [$\chi^2(3) = 0.651$; $p > .05$] with there being no significant difference between participants' age group and their engagement in physical activity in the past seven days.

Data were also obtained for participants' smoking behaviours. This provided information on number of cigarettes smoked for those who 'currently smoked' and

cessation period for 'previous smokers'. Responses were allocated into one of three categories, serving to indicate prevalence of current and past smokers. This data is shown in Table 12 and examined according to gender.

Table 12: Smoking behaviours by gender

<i>Gender</i>	<i>Smoking behaviour</i>		
	Current smoker (n=29)	Past smoker (n=34)	Never smoked (n=283)
Male	15	13	99
Female	14	21	184

As Table 12 illustrates, 81.8 percent of respondents had never smoked, with 9.8 percent being past smokers. The data revealed that 8.4 percent of respondents were current smokers, with analysis indicating no association between smoking behaviour and gender: $\chi^2(3) = 5.685$; ($p > .05$). Accordingly, there was no association between gender and smoking behaviours. Whilst the General Household Survey for Great Britain (Rickards et al., 2004) did not provide specific data on doctors' smoking (nor alcohol) behaviours, it provided patterns in various socioeconomic levels as defined by the National Statistics Socio-Economic Classification (Walker et al., 2003). The data revealed the prevalence of tobacco smoking among professional workers was 14 percent, slightly higher than the observed value for the dataset.

Further analyses were conducted to examine reported alcohol consumption in an average week. This information is depicted in Table 13 and displayed by gender.

Table 13: Alcohol intake by gender

<i>Reported alcohol consumption</i>	<i>Gender</i>		
	Male (n=131)	Female (n=223)	Total (n=354)
No not drink	16	36	52
Rare occasions	14	29	43
4-10 units p/m*	12	61	73
4-10 units p/w*	28	52	80
11-20 units p/w	25	28	53
21-28 units p/w	23	14	37
29-34 units p/w	10	2	12
35-40 units p/w	2	-	2
40 + units p/w	1	1	2

*Note: 'p/m'= intake per month.

'p/w'= intake per week.

As indicated in Table 13, 26.8 percent of respondents stated they did not drink or drank on rare occasions, with only 3.52 percent of respondents consumed more

than 28 units per week. In order to examine gender associations in alcohol consumption, a Pearson's chi-square test was performed with this non-parametric, categorical data. In order to meet the assumptions for analysis, it was necessary to merge categories '29-34 units p/w', '35-40 units' p/w', and '40 + units p/w' owing to an insufficient number of cases in each group (minimum required five). Consequently, these three categories were transformed into one category '>29 units p/w'. Analyses revealed the effect of gender was significant [$\chi^2(6) = 40.446$; ($p < .05$)] with subsequent visual inspection identifying that male responders were significantly more likely to consume an increased number of units compared to female responders. The data further revealed that majority of participants were below the threshold for recommended Department of Health 2008 guidelines (< 21 units per week for females and < 28 units per week for males) with 7.2 percent of females and 10 percent of males exceeding their recommended allowance. The issue of socially desirable reporting and the accuracy of this data is discussed in section 4.5.9.

4.5.9 Socially desirable reporting

This section outlines further analysis which was under taken to explore the influence of socially desirable reporting. Whilst this was not an explicit Research Objective from the outset, it was important to examine this issue and explore the potential accuracy of the data given that the research afforded this opportunity. Social desirability bias is defined as:

'A distortion of data that is caused by respondents' attempts to construct an account that conforms to a socially acceptable model of belief or behaviour.'
(Bryman, 2004, p. 544)

In order to investigate the influence of social desirability bias on responses, a number of key indicators were examined in the dataset. The rationale underlying this analysis stemmed from previous literature which has indicated that respondents may be less inclined to provide 'truthful' answers if they have concerns that the data may, in some way, be personally identifiable (Fisher, 1993).

The literature further indicates that social desirability bias may lead to misleading or spurious research results (Zerbe & Paulhus 1987). Further to this, the literature suggests that studies which fail to recognise and, where possible, compensate for social desirability bias may lead to unwarranted theoretical or practical conclusions (Mensch & Kandel, 1988).

Whilst the data obtained from the research study was confidential in nature and stored securely, participants had the option of providing contact details in the form of an email address. This therefore meant that for those participants who opted to do this, the data were not anonymous. Consequently, the researcher was conscious to address the concerns that had been identified in the literature and determine whether the issue of data anonymity had an impact on responses.

Of the 423 respondents, 337 participants provided their contact details meaning that this data were not anonymised. Of the 86 participants who did not provide their contact details, a large proportion of these individuals had missing data ($N = 51$), some with large amounts of missing data. One explanation for this may be in the way the questionnaire was structured. Specifically, participants were asked to provide their contact details at the end of the questionnaire (if they so wished) meaning that those participants dropping out of the research part way would not have reached the end of the questionnaire and thus not been able to state whether they wished to remain anonymous.

Analysis of the anonymised data identified that between 25 and 35 full responses were obtained for the key indicators under investigation. These indicators including: job satisfaction; GHQ scores; HSE Management Standard Indicator tool (universal measure); work-related-ill health; and alcohol consumption. Whilst this meant some analysis was possible in order to explore differences between participants who did and did not remain anonymous, we acknowledge the limitations of this analysis owing to inequality between the two samples and the small sample size of the 'anonymous' group.

A series of non-parametric tests were used to examine differences between the responses of participants whose data were anonymous compared to those whose

were not on the measures: job satisfaction; and work-related ill health. Firstly, a Pearson's chi-square test was conducted to examine the effect of anonymity on reporting a work-related ill health condition. Results revealed no significant difference [$\chi^2(1) = 0.071$; ($p > .05$)] with the two groups not differing in their likelihood of reporting a work-related illness. Secondly, a Mann-Whitney U test was performed to explore responses to the single item score of Job Satisfaction. Results indicated no significant differences between scores of participants in the two groups: $z = -1.430$; ($p > .05$). This suggests socially desirable reporting did not play a role in responses to this question item. Whilst a series of analyses were conducted to explore the effect of anonymity on responses to the question about alcohol intake, the small number of anonymous responses ($n = 25$) meant that the data failed to meet the required assumptions for analysis. Specifically, of anonymous responders, almost all response categories possessed less than five responses, rendering analysis redundant. As such, no claims are made to the accuracy of responses to the question concerning alcohol intake.

A number of parametric tests were further conducted to examine differences between the responses of participants whose data were anonymous compared to those whose were not on the measures: GHQ scores; HSE Management Standard Indicator tool (universal measure). Results of an independent samples t-test indicated no difference in scores on the GHQ: $t(363) = 0.054$; ($p > .05$). Similarly, an independent samples t-test indicated no difference in universal scores on the HSE Management Standards indicator tool: $t(325) = -1.041$; ($p > .05$). Both of these findings fail to indicate social desirability bias in the responses obtained with participants being equally likely to provide similar responses whether or not the data were anonymous. However, the data does not claim to be free from social desirability bias. This point is further discussed in section 4.6.3

4.6 Discussion

4.6.1 Summary of key findings

This second research study provided quantitative data on junior doctors' working experiences under the Working Time Directive. The key findings from this chapter are as follows:

In terms of Research Objective 1, exploring self-reporting working hours, the data identified that whilst the majority of participants reported their rostered working hours as compliant with the WTD, some 16.3 percent of respondents were unsure as to whether this was the case. This suggests a general lack of information on the remit of the WTD. Given the staged implementation of the Directive, this finding points to a lack of clarity on the application and relevance of WTD for the 2007-2009 cohorts of junior doctors. In terms of working hours, a further important finding was that many doctors worked beyond rostered hours. In particular, Foundation Year 1 doctors appeared significantly more likely to breach their scheduled working hours. Anecdote and data obtained from the first interview study suggested this may be due to their inexperience and jobs taking longer to perform compared to their senior colleagues. However, this could also be due to younger doctors' keenness to remain at work and acquire further learning opportunities. Regardless, this presents a challenge for WTD and is something that requires close monitoring.

With regards to the psychological health of respondents, as measured by the GHQ-12, the findings from the questionnaire are consistent with the literature which states:

'The proportion of doctors and other health professionals showing above threshold levels of stress has stayed remarkably constant at around 28 percent, whether the studies are cross sectional or longitudinal, compared with around 18 percent in the general working population'
(Firth-Cozens, 2003, p. 670)

The findings from the questionnaire indicated 27.9 percent of participants exceeded the above cut-off threshold of four on the GHQ-12 (consistent with the above study and that employed for the junior doctor population). Consequently, the data served to indicate that levels of stress are still relatively high among junior doctors despite the regulation of working hours. Furthermore, in line with Research Objective 2, examining the association between self-reported working hours and psychological health status, the data indicated that working hours per se were not associated with GHQ scores. This finding provides weight to the body of literature which suggests that factors intrinsic to the job of the junior doctor, such as workload, dealing with death and serious illness, and organisational structure and culture (Arnold et al., 1995) may be associated with the observed elevated levels of stress, rather than working hours per se. Findings from the research did indicate that there were significant differences in GHQ scores of participants who worked beyond their rostered hours on a daily basis compared to those participants who rarely worked beyond their rostered hours. This implies some association with working hours. However, it is difficult to make inferences from this data and this is therefore a theme further explored in subsequent research phases.

The questionnaire data further revealed some interesting findings on work-related ill health. The data obtained from the present study was compared to HSE statistics on 'Self-reported work-related illness and workplace injuries in 2008/09' (Labour Force Survey, 2009). This data revealed that 1.2 million people in Great Britain were suffering from an illness they believe was caused or made worse by their job in the past 12 months (during the 2008-09 period). Examining this data in relation occupational classifications (as measured by the Standard Occupational Classification, 2000), this revealed that among health professionals this equated to a rate of 3,620 per 100,000 employed in the last twelve months. This therefore represents 3.6 percent of the sample from the Labour Force Survey (2009) compared to the observed 13.7 percent in the present study. However, it should be noted that the classification 'health professionals' in the Labour Force Survey included: Medical practitioners; Psychologists; Pharmacists/ Pharmacologists; Ophthalmic opticians; Dental practitioners; and Veterinarians. Because no breakdown was available for the specific individual occupational groups, it was therefore difficult to draw any direct comparisons between the HSE data and those

from the present study. Nevertheless, there is some scope for exploring the relatively high percentage of participants reporting work-related illness in the present study, the factors of which are subsequently discussed.

Firstly, the research findings regarding self-reported work-related illness may represent a 'Generation Y' effect. Specifically, the doctors-in-training who participated in the research were principally drawn from Generation Y, born between 1980–1994 (Shadbolt & Bunker, 2009, p. 54). Research from the medical literature indicates that this generation may share different views on what work is compared to their predecessors, with Generation Y healthcare providers possessing a preference for flexible work practices, work-life balance, technology and personal development (Ciechanowski et al., 2004). The literature also suggests that although Generation Y might be better educated, the generation also has higher expectations, different learning styles, values and goals (Gardner, 2006) and place a high importance on autonomy and work-life-balance (Smola & Sutton, 2002; Zemke et al., 2000). Data responses may therefore reflect this generational effect, with Generation Y individuals (those forming the body of participants) being more forthcoming with information and less willing to tolerate adverse working conditions compared to previous cohorts. This may therefore explain the relatively high percentage of self-reported illness among respondents. A second interpretation for the research findings regarding work-related illness may be that doctors have better identification and increased recall of symptoms, a better identification and knowledge of their health and regulatory systems, meaning increased rates of self-reporting. However, a third explanation for the findings may be that participants represent an anomaly and are not necessarily representative of the junior doctor population. Indeed, this may be confounded by the fact that participants were self-selecting in nature and therefore the study may have attracted those participants who, in the first instance, were more forthcoming with information and who had an issue or agenda to raise.

A final explanation for the rates of work-related illness may be associated with the vocational nature of doctor's careers. Specifically, it is suggested that those in vocational careers may have greater expectations as to what their career entails compared to individuals in non-vocational careers. Consequently, when a

misalignment in job expectations occurs, as may be the case in the present study with participants experiencing changing working hours and patterns and hours, this may infringe on an individual's psychological contract (Robinson & Rousseau, 1994). It could therefore be suggested that an infringement on the psychological contract may impact on psychological health, as has been demonstrated in previous studies (see for example Gracia et al., 2007). In turn, there may be a relationship between psychological and physical health status.

In order to attempt to better understanding such associations, self-reported work-related ill health was examined in relation to GHQ scores, in line with Research Objective 2. The logistic regression model developed from the data successfully distinguished between respondents who reported and did not report a work-related illness, explaining between 14.0 and 24.1 percent of the variance in work-related ill health. Whilst this does not necessarily demonstrate a relationship between psychological and physical health status, owing to the self-reported ill health conditions observed including issues relating to both physical and psychological health, it is clear that is important to continue to monitor both psychological and physical health indicators as there may be a relationship between the two factors. This is a specific recommendation for future research and is further discussed in 8.6. Indeed, it is hoped that these research finding may be used as a benchmark for future prospective studies who continue to monitor Generation Y doctors.

In terms of research findings on self-reported sickness absence, findings indicated that in the past four weeks 81 percent of participants had never missed a day off work owing to either physical or mental health, with only 5.4 percent of participants taking anything greater than 3 days off work. This finding is consistent with recent statistics produced by the NHS Information Centre (2010) which indicated lower levels of sickness absence among doctors compared to other groups of healthcare professionals and indeed to that of the general population. This however, appears to be a phenomena related both to doctors personality traits and their work cultures (Firth-Cozens, 1998). Whilst in the present study the author would be cautious in terms of making any inferences with the presenteeism, given that this was not specifically examined in the questionnaire, the data on sickness absence highlighted some interesting findings. Monitoring future rates of sickness absence

and, more specifically, presenteeism may be something prospective studies which to examine particularly in light of reduction in working hours that upcoming junior doctor cohorts will experience.

In line with Research Objective 3, exploring psychosocial working factors, relationship with psychological health status and associations with demographic and work-related variables, the multiple regression model identified gender and hours worked in a typical seven day week as explaining a small amount of the variance in observed GHQ scores. However, when controlling for these effects, the scores from seven Management Standards Indicator tool (Change, Role, Relationships, Peer Support, Managers' Support, Control and Demands) were able to explain some 23 percent deal of the variance in GHQ scores. Further to this, analyses revealed that Control, Relationships and Role were particularly pertinent factors, playing what appears to be a key component in the observed scores for psychological health, as measured by the GHQ. This therefore suggests that it may not be hours worked which is the issue at hand, but rather job characteristics aspects which play a key component in the relationship with psychological, and perhaps, physical health. This point is further substantiated by evidence by Humphrey, Nahrgang and Morgeson, (2007) who found that in terms of work characteristics, low job control and poor social support had negative health impacts in terms of psychological distress (among other factors). The present study thus provides an insight into pertinent job characteristics of the junior doctor and may be useful for prospective studies wishing to explore the impact of work characteristics among this population.

Further to these findings, upon comparing the present data from the HSE Management Standards Indicator tool to that of the from the general population data (2008), the universal score fell in the 10th percentile, indicating psychosocial working conditions were far from desirable (in line with HSE recommendations). Furthermore, upon comparing the findings from the seven scales of the MS Indicator tool to the general population data, the data indicated a higher prevalence of self-reported work-related stress for the scales: Demands, Control, Managerial Support, Relationships, Role and Change. Interestingly however, the data revealed a lower prevalence of self-reported work-stress for the subscale of Peer Support.

However, some caution should be exercised when comparing responses to those of the general population owing to the possible influence of socio-demographic factors of which are not available for the general population sample (Edwards et al., 2008). Indeed, whilst the Indicator tool served to provide a broad indication of perceptions of working conditions, previous studies utilising the tool have advocated the supplementary use of qualitative studies to provide a greater depth of understanding (Bartram et al., 2009). This is therefore a theme which is explored in subsequent research phases.

In terms of Research Objective 4, exploring job satisfaction and working hours, findings noted a significant difference between respondents' job satisfaction scores and the frequency to which respondents reported working beyond rostered hours. However, working hours per se, in either a seven day or four week capacity, failed to act as an indicator for differences in job satisfaction scores. It is suggested that this finding represents a wider phenomena which has been reported in the literature of the 'clock-watching' and 'shift mentality', indicative of the new generation of UK doctors working under WTD (Bamford & Bamford, 2008). This 'new' generation has been contrasted to previous cohorts whose concerns remained with following patients to the end of their illnesses (Rohrich et al., 2003). Therefore, it may be that the data from the questionnaire reflects a boarder shift in medical professionalism and realignment in expectations. This issue is further explored in Chapter 5 with the assistance of supplementary qualitative data.

Finally, in line with Research Objective 5, which sought to examine general health status, findings revealed a significant difference in hours worked in a typical seven day week and participation in physical activity in the past seven days. This therefore theoretically implies that the WTD may prove beneficial for junior doctors in terms of their health and wellbeing. One reason for this may be that WTD reduces the hours doctors are officially allowed to remain in the workplace, therefore enabling them to engage in extra-curricula activities, such as physical activity. This therefore suggests that among the sample, increased working hours may have negative associations with engagement in physical activity. However, this finding should be treated with caution owing to the cross-sectional nature of the research.

4.6.2 Response rate and generalisability

As noted in section 4.4.3, respondents who completed the questionnaire represented a wide range of Foundation Schools and were not necessarily affiliated with those of the supporting Deanery. This therefore makes calculating a response rate complex because, as is often the case with web-based research, it is difficult to identify the exact number of individuals the questionnaire was sent to or accessed by (Cook et al., 2000). Whilst the 'e-link' to the questionnaire was distributed only to Foundation Doctors working for Foundation Schools associated with the participating Deanery, it was possible for these individuals to forward the details of the questionnaire onto colleagues. This was advantageous insofar as it meant access to a wider group of respondents. However, the literature highlights disadvantages of this phenomena, in that it allows participants to deceive the researcher as they can potentially lie about their details (Hewson et al., 2003). Whilst deception may be a problem for research in general, the questionnaire for this study included items which were specific to doctors and would have been difficult to answer for those outside the medical profession. Additionally, in line with recommendations from the literature, obtaining participants contact details (for the purpose of sending the survey certificate) provided a protective barrier against potentially fraudulent responses (Keller et al., 1998). Indeed, analyses of the contact details indicated that a large proportion came from 'doctors.net' email addresses. This is a service which can only be used by doctors registered with the General Medical Council, which served to verify their professional status. Consequently, although it is possible to estimate a response rate of junior doctors affiliated with the supporting Deanery, in the region of 28 percent, the questionnaire does not claim to be generalisable to all Foundation Year doctors, particularly in light of the lack of standardisation of hours and working experiences as previously outlined in Chapter 2.

4.6.3 Strengths and limitations

One of the principal strengths of the present study was that it was conducted by an independent researcher not affiliated with the NHS. In terms of the advantages this

offered, participants may have been more forthcoming when responding, knowing the data were confidential and, in some instances, anonymous. Whilst analyses failed to detect significant differences in scores when comparing anonymous and non-anonymous respondents, this finding does not necessarily prove the absence of socially desirable responding. Nor does this finding indicate that responses were necessarily honest. Whilst a number of measures could have been incorporated into the questionnaire in order to attempt to gauge levels of socially desirable responding, such as the Balanced Inventory of Desirable Responding (Paulhus, 1984), for pragmatic reasons this was not possible. As such, a limitation of the research may lie in the honesty of participants' responses.

A second strength of the study, as an independent piece of research, concerned the study design. As Sapsford (2007) notes:

'It is the outsider who can best see past local preconception to reframe questions in a non-traditional way and whose lack of prior involvement acts as a guarantee of objectivity.' (Sapsford, 2007, p.19)

Consequently, the research had the advantage of being one step removed from the immediate workplace and therefore, as the above quote suggests, offered a greater element of objectivity. However, the research was able to additionally benefit from engaging with a range healthcare staff involved in managing and co-ordinating junior doctors, those at 'ground level'. This meant that the research had the added insights from those grounded in experience and personal practice and was able to capitalise on these issues whilst retaining a degree of objectivity in the design of the research.

Whilst the present study possessed a number of strengths, a principal limitation of the research is that the cross-sectional design makes it difficult to establish causal relations between variables. Indeed, the literature generally advocates the use of longitudinal methods as a means to overcome this issue because they allow for the issue of causality and permit for a dynamic interpretation of the variables under investigation (Seiler, 1965). However, as noted in section 4.3, owing to financial, logistic and time constraints a longitudinal research design was not feasible. A

second limitation of the research concerned the use of self-report data which introduces the possibility of socially desirable answers (Bennett & Robinson, 2000) and items which were personal factual questions were reliant on respondents' memories. In particular, questions regarding hours worked were dependent on retrospective reporting meaning that participants may have under or over estimated hours worked. Although evidence typically supports the validity of self-report data generally speaking (Spector, 1992) the author acknowledges its limitations in the present study.

Furthermore, it is interesting to note the attrition rate on the questionnaire, with 50 (11.8 percent) of respondents completing less than half of the questionnaire. A number of reasons may be offered for this. Firstly, this may be attributed to use of web-based research. In particular, whilst respondents may have access to web-based technology during working hours they may not do so outside of the workplace. Consequently, a number of participants may have commenced the questionnaire within the workplace, time constraints may have prevented their fully completing it. This problem may have been confounded by the fact that the questionnaire could only be completed in one sitting and did not have the option of being saved so that it could be completed at a later date. However, this was an inherent technological problem beyond the researcher's control. A final point to consider in terms of participant attrition concerns the length of the questionnaire. Whilst this was highlighted as a criticism of the questionnaire in the pilot study (see 4.3.1) due attempts were made to reduce the length of the questionnaire to an appropriate level which would allow the author to meet the overall research objectives.

4.7 Summary and conclusions

This aim of this study was to develop the findings from the first research phase and to obtain frequency data from a wider population. Responses from 423 participants provided an insight into both scheduled and actual working hours. Findings illustrate a number of WTD compliance issues, particularly with Foundation Year 1 doctors being more likely to breach scheduled working hours. Interestingly, despite

the regulation of working hours, threshold levels of stress have stayed remarkably constant and remain consistent with the literature. However, data obtained from the HSE MS indicator tool suggest that job characteristics aspects, particularly control, relationships and role, may play a pivotal role in the relationship with psychological health rather than hours worked per se. Nonetheless, findings did appear to suggest that regulation of working hours may well have been beneficial to doctors in terms of providing them with extra time to complete extra-curricular activities, such as physical activity, which is positively associated with wellbeing (Warburton et al., 2006). Assessment and management of work-related stress, and indeed health and wellbeing, is a key priority for NHS employers. Consequently, the present data are able to provide a bench mark for future prospective studies of NHS staff and, in particular, the junior doctor population.

Chapter One
Introduction



Chapter Two
Literature review



Chapter Three
Interviews with junior doctors



Chapter Four
Questionnaire survey: part 1



Chapter Five
Questionnaire survey: part 2



Chapter Six
Focus groups



Chapter Seven
Expert Panel



Chapter Eight
Discussion, implications and recommendations

Chapter 5

5.1 Introduction

This chapter continues to present the findings from the questionnaire study, previously outlined in Chapter 4, which was completed by 423 junior doctors. This chapter details the findings from eight bespoke items included within the questionnaire which contained both a qualitative and quantitative dimension. The items discussed within the present chapter pertain to a number of topics including: the Working Time Directive; psychosocial working conditions; and shift design. Firstly, the chapter describes the development of the items. Secondly, frequency data, in terms of quantitative responses, are presented on individual items. Finally, frequency data are explored using qualitative analysis of open-ended responses using a template analysis. The overall aim of this chapter was to further elaborate on the findings identified in Chapter 4 and explore, with the assistance of supplementary qualitative data, participants' views and experiences. By combining qualitative and quantitative data in this way, the research employed a mixed-methods approach which is in line with the overall objectives of the research and lends itself to the philosophy supported throughout the thesis.

5.2 Research Objectives

The aim of this research phase was to further investigate the findings from Chapter 4 and attempt to develop a greater understanding of responses. In particular, the research sought to:

1: Explore junior doctors' views and experiences of operating within the remit of the Working Time Directive.

- 2: Examine reported advantages and disadvantages of different working schedules.
- 3: Investigate psychosocial working conditions and work-related stressors.
- 4: Extrapolate findings for future rota design.

5.3 Research methodology

The selection of the questionnaire method was deemed a suitable way to meet the objectives of the present research. Whilst the questionnaire is regarded by some as a structured approach to data collection (Tull & Hawkins, 1987), the method lends itself well to both open and closed question formats. A closed question format is one in which respondents are offered a choice of alternative replies (Oppenheim, 1992, p. 112). The questions are therefore useful for the purpose of numerical analysis and may be favoured by respondents as the items are not particularly time consuming (Fife-Schaw, 2006). By contrast, the open, or 'free response' format is not followed by any kind of choice (Oppenheim, 1992, p. 112). This approach can be useful as it allows participants to respond to a question in any way they see fit and gives them scope to detail their answers (Schuman & Presser, 1996). In so doing, open questions may facilitate a flexible exploration of topics and better understanding of participant responses (Bryman, 2004).

The present research aimed to capitalise on the advantages of both open and closed question formats in order to obtain both depth and breadth of data. The research sought to explore participants' views and experiences and whilst categorical response options may be useful by means of providing frequency data, this data would not achieved the depth of understanding in the way that open-ended responses may offer. The additional use of free-text options was particularly important because responses to items were opinion based rather than factual in nature. Indeed, the literature indicates that closed response options can be a problem when asking opinion based questions (Gillham, 2000, p 12). For the present research, this posed a twofold concern. Firstly, participants may not have

had definite opinions on the topics under investigation and may have had ambivalent attitudes or insufficient information. Secondly, there was a concern that because a number of items offered a small range of categorical response options, participants may have felt that the available options did not reflect their views sufficiently. Consequently, by combining open and closed questions, participants were given the opportunity to substantiate or clarify their responses and highlight pertinent themes or issues of personal salience. The items were framed in such a way as participants were able to provide as much or as little information as they desired. This was important as research literatures notes that participants may be deterred from completing questionnaires if there are too many open-ended responses (Bryman, 2004).

5.4 Method

5.4.1 Measures and materials

This section discusses 14 bespoke items which formed the body of parts 3 and 4 of the questionnaire. Each of the 14 items included both an open and closed questioning component. Information regarding the development of the questionnaire and remainder of the items included within the questionnaire are detailed in sections 4.3.1 and 4.4.1 respectively. A copy of the questionnaire is shown in Appendix G.

Part 3 of the questionnaire, entitled 'Working Time Directive' included ten items and has been previously outlined in section 4.4.1.2. Four of the items are detailed in Chapter 4 of the thesis, and the remaining five items are detailed in the present chapter (one item omitted from analysis and discussion owing to pragmatic reasons). The five items from part 3 of the questionnaire which are discussed in this chapter specifically alluded to participants' views and opinions on the WTD. The five items were as follows: 1. 'Generally, are you in favour of the WTD applying to your profession' (item one); 2. 'Please identify how you feel the Directive has impacted on your work-life balance' (item two); 3. Please identify how you feel the Directive has impacted on your general wellbeing' (item three); 4.

‘Please identify how you feel the Directive has impacted on your training opportunities’ (item four); and 5. ‘Please identify how you feel the Directive has impacted on your educational opportunities’ (item five). For each item, participants were provided with a trichotomic checkbox and were asked to indicate one response (‘positively’; ‘negatively’; or ‘unsure/mixed views’). Responses to these five items were coded as discrete categorical variables. Each of the items included scope for an additional open-ended response, in the form of a free text response.

Part 4 of the questionnaire was entitled ‘Out-of-hours working experiences’ and comprised nine items. Seven of these items pertained to junior doctors experiences of different working schedules and were as follows: ‘Have you had the opportunity to engage in out-of-hours work as a junior doctor’ (item six); ‘Are you in favour or against the removal of out-of-hours working for FY1 doctors’ (item seven); ‘As an FY1 have you, or did you work night shifts’ (item eight); ‘If you have worked nights, which working arrangements have you experienced’ (item nine); ‘If you have worked night shifts, what is your preferred working arrangement’ (item ten); ‘Have you worked in a Hospital at Night team’ (item eleven); ‘What do you consider to be the most difficult aspect of the night shift’ (item twelve). Each of the items included additional scope for open-ended response in the form of a free text response. One of the items (item six) had been adapted from a questionnaire developed by the supporting Deanery which was delivered to Senior House Officers in order to examining training opportunities (NHS Organisational Memoranda, 2006). The remaining five items (items seven-twelve) were developed in conjunction with a range of stakeholder groups and relevant research literature, as outlined in previously within this section, and sought to provide more detailed insight into the participants’ working experiences. Whilst these questions provided some interesting data, responses for these items are not included within the thesis as they are beyond the remit of the research objectives.

Part 4 of the questionnaire included a further two items which enquired into general psychosocial working conditions and the perceived utility of different working schedules. These questions had been specifically informed by the interview research phase. Indeed, the research literature often recommends using a qualitative approach as an initial exploratory phase in order to develop a greater

understanding of the population under study and also to predict the possible range of responses (Howitt & Cramer, 2000). The items were as follows: 'Please identify what out-of-hours shifts offer over and above day shifts' (item thirteen); 'What do you consider to be the most stressful aspect of your job as a junior doctor' (item fourteen). For each of the items, participants were asked to 'tick up to three responses' which provided 12 and 13 separate categorical response options respectively. These response options had been extrapolated from emergent themes in the interview data. In addition to the available categorical response options, participants were able to provide additional open-ended responses if the pre-imposed categories did not sufficiently represent their response(s). This decision to include both open and closed-ended response options was informed by the methodological literature which notes that closed-ended formats may create artificial forced choices and rule out unexpected responses (Fife-Schaw, p. 215, cited in Breakwell & Hammond, 2006). However, closed-ended items reduce the number of ambiguous responses that might be given, offering time saving advantages. As such, closed format options may therefore be more appealing to participants. Consequently, the questionnaire was designed in such a way as to capitalise on the strengths of both response methods.

5.5 Results

The following section details responses for nine items which represent parts 3 and 4 of the questionnaire. Firstly, this section presents information on data analysis. Secondly, results of the data are presented on an item by item basis. Descriptive data are presented on the number and percentage of participants who provided a response to the item. Following this, selections of quotes are utilised, based on analysis of the open-ended responses, as a means to provide greater depth and meaning to the numeric data presented. Quotes are drawn from individual written responses and, where necessary, spellings have been corrected. The following results section is broken down into a number of sub-sections representing general topic areas, as encompassed by the question items. Information on the survey sample is detailed in Chapter 4 (section 4.4.1).

5.5.1 Data analysis

As previously outlined, the questions presented in this chapter contained both a qualitative and quantitative dimension. The quantitative data, which comprised discrete categorical responses, were analysed using SPSS (Version 16.0) with the relevant data screening and cleaning performed prior to analysis (see section 4.3.5). The qualitative data, obtained from open-ended responses, was imported into the qualitative software tool NVivo (Version 7.0).

Whilst the open-ended responses could have been analysed in a number of ways, the research employed template analysis owing to a number of reasons. Firstly, upon exploration of the open-ended responses, it was evident that the depth and breadth of the data did not lend well to the traditions of content analysis which are principally concerned with quantitative analysis of message characteristics (Neuendorf, 2002). The researcher was therefore concerned that trying to systematically reduce responses into discrete units would not do justice to the data and, moreover, to the participants who took the time to provide such detailed responses. Rather, the template analytic approach afforded greater flexibility and meaning to data interpretation which was in line with the wider research objectives (Braun & Clarke, 2006). Section 3.4.1 provides further details on the analytic traditions of this approach.

The coding of the open-ended responses was performed on an item by item basis. Prior to the analysis of the textual data, a number of codes were developed for each of the items in line with the research literature and emergent themes from interview data. As such, a number of coding templates were developed for each of the items. Coding templates were arranged in a hierarchical manner such that lower level codes illustrated specific issues with higher level codes representing overarching issues. The analysis employed a parallel coding method whereby a section of text could represent more than one code meaning a section of text could simultaneously represent both lower and higher level codes. The coding templates for the individual items were continually revised in light of data analysis, with new codes being developed and a number of codes formed a priori being deleted owing to participants failing to report these issues.

Whilst initially a series of templates were developed for individual items, analysis of the data revealed a number of overlapping and repeating themes. In particular, one of the initial items, which enquired into participants general views on the WTD (item one), provided participants with a wide scope for response. As such, responses to this item encompassed a broad number of topic areas, many of which overlapped with four subsequent items requesting specific topic information on the WTD. In order to manage this data, responses which specifically referred to issues about wellbeing, work-life balance, training and education were broadly categorised within the coding template for item one under these four themes respectively. Responses were then analysed and coded within the corresponding template for subsequent items.

Managing the data in this way was necessary because a number of participants provided a response only to the first item. However, responses to this item drew on a number of different themes relating to the subsequent items. This also occurred in the analysis of item six (Are you in favour or against the removal of out-of-hours working for FY1 doctors) and item ten (What do out-of-hours offer beyond day shifts). In this instance, responses from item six which provided specific descriptions of what out-of-hours shifts offered beyond day shifts were re-categorised within the coding template for item ten. Consequently, whilst a number of independent coding templates were developed in the analysis of the textual data, the use of the qualitative software management tool NVivo facilitated links and relationships between items to be drawn. Therefore, although themes were initially coded in a hierarchical structure, as Bazeley (2007) observes, drawing on linkages between project items is not only an important step in understanding patterns to identify concepts, but also in identifying relationships between concepts.

Validation of the coding templates was achieved by an independent review of a sample of the coded data by a researcher trained in qualitative research techniques. The independent researcher was provided with a minimum 10 percent sample of the responses for each item. The independent researcher was asked to apply codes based on the existing template to sections of text and generate or modify codes where appropriate. Following the review of the coding templates,

there was a discussion between the independent researcher and the author during which any inconsistencies between codes were debated until consensus was achieved. This validation process pertains to that recommended in the literature (Miles & Huberman, 1994).

5.5.2 Working Time Directive - overview

This section presents data on five items which enquired into participants' views on the Working Time Directive. Items are presented in the order in which they were sequenced in the questionnaire. Table 14, pertaining to item one, provides descriptive data on responses to the question 'Generally, are you in favour of the Working Time Directive applying to your profession'.

Table 14: Participants' views on the WTD - descriptive statistics

	N
In favour	111
Not in favour	101
Unsure/mixed views	170
Missing data	41

As Table 14 denotes, whilst the majority of participants had unsure/mixed views on the Directive (40 percent), there was considerable variety in responses with a fairly even split between those who were in favour and not in favour (26.3 percent and 23.9 percent respectively). In addition to the quantitative response, 153 participants provided a supplementary free text response to this item. As

previously outlined, owing to the broad nature of item one, responses encompassed a wide range of themes. An extensive coding template was developed for this question and can be located in Appendix H. The following summarises a number of key themes and provides quotes for illustrative purposes.

Questionnaire theme 1: Reduced hours but increased work intensity

A large proportion of respondents acknowledged the need for a regulation of hours in the medical profession and, in this vein, viewed the WTD as a welcome initiative. However, many respondents highlighted that the means through which the Directive had been implemented had, in some instances, served to increase work intensity:

'In order to comply with the Directive, my hospital has decreased the number of doctors on-call. As a result, while the working hours have been reduced, the actual work is vastly increased and patients' safety is at risk.'

As the above quote illustrates, whilst the WTD had served to reduce overall working hours it had not been perceived as an entirely beneficial owing to the increased workload resulting from fewer numbers of staff particularly during the on-call period. Participants overwhelmingly indicated that during 'out-of-hours' periods, workload was intense with 'demands exceeding resources'. A number of participants reported being 'worked off their feet' for the duration of their shifts, particularly during out-of-hours shifts, for reasons such as insufficient staffing and a general lack of support. Many of the issues within theme one were related to a secondary theme, discussed below.

Questionnaire theme 2: WTD synonymous with cutting out-of-hours working

A recurring theme discussed in response to item one, concerned the reduction of out-of-hours shifts for junior doctors and the perceived impact of this:

'I don't mind working less hours and getting paid less but it would still be good to get experience in acute medicine. In F1, hospitals are lowering hours by rotating us for less weekends and evening shifts on call but still having same amount of doctors on rota. So there's one doctor doing work that was previously done by 2 doctors. Its not manageable and not good for patients.'

As the above quote illustrates, participants associated the WTD with removing out-of-hours experiences which were typically valued for both their 'learning and earning opportunities'. This theme is further explored later on in the chapter in relation to item six (engaging in out-of-hours working). The above quote further alludes to an additional theme concerning a lack of clarity on the Directive. Specifically, a number of participants commented on being ill informed on the remit of the Directive. This general lack of information had resulted some confusion on over how the WTD applied to doctors-in-training and, in line with this, a number of participants viewed the WTD as synonymous with cutting out-of-hours working experiences.

Questionnaire theme 3: Medicine incompatible with rigid hours

A pertinent theme which arose in relation to item one concerned the unpredictable nature of medicine and fluctuating workload of junior doctors. Participants made regular reference to 'unexpected jobs' and 'medical emergencies' occur prior to shifts finishing:

'I think it is a good idea to regulate shift patterns to enable better working patterns, but I do think that the nature of our job means that often we have to work beyond the rota hours but this is not recognised. On paper, it looks like everyone is compliant to the WTD but the reality is far from that.'

As the above quote describes, there appeared to be a discrepancy between the practise and reality of working hours. As such, the WTD was associated as

something that could theoretically work but when applied at 'ground level' failed to so. As a one participant commented:

'Generally as a member of the healthcare profession, you leave at least an hour later than your specified work time as you wish to provide safe cover for your patients, for which you are not paid and which, over time, impacts on your work-life balance.'

In relation to the issue of providing safe cover, as mentioned by the above participant, a number of respondents alluded to situations whereby rapid deterioration in patient condition occurs and doctors 'professional obligation' to stay with patients. In line with this perceived obligation, participants cited an 'unspoken understanding' whereby handing jobs over to an understaffed and overworked on-call doctor was not 'the done thing'. These comments revealed an interesting insight into the medical culture particularly into the understanding that flexibility and support are inherent to the practise of medicine.

A further theme briefly mentioned in the quote above concerned the lack of recognition for remaining to finish jobs and complete work and way in which this may impact on morale and general work-life balance. The quote further illustrates the interlinking and overlapping of themes (this theme alluding to several emerging from item two) which is documented in Appendix H.

5.5.2.1 Work-life balance

The following table, Table 15, pertaining to item two, provides descriptive data on responses to the item 'Please identify how you feel the Directive has impacted on your work-life balance'.

Table 15: WTD and work-life balance - descriptive statistics

	N
Positive impact	171
Negative impact	51
Unsure/mixed views	61
Missing data	140

As Table 15 indicates, the majority of participants viewed the Directive as having appositve impact on work-life balance (40.4 percent). There was however a relatively even split between respondents who viewed the impact on work-life balance as negative and those who had unsure/mixed views on this matter (12.1 percent and 14.4 percent respectively). One-hundred and one participants provided a supplementary free text response to this item, of which data were used to explore the reasons for responses. The coding template for this question item can be found in Appendix H.

Questionnaire theme 4: Challenging prevailing medical culture: developing a life outside of medicine

Overwhelmingly, respondents alluded to the WTD as beneficial in terms of allowing doctors to develop a personal, as well as professional identity. As the following quote illustrates:

‘I have at least some time to have a life. Being a doctor is not all I am.’

A number of references were made to WTD encouraging non-work based interests and enabling doctors to spend more time away from hospital/place of work. Actively spending time away from the workplace was regarded as important not only for general relaxation, but for spending time with family and friends. However, individual differences appeared to determine the extent to which this was valued, as one participant commented:

'I feel stressed in life generally because I am not getting experience at work therefore life actually becomes more stressful.'

Consequently, although WTD was typically viewed as having a positive impact on work-life balance, a number of participants reported frustration at what was perceived as excess regulation. In line with this, a number of participants described their frustration at the restricted hours enforced by WTD stating they had entered medicine anticipating and, to an extent, looking forward to long hours and hard work. As such, a proportion of respondents reported feeling 'cheated' out of their careers:

'I wanted to be a doctor and work. I knew what I was letting myself in for when I applied to medical school, now that's been taken away from me.'

Questionnaire theme 5: Shift based working practices

A recurring theme, which also arose in relation to item one, concerned the move towards shift-based working practices and the impact of this on doctors' work-life balance. As one participant commented:

'Although there are less hours which is a good thing, the hours are often more antisocial in order to meet service provisions. We end up doing more antisocial shifts like 16:30-02:30.'

As the above quote illustrates, whilst the WTD was viewed as a welcome initiative, by means of it reducing overall working hours, meeting the requirements of the

Directive had meant major changes to the way in which medicine was practised. Many participants reported experiencing difficulties with the shift-based working owing to the frequency with which shift patterns changed and impact of this on circadian rhythms. A number of participants described shift-based working practices as negatively impinging on overall work-life balance owing to social isolation from anti-social shifts, lack of contact with family and friends and difficulties in participating in scheduled non-work based activities.

In relation to questionnaire theme five, a number of references were also made to the Directive's requirements for compensatory rest periods which were largely met with mixed responses. Participants who commented on this issue appeared to understand and appreciate the need for rest provisions stipulated by the Directive. However, a large proportion of these participants noted that the provisions theoretically, rather than practically, benefitted doctors-in-training. Indeed, a number of respondents commented that in some instances the rest provisions laid down the by WTD were known to increase stress and negatively impact on work-life balance:

'...(we) have relatively frequent random "off" days or have frequent half days following weekends on or long shifts which are frustrating.'

Typically respondents attributed the detrimental effects of compensatory rest periods to poor rota planning and, in particular, a manipulation of hours. As such, a number of participants viewed the Directive as 'a number crunching game' rather than being set up to protect the welfare of hospital based medical doctors.

5.5.2.2 Wellbeing

With regards to the issue of wellbeing, Table 16 provides descriptive data on responses to the item 'Please identify how you feel the Directive has impacted on your general wellbeing' (item three).

Table 16: WTD and wellbeing - descriptive statistics

	N
Positive impact	180
Negative impact	37
Unsure/mixed views	165
Missing data	41

As Table 16 indicates, just under half of the sample (42.6 percent) viewed the WTD has having a positive impact on wellbeing. However, 39 percent of respondents had mixed/unsure views on this matter. Fifty-eight participants provided a supplementary written response to this item which, accompanied with responses extracted from item one, were used in order to further explore these observations.

Questionnaire theme 6: Improved wellbeing: doctors taking better self-care

A common response to item three centred around current junior doctor cohorts having both improved psychological and physical health compared to colleagues who completed medical training prior to the implementation of the WTD. A large number of respondents cited the medical culture placing a greater emphasis on doctors' personal self-care. Indeed, a number of comments from responses to item three overlapped with theme four (challenging prevailing medical culture) whereby respondents alluded to the Directive fostering attitude change among doctors. Specifically, respondents recognised and discussed the increased importance of self-care which has served to challenge stigma within the profession

'It shouldn't go back to the 'old days', that was bad for doctors' health.'

A number of respondents further alluded to their being 'protected from burnout'. This appeared to highlight themes both in terms of the medical profession taking greater responsibility for their doctors, and also doctors themselves welcoming this protection.

Questionnaire theme 7: Work-related anxieties resulting from fewer hours

A pertinent theme, colloquially referred to as 'the compromise', centred on participants' conflicting attitudes towards the WTD. Specifically, respondents struggled in reconciling the perceived positives of the Directive, in terms of fewer working hours and associated benefits for health and wellbeing, with the downsides of fewer hours in terms of careers and training. This theme is succinctly exemplified by the following quote:

'It (WTD) probably does improve wellbeing by ensuring doctors are not tired and overworked, but equally my inexperience creates anxiety at work and that is not good for my wellbeing.'

The data revealed a number of concerns about the impact of the Directive on both long and short-term career opportunities. Respondents discussed personal reservations that they would not be sufficiently experienced and not be as competent or skilled as their seniors. There were a wide range of anxieties associated with this. A number of participants reported engaging in more locum work in order to gain experiences. This was reported as a way in which doctors were responding to training concerns and anxieties about securing Specialty Training posts. Although a number of participants reported doing this purely for experiential learning, fiscal aspects were entwined with engaging in locum work. Some participants performed locum shifts as a means to generate supplementary income. Indeed, a number of respondents indicated they were struggling financially owing to the debts incurred from medical school and the lower banding resulting from the reduction/removal of out-of-hours shifts. A number of participants also

reported there being a degree of pressure to complete additional locum shifts owing to insufficient staffing:

'I am covering more locum shifts in order to shore up a rota left inadequate by attempts to adhere to WTD for all staff.'

As the above quote highlights, a subordinate theme which emerged from that data concerned the intensity of locum shifts in terms of demands, resources and time pressures. This work intensity was attributed to insufficient staffing and a general lack of supervisory support. In line with this, a proportion of participants reported a reluctance to engage in additional locum work, particularly during the out-of-hours period, owing to the stressful and pressurised nature of this period. This related to theme one (reduced hours but increased intensity) as outlined by the following participant:

'More pressured at work, exceeding hours doing mundane tasks in order to see practical procedures during working hours.'

The above quote makes reference to a number of interlinking and overlapping themes including the competing demands between training and service provision which is further discussed in section 5.5.2.3.

5.5.2.3 Training

The following table, pertaining to item four, provides descriptive data on responses to the item 'Please identify how you feel the Directive has impacted on your training opportunities'.

Table 17: WTD and training - descriptive statistics

	N
Positive impact	24
Negative impact	267
Unsure/mixed views	90
Missing data	42

As Table 17 indicates, the overwhelming majority of participants (63.1 percent) perceived the WTD has having a negative impact on training opportunities. However, some 23 percent of participants reported having mixed views on this matter. Analysis of 102 supplementary open-ended responses providing insight into participants reasons for their responses. This analysis revealed a number of pertinent themes which are subsequently discussed.

Questionnaire theme 8: Training versus service provision

One of the principal concerns voiced by participants related to their unease at the ways in which working time was 'divided' between designated training and service provision. A number of issues were raised in terms of 'fitting in' training within the shorter working week whilst still managing doctors' characteristic heavy workload. As the following participant commented:

'There seems to be less time for any training. Get told to comply with hours then get told unofficially to get in early to get the job done to allow time for training.'

The above quote highlights the prevalence of unofficial norms within the medical profession. A number of references were made to job demands, insofar as sheer workload, compromising training. Participants therefore viewed service provision taking priority over training. This theme appeared to interlink with questionnaire theme one (reduced hours but increased intensity) and was further associated with the theme of breaching working hours, as conveyed by the following respondent:

‘While I think that the WTD is a good thing for generating safer doctors in theory, I suspect many of us will continue to work beyond those hours in order to fit in our training. There doesn't seem to be anything built in, in order to guarantee that we continue to receive training while at work. In my time in this particular job, I have regularly worked over my rostered hours and that's purely just to fit in all the work that needs doing - I haven't received any training.’

Overwhelmingly, participants reported anxiety at the training, or perceived lack of, they had received during their time as doctors-in-training. Whilst several participants commented on the utility of scheduled training introduced under the Foundation Programme, many thought that this, in itself, was insufficient both in time and in content. Furthermore, a number of references were made to difficulties in attending scheduled training owing to shift-based working practices (questionnaire theme five) whereby sessions were organised when participants were on compensatory rest periods. However, participants appeared able to differentiate that this was due to poor rota planning rather than poor training per se.

Questionnaire theme 9: Early training experiences important

An interesting theme which emerged from the data concerned the importance of the early training years, particularly the Foundation Year 1. The data suggested that this transition year, involving the jump between student and professional, was a particularly key period:

'I worked my F1 year in a non-compliant post and, although I was tired I felt the extent of my experience was much broader and practical. Probably less important to have broad experience as the years go on as you will specialise, but seems more important to have a broader experience in your first year to bridge the gap between theory and practise.'

Respondents made reference to the early training years as being important at a number of levels. Firstly, the data suggested this period was integral for developing confidence and acquiring necessary clinical skills. Secondly, participants indicated this period was important for stimulating and sustaining interest in medicine. Specifically, a number of reports highlighted participants' despondency with restricted hours, which served to impact on their general morale. This theme overlapped with an issue discussed in theme four (challenging prevailing medical culture) whereby participants alluded to feeling 'cheated' out of their medical careers. Finally, it appeared that early training experiences were influential as they appear impact on career choices insofar as shaping the specialities to which doctors apply. A number of comments were made from participants who had experienced 'limited' working hours for their Foundation Years and their reluctance to apply to more 'competitive specialties'. Respondents attributed this reluctance to a perceived lack of experience and also general lack of confidence. Furthermore, many participants expressed distain at the perceived unfairness of this situation which was blamed on the lack of standardisation in implementing the WTD between different posts and different NHS hospital Trusts.

Questionnaire theme 10: Training pathway requires lengthening

An interesting theme which emerged from the data concerned the confusion, and indeed 'bewilderment', at the simultaneous reduction in working hours and shortening of medical training pathways. This latter initiative was introduced under the Modernising Medical Career initiative. Many participants reported concerns at this seemingly incongruent initiative both in terms of doctor's personal careers but also for the medical profession as a whole:

‘My generation of doctors will never be as good as our predecessors as we would have had less clinical experience compared to them when we become registrars/consultants. I believe this will compromise the quality of patient care.’

As questionnaire theme seven (work-related anxieties resulting from fewer hours) touched upon, participants largely appeared to appreciate the rationale behind hours regulation yet concurrently held reservations about the Directive. These concerns were further intensified by the reduction in the length of training, leading respondents to believe they would never be as competent as their seniors, as illustrated by the above quote. As such, several participants reported concerns about the reputation of British medical training on the international stage. Indeed, a number of respondents stated they were actively seeking international training opportunities in order to accrue additional experiences they believed were not available in the UK. This issue was often discussed in specialty specific terms, particularly in relation to the surgical and craft specialties where sheer work time was equated to experience.

However, in interpreting these views, it is important to consider the possibility of secular generational tensions and the influence of senior colleagues’ views on the junior trainees. Specifically, it may be that Intergenerational Learning has occurred whereby beliefs and practices may be transmitted from generation to generation, and modelling of behaviours can occur (Gadsden & Hall, 1996). In the context of the present questionnaire theme, it may be that junior doctors’ views on the lengthening of the training pathway are, by and large, stemming from the perspectives of their senior colleagues. It is however, difficult to separate this influence out, and the issue of Intergenerational Learning is further discussed in 6.5.3.

5.5.2.4 Education

With regards to the issue of education, Table 18 provides descriptive data on responses to the item ‘Please identify how you feel the Directive has impacted on your educational opportunities’ (item five).

Table 18: WTD and education - descriptive statistics

	N
Positive impact	36
Negative impact	241
Unsure/mixed views	108
Missing data	38

As shown by the responses in Table 18, the majority of participants (57 percent) perceived the WTD has having a negative impact on educational opportunities. Nevertheless, 38 percent of participants reported having mixed views on this matter. Interestingly, the breakdown of results for this item is very similar to the item regarding training opportunities. In response to item five, 82 participants provided supplementary data to this item, which was used to explore the reasons for the observed responses.

Questionnaire theme 11: Quality not quantity

As has been previously mentioned in relation to theme eight (training versus service provision), the data revealed a general acknowledgement for the benefits of the Foundation Programme in terms of the structure it served to introduce. In particular, respondents made direct comparisons to the un-standardised apprenticeship model on which medicine has been traditionally based. In line with this, a number of respondents made reference to the educational benefits of regulated working hours:

‘Reduction in on-call/out of hours inevitably leads to reduction in experience. However, quantity doesn't necessarily mean quality. More disciplined working hours allows time for projects, audit and still allows opportunities such as attending extra theatre sessions and clinics if the trainee wishes.’

The data suggested that with the support of the Foundation Programme, and with careful rota planning, the Directive has the potential to educationally benefit trainees. However, as the above quote reiterates, this requires a motivated and disciplined approach on the part of the trainee who must continue to actively seek out additional experiential opportunities.

Questionnaire theme 12: Drain on consultant time: burden shifting ‘up’ the profession

A recurring theme discussed in relation to educational opportunities concerned the reluctance of senior colleagues to provide ‘ad hoc’ teaching. This was contrasted to the apprenticeship model under which previous generations trained and learnt. This reluctance was attributed to a number of reasons including the breakdown of the team-based system (associated with questionnaire theme five: shift based working practices) and also direct competition from senior colleagues:

‘As a shift worker I barely get any get any teaching from consultants and when I do it is from consultants who don’t know me nor what I know.’

A further theme which arose in relation to the lack of teaching opportunities concerned the impact of an increased workload, associated with WTD, on senior colleagues’ quality of working life. The ‘inequity’ of this situation was mentioned by a number of participants. Specifically, respondents commented that senior colleagues had trained under the ‘old system’ and therefore historically worked long hours. However, despite WTD initiatives senior colleagues were repeatedly continuing to do so owing to insufficient staffing, inexperienced junior colleagues and a diminishing consultant workforce.

Questionnaire theme 13: Educational and training opportunities ‘passed’ to other healthcare professionals

A number of issues emerging from the data concerned a perceived inequity in training and educational opportunities. A number of respondents expressed some resentment that experiential learning opportunities and funding have been passed to other groups of healthcare professionals. As the following participant commented:

‘Time spent on general medical tasks has been reduced. We now have medical nurse practitioners who can assess and admit new patients. Therefore if they ask for advice surely they are more experienced than we are, after all they admit more patients a week than we do. Where do we gain our experience from when they examine more patients, we merely seem to do the end of the day administrative tasks on their instruction.’

The data exposed some resentment towards the apparent changes in training and educational opportunities with some participants describing other healthcare professionals ‘taking over’ doctors jobs. A number of participants expressed concerns that they were being deskilled and voiced some antipathy that training budgets had been redistributed in order to fund the training of other healthcare professionals. Whilst participants largely acknowledged the benefits of initiatives such as the ‘Hospital at Night’ programme, participants reported a general lack of communication, insofar as the purpose and benefits of such initiatives. Consequently, the data underscored some bitterness among junior doctors towards medical management and other groups of healthcare professionals.

5.5.3 Working schedules and working conditions

This section presents the findings from three items, two of which enquired into participants’ views on the utility of different working schedules and one exploring perceptions of working conditions. The following table, pertaining to item six,

provides descriptive data on responses to the item 'Are you in favour or against the removal of out-of-hours working for FY1 doctors'.

Table 19: Out-of-hours working practices

	N
In favour	19
Against	337
Unsure/undecided views	22
Missing data	45

As Table 19 illustrates, the overwhelming majority of participants (79.7 percent) were against the removal of out-of-hours working for Foundation Year 1 doctors. However, a small proportion of participants (5.2 percent) reported having mixed views on the question. Quantitative responses were explored with the assistance of 82 supplementary open-ended responses which were analysed using template analytic procedures. The coding template for this item can be located in Appendix H.

Questionnaire theme 14: Insufficiently prepared for FY2: changing expectations

One of the common objections to the removal of out-of-hours working experiences for Foundation Year 1 doctors concerned the potential implications this had for doctors' second year of the Foundation Training Programme:

'My next job is cardiology as an F2. Having worked no nights in medicine as an F1, I feel I have missed out on essential learning-on-the-job, and am starting to worry that as an F2 not only will I be expected to work the nights, but I will also be expected to have knowledge and more importantly experience that I don't feel I have achieved in my F1 year.'

As the above quote highlights, participants perceived the out-of-hours working period as providing 'essential' learning opportunities. In this vein, a large number of respondents expressed concerns at the effect removing out-of-hours would have on junior doctors' competencies as Foundation Doctors and also as senior grade doctors. In the short-term, many concerns were expressed at doctors being insufficiently experienced for the requirements of Foundation Year 2.

A further important theme discussed concerned 'expectations' inherent in the medical profession. Participants described a range of norms and expectations which often centred around experiences junior doctors 'should have' acquired by certain time periods within the training programme. These expectations were typically reported to originate from senior medics but, in some instances, stemmed from other healthcare professionals. Participants described feeling pressurised to meet these expectations which were often mismatched with what their experiences afforded. Consequently, the data suggested that prevailing expectations may require some readjustment owing to the shorter working hours, as illustrated by the following participant:

'F2 posts are far more likely to have less out-of-hours working and so next year there will be ST1 doctors working in acute care with no out-of-hours experience, yet as a ST doctor they will be in responsible positions which they are expected to fulfil. But some will be unable to act with confidence or competence due to lack of experience as Foundation Doctors. Personally I feel my experiences as an F1 with out of hours experience is far superior to those I know from other Trusts who have no out-of-hours opportunities.'

Associated with the theme of changing expectations was a perceived unfairness credited to the lack of standardisation in implementation of working hours. As the

above quote illustrates, some Foundation doctors reported having greater exposure to out-of-hours work opportunities, with some participants reporting increased overall working hours in general. In all instances, differential experiences were attributed to disparate initiatives at different NHS hospital Trusts and differences among medical specialties. Whilst, to some extent, this was understood, participants commented that standardisation was important not only for creating equality of opportunity among junior doctors but also in terms of addressing the expectations for senior professionals working with doctors-in-training.

Questionnaire theme 15: Confidence building

A second pertinent theme which arose in response to item six concerned the importance of out-of-hours experiences for developing confidence. As the following participant stated:

‘Out-of-hours work is an absolutely essential part of the job. This is where you have to assess and make clinical decisions based on a patient’s presentation, a patient who you may or may not have met previously. It builds confidence and allows me, as an FY1, to be in the places that ordinarily I would shy away from.’

The above quote illustrates an important theme concerning the differing opportunities afforded by out-of-hours and day-shifts. The data suggested confidence building stemmed from juniors ‘stepping out of their comfort zone’, wherein doctors were applying clinical knowledge to real life scenarios. In particular, responses indicated that out-of-hours experiences ‘stretch’ junior doctors in ways that day-shifts do not. As the following respondent noted:

‘For most house officer posts, out-of-hours/on-call work comprises the majority of acute and diagnostic experience, responsibility and opportunities to build practical skills of the job. Removing this experience reduces the focus of the FY1 year to administrative work, long-term management and

gaining experience of acute situations second-hand. Juniors have to work out-of-hours at some point, surely this is better earlier on and supervised.'

A number of participants further commented that out-of-hours opportunities enable junior medics to 'recognise their own imitations' and seek help and support where appropriate. As the above quote illustrates, an issue participants made frequent reference to, concerned the administrative nature of day-shifts which were contrasted to the practical, 'hands-on' nature of out-of-hours work. The discrepancy between these shifts was often attributed to day-shifts being well staffed and therefore failing to provide junior medics with opportunities to engage in clinical-decision making and so develop their medical confidence. The perceived differences between out-of-hours and day-shifts are discussed in greater detail in the following section.

5.5.3.1 Comparison of out-of-hours and day shifts

The following section presents data on responses to item 13 'What do out-of-hours offer beyond day shifts'. Participants were presented with a range of 12 categorical response options and asked to 'indicate up to three responses'. Whilst the majority of respondents followed the instructions, a number of participants ($n = 76$) provided more than three responses. Whilst deletion of these data cases was considered, these cases were retained and participant's first three responses were selected. Whilst the limitations of retaining these cases is recognised, particularly insofar as this approach involving a degree of subjective speculation as to which answers were the most important and/or relevant to participants, in the majority of these instances participants provided four rather than three responses. The researcher therefore viewed the degree of subjective speculation as minimal and the chosen approach as reflecting the dataset.

Eight hundred and eight-three responses were provided from 358 participants (missing data representing 65 cases). This translated to an average of 2.47 responses from each of the 358 respondents. The breakdown of responses is detailed in Table 20.

Table 20: What out-of-hours offer beyond day shifts

	Number of responses (n=883)
More acute medical situations	185
Clinical decision-making	180
More hands on experience	121
Confidence building	94
Less senior support	73
Increased autonomy	69
Less administrative	50
Increased pay	44
Ad hoc teaching opportunities	28
Out-of-hours offers little above days	14
Ownership of patient cases/ continuity of care	11
One-to-one patient interaction	11
Other	3

As can be seen in Table 20, more acute medical situations were the most commonly reported response (21 percent) to what out of hours offer beyond day shifts. This was closely followed by clinical decision making (20.4 percent). Fifteen participants also provided an open-ended response to item 13 in addition to indicating three categorical responses. Analysis of the open-ended responses led to the development of four further codes which were as follows: Experience; Learning to recognise own limitations; Develop coping skills; and Increased stress. The open-ended responses highlighted a number of pertinent issues which served to provide greater depth to the quantitative responses.

The majority of respondents who provided open-ended responses discussed the utility of out-of-hours shifts in terms of providing opportunities to develop confidence and coping mechanisms. In most instances, participants made reference to these skills being facilitated through personally engaging in acute medical situations. As the following participant commented:

‘Out-of-hours experience makes you take decisions, make judgements and learn to recognise your own limitations and enhances your confidence in dealing with acute medical situations. During the day, you follow senior input and rarely are given the opportunity to "think for yourself" and just run about doing jobs/ arranging investigations. It is only in out of hours that you get a chance to assess/ examine and treat patients, lead by your own judgement and then have the learning opportunity to follow-up what the day team did and learn from the management they later undertook.’

The above quote illustrates a number of important and recurring themes which were previously outlined in 5.4.3 under Questionnaire theme 15 ‘Confidence building’. The open-ended responses further served to highlight the interlinking of themes and consolidated quantitative responses from item 13, in particular the six most cited response options. Furthermore, the open-ended data were useful by means of providing an insight into why many participants may have had difficulty in adhering to just three categorical response options. Specifically, it is suggested that the categorical response options may be interlinked to such a degree that respondents found it difficult to separate out responses. This point is further discussed in section 5.5.2.

5.5.3.2 Work-related stressors

The following section discusses responses to item 14, ‘What do you consider to be the most stressful aspect of your job as a junior doctor’. One thousand and thirty-six responses were provided from 379 participants (missing data representing 44 cases). This translated to an average of 2.73 responses from each of the 379 respondents. As was the case with item 13, a number of participants ($n = 16$)

provided more than the requested three responses to this item. The responses for these 16 participants were included for the purpose of analysis for reasons outlined in 5.4.3.1 and owing to the small number of cases. The breakdown of responses is shown in Table 21.

Table 21: Stressful aspects of work

	N responses (n = 1036)
Understaffing	200
Lack of scheduled breaks	133
Lack of senior support	112
Difficult colleagues	99
Medical emergencies	82
Clinical decision-making	80
Patients relatives	66
Long working hours	57
Difficult patients	54
Prioritising	49
Nights	34
Death & bereavement	25
Out-of-hours	24
Other	21

As indicated in Table 21, the most commonly reported response to stressful aspects of work was understaffing (19.3 percent). In relation to this, the next two most commonly reported responses were lack of scheduled breaks (12.8 percent) followed by lack of senior support (10.8 percent). Forty-seven participants provided open-ended responses to this item in addition to their indicating three categorical response options. Analysis of the open-ended data led to the development of

fifteen additional codes which are presented in Appendix H. These responses were useful by a mean of providing greater depth to the quantitative responses and further served to clarify the interlinking of themes.

Analysis of open-ended responses corroborated the quantitative findings regarding the stress of clinical decision-making and medical emergencies. However, an interesting theme which emerged from the open-ended responses concerned participants' recognition that a certain element of workplace stress was beneficial for learning. As the following participant commented:

'Decision-making comes with experience so it is stressful when you aren't sure what to do but that it part of developing as a doctor.'

The open-ended data indicated that stressful experiences may serve to consolidate learning and enable doctors to acquire relevant coping and time-management skills. This insight was of great benefit as analysis of the quantitative responses initially presented a negative view of work related stressors. However, the open-ended responses offered greater understanding of this data, serving to illustrate that stress, to an extent, may be welcome by doctors.

A further interesting theme which emerged from the data concerned participants seemingly paradoxical views regarding out-of-hours working. Whilst, as sections 5.5.3 and 5.5.3.1 have noted, out-of-hours opportunities were valued by participants, many respondents discussed difficulties with these shifts owing to their being understaffed and participants therefore experiencing difficulty in taking break opportunities. This therefore served to substantiate responses from the quantitative data. As the following participant commented:

'Lack of scheduled breaks applies only to out-of-hours working – I consistently miss breaks due to the constant stream of work and lack of structure.'

Respondents made frequent reference to work intensity of out-of-hours shifts which was often linked to the increased demands on staffing resulting from WTD

and thin layers of cover during these periods. Consequently, whilst out-of-hours shifts were valued for the opportunities they afforded for autonomy and clinical decision-making, the intensity of these shifts was of notable concern to participants.

5.6 Discussion

5.6.1 Summary of key findings

This second research study provided a mix of quantitative and qualitative data on junior doctors' working experiences under the Working Time Directive. The key findings from the chapter are as follows:

With regards to Research Objective 1, junior doctors' views and experiences of operating within the remit of the Working Time Directive, participants expressed disparate views towards the Directive. Whilst the data largely pointed to doctors' understanding the need for a regulation of hours in the profession, participants overwhelmingly viewed the stringent requirements of the Directive as incompatible with medicine. In particular, participants alluded to the need for flexibility in working hours, with patients rather than paperwork being their priority. Consequently, many participants viewed the Directive as a theoretically useful piece of policy but one which is unfeasible in practise. A further important theme which illustrated doctors' conflicting views towards the Directive concerned their perceptions of the beneficial elements of a reduction in working hours, but the concurrent increase in work intensity. Particular reference was made to this being the situation in out-of-hours working periods, a point which is further discussed in relation to Research Objective 2.

In terms of the impact of the WTD on participants' wellbeing and work-life balance, few participants viewed the Directive as detrimental in these areas. However, there was a relatively even split in the numbers of participants who viewed the Directive as having a positive impact and those who had unsure or mixed views on this matter. Whilst a number of interesting themes emerged whereby the Directive was

viewed as encouraging doctors to develop a life outside of medicine and their taking better self-care, the move towards shift-based working practices, introduced under the Directive, was not viewed as entirely conducive towards wellbeing or work-life balance. In line with this, a large number of respondents discussed experiencing difficulties with compensatory rest periods which were often referred to as a 'manipulation of hours' rather than being in place for the benefit of doctors. With regards to impact of the Directive on training and educational opportunities, the overwhelming majority of participants expressed negative views on this matter. One of the principal concerns voiced in relation to this topic centred on participants' anxieties that service provision would take precedent to training. Specifically, participants made reference to the fewer number of available doctors at any one point, owing to the limits on working hours, and corresponding increased service demands on employees. Some participants expressed a degree of resentment over training opportunities being taken away from junior medics and 'given' to other healthcare professionals. This highlighted a lack of communication from management regarding the benefits of such initiatives and furthermore a lack of reassurance and faith in doctors over the international reputation of the UK medical training system.

In terms of Research Objective 2, advantages and disadvantages of different working schedules, participants appeared to strongly differentiate out-of-hours and day-shifts. As with the findings from Chapter 3, participants placed a great deal of value on the opportunities provided by out-of-hours working periods. In particular, the findings from the present research outlined the perceived advantages out-of-hours shifts proffer in terms of their opportunities for clinical-decision making, confidence and developing coping skills. By contrast, day-shifts were perceived as more administrative in nature and providing fewer experiential opportunities owing to suitable covers of staffing during these periods. In line with this, almost all respondents were adverse to the removal of out-of-hours working for Foundation Year 1 doctors.

In relation to Research Objective 3, psychosocial working conditions and work-related stressors, the data highlighted understaffing and lack of scheduled breaks as the most stressful aspects of a junior doctors' job. Whilst the quantitative data

obtained for this was useful by means of identifying key workplace stressors, the qualitative data served to provide a unique insight into the means through which stress may be beneficial. In particular, the data revealed that stress may consolidate learning and facilitate the acquisition of time-management and coping skills. Consequently, the data indicated that participants welcome a degree of stress within the workplace so long as they have suitable support, particularly senior support. In terms of developing the findings from Research Objectives 1, 2 and 3 for the purpose of Research Objective 4, this is detailed in section 5.7.

5.6.2 Strengths and limitations

The data obtained from the research phase is unique by means of it combining qualitative and quantitative data to yield both breadth and depth to the findings. Indeed, one of the principal strengths of the present research phase concerns the detailed responses participants provided, particularly in the case of open-ended data. This was an extremely welcome, if not surprise finding, which served for greater exploration and understanding of the data which would have not possible with the quantitative responses options alone. The depth of responses may well be explained by the use of web-based research for the purpose of data collection. A recent study by Deutskens et al. (2006) suggested that although online and mail surveys typically produce similar results, an advantage over online surveys is that participants may provide lengthier answers and more details in response. The explanation which has been offered for the 'outspokenness' (Deutskens et al., 2006, p. 352) of online respondents has been attributed to reduced social context information which may facilitate responses and also increase respondents' perceived anonymity.

A limitation of the research pertains to the point that participants in the study only had experience of working within confines of the Working Time Directive This therefore meant that participants' answers only reflected what was personally known. Indeed, a number of respondents commented that the only way in which they were able to benchmark their experiences were through comparisons to anecdote from senior colleagues. Whilst in one sense this may be viewed as a

limitation of the research, it is suggested that this may concurrently be an advantage of the research. Specifically, the responses served to provide a detailed insight into doctors' perceptions and that which they felt to be the case and thus reflected what was known and experienced by these individuals. Final limitations of the study including the generalisability, attrition rate, and cross-sectional nature of the research are discussed in section 4.6.3.

5.7 Summary and conclusions

The aim of this study was to develop the findings from the first research phase and explore the findings presented in Chapter 4 with the assistance of supplementary qualitative data. Responses from 423 participants provided an insight into junior doctors' views on the Working Time Directive and their perceptions of the impact of the Directive on wellbeing, work-life balance, training and educational opportunities. Additionally, the data illustrated doctors' views on the utility of different working schedules and their work-related stressors. Findings illustrated participants mixed attitudes towards the WTD, with the Directive being associated as detrimental to training and education but, to an extent, beneficial to wellbeing and work-life balance. Whilst participants appeared to understand the need for a regulation of working hours in the profession, the way in which the Directive has been implemented has not necessarily been welcomed. The research phase has been useful as a means of providing a detailed insight into the views of some of the first cohorts of junior doctors affected by the Directive. The reported views and experiences may be useful for the purpose of future rota design by means of understanding what doctors value in the workplace. Furthermore, by acknowledging and, where possible, incorporating the research findings in future rota planning strategies, junior doctors may foster a greater sense of rota ownership knowing that their views on such matters have been taken account of. The means through which this may be achieved is explored in greater detail in Chapters 6 and 7.

Chapter One
Introduction



Chapter Two
Literature review



Chapter Three
Interviews with junior doctors



Chapter Four
Questionnaire survey: part 1



Chapter Five
Questionnaire survey: part 2



Chapter Six
Focus groups



Chapter Seven
Expert Panel



Chapter Eight
Discussion, implications and recommendations

Chapter 6

6.1 Introduction

This chapter presents the results of a third research phase, a focus group study, involving 23 junior doctors. The purpose of the research was to validate the findings from the interview and questionnaire studies, and explore in greater depth emergent themes from the studies. As such, the research aimed to elicit participants' views and opinions on the issues under investigation. The content of the focus group schedule was informed by data from the previous two research phases, from reviews of the literature and from consultations with relevant key stakeholders and expert user groups. The present chapter outlines the rationale behind the selection of the focus group method, before detailing the study procedure and key findings from the research phase. The findings are then discussed in relation to the wider research objectives of the thesis.

6.2 Research Objectives

The aim of this research phase was to further explore the findings from the previous research phases by presenting participants with key outcomes and obtaining their feedback. In so doing, the present research phase sought to operate as a validation study. Specifically, the research aims were as follows:

- 1:** Assess doctors' views on the perceived utility of the Working Time Directive.
- 2:** Explore junior doctors' experiences of complying with the Working Time Directive.
- 3:** Examine different working schedules and their associated advantages and disadvantages.

4: Utilise research findings for future workforce reconfiguration and rota planning.

6.3 Research methodology

In order to meet the objectives of the present research, the focus group was deemed the most suitable research method. Focus groups are defined as small structured groups with a select number of participants who are coordinated by a moderator (Litosseliti, 2003). Typically, focus groups are set up in order to explore specific topic areas and offer a way of gauging individual's views and experiences in and through the process of group interactions. Indeed, this interaction of group members is what makes focus group research unique. The interactions which arise in a focus group situation encompass a wide range of communicative processes which may stimulate debate and discussion between individual members. The interactions may also facilitate additional insight as group members build on the views of one another. Focus groups are therefore regarded as a good choice of method when the research seeks to elicit individual's opinions and understandings (Wilkinson, cited in Smith, 2003) with the tool being a useful way in which capture understandings, perspectives and experiences (Hoepfl, 1997). In line with this, the method does not lend itself well to hypothesis testing and the principles of quantification because focus groups are, by nature, typically based on small samples and are therefore difficult to generalise from.

The focus group method is a unique research tool providing a means of collecting a large volume of data relatively cheaply and quickly. Furthermore, the method offers additional depth and richness of data over and above the traditional interview technique (Krueger, 1994), offering a more natural, less controllable form of discussion (Hollander, 2004). However, the cultivation of naturalistic discussions require the skills of a trained moderator who is able not only to bring together appropriate participants but also manage their group dynamics (Linell, 2001). It is therefore widely recognised that the role of the moderator is integral to focus group research, with the focus and structure of the moderator shaping the focus group. As with interview research, there are a number of approaches to moderating focus groups which, broadly speaking fall into a structured and open-ended approach

(Bryman, 2001, p.355). Whilst a focus group moderator might begin the session with a given question, their questioning strategy and involvement in the focus group process after this point will depend on their research objectives and, moreover, their epistemology. The flexibility of the focus group method is therefore a particular strength of the tool, as the focus group can be adapted to provide the most desirable level of focus and structure depending on the role the group moderator adopts.

6.4 Method

6.4.1 Focus group schedule development

The present study adopted a relatively structured approach to data collection, with the focal stimuli of the focus groups being a focus group schedule. The contents of the schedule underwent a lengthy development stage which was initially informed by key themes from the interview and questionnaire studies and on the basis of the literature review. The draft version of the schedule was subsequently reviewed by two academics familiar with focus group research. These experts assessed the schedule for question wording and structure. A small number of amendments were made on the draft version based on the feedback from these individuals. Verbal feedback was subsequently obtained from two individuals from the supporting Deanery who were involved in medical staffing and human resource management who assessed question phrasing and terminology. Finally, the focus group schedule was presented to a Specialty Trainee Year 1 doctor who provided comments on the usability of the schedule. The final version of the focus group schedule comprised 18 questions, with the first question comprising an ice breaker. The schedule can be located in Appendix J.

6.4.2 Procedure

Participants were recruited for the study via two methods. In the first method, the researcher contacted all participants from the interview and questionnaire studies

who had expressed an interest in engaging future research. This represented 12 and 171 participants respectively. These individuals were contacted via electronic methods and were provided with information on the rationale behind the research phase. Individuals were given details of the dates and locations of the focus groups and were asked to reply directly to the researcher to confirm their attendance. The second method of recruitment was performed on the behalf of the researcher, owing to confidentiality and data protection issues, by medical staffing from the supporting Deanery. Using this method of recruitment, an invitation to participate in the study was distributed via the Deanery's internal communication system. The invitation outlined the rationale for the research and included information on the dates and location of focus groups (see Appendix I for research invitation). Participants were asked to reply directly to the researcher and confirm their attendance. The invitations were distributed in September 2008 and sent to all Foundation Year 1 and 2 Doctors working for Foundation Schools associated with the supporting Deanery at this time (n = 1250). One reminder was sent following the original invitation.

The focus groups took place over the course of a two week period, between late September and early October 2008. All focus groups were conducted at Postgraduate Education Centres at a range of sites across the East Midlands Healthcare Workforce Deanery. The focus groups were planned in such a way as to ensure a fair geographic spread, such that participants would not be prevented from attending due to logistic constraints. Whilst nine focus groups were originally scheduled, due to participant attrition only five of the sessions yielded a sufficient number of participants for the focus group to be conducted. The decision to cease data collection after five focus groups was made due to data saturation being reached.

To ensure consistency, the same individual, the author, acted as the moderator for each of the focus group sessions. The moderator was trained in interviewing skills and had experience of conducting focus groups. The role of the moderator was to facilitate and pose the pre-defined questions, maintain the group discussions and encourage active participation by all group members. At the start of each focus group the moderator explained the purpose of the session and wider research

project. Participants were briefed on the conventions of focus group participation including the requirements for turn-taking and the anticipated session time. Following this, the moderator established a number of ground rules which participants were asked to abide by. The moderator outlined the ethical issues involved in focus group research and requested that participants gave due respect to the views of their colleagues and that discussions were not to be repeated after the session had ceased. Participants provided verbal consent on these conditions and permission was obtained from each participant for the focus group to be audio recorded. Participants were advised that upon transcribing the audio recorded data any personally identifiable information would be removed. For example, participants were advised that if any references were made to a place of work or names of colleagues that this information would be deleted. In line with this, each focus group was conducted in accordance with the ethical guidelines from the British Psychological Society (British Psychological Society, 2006).

Following the introduction and establishing of ground rules, participants were presented with an individual copy of the ice breaker. Participants were then given five minutes to read the material and then asked to discuss their general views and attitudes on the article. The ice breaker was taken from the British Broadcasting Corporation (BBC) news website (2009) and presented a report on staffing numbers in the National Health Service (see Appendix J). Using such an open-ended questioning strategy served to stimulate a general discussion among participants, providing participants with the opportunity to talk about personally salient issues and assisted in building group dynamics from the outset. Following the discussion of the ice breaker the moderator posed the first open-ended question and asked the group share their views on the question. Whilst a pre-defined focus schedule had been devised, the moderator used discretion in adhering to the schedule depending on the dynamics of the individual focus groups. For example, if participants provided an answer to a question before they have been explicitly asked about it, the moderator deviated from the schedule to avoid repetition.

At the end of the focus group the moderator thanked group members for their participation and reiterated what would happen to the audio recorded data.

Participants were provided with the contact details of the moderator and were advised to contact the moderator if there were any further questions about the research or queries about data storage.

6.5 Results

Five focus groups were conducted in total, with the number of participants in each focus group ranging from three to six. The median number of participants was five. Focus groups lasted between 27 and 65 minutes with the mean duration being 50 minutes.

6.5.1 Participant characteristics

Tables 22 and 23 show the composition of each focus group, detailing participants gender and training grade.

Table 22: Focus group participants by gender

<i>Focus group number</i>	<i>Gender</i>		
	Male (n=6)	Female (n=17)	N participants (n=23)
1	0	3	3
2	0	4	4
3	1	4	5
4	3	2	5
5	2	4	6

As can be observed from Table 22, females formed the majority of focus group participants, 70 percent, with males comprising the remaining 30 percent of the sample. This point is further discussed in section 6.6.2.

Table 23: Focus group participants by training grade

<i>Focus group number</i>	<i>Training grade</i>			
	FY*1 (n=3)	FY2 (n=17)	ST** (n=3)	N participants (n=23)
1	1	2	0	3
2	0	4	0	4
3	0	5	0	5
4	2	1	2	5
5	0	5	1	6

Note:

*FY = Foundation Year

**ST = Specialty Training

As Table 23 indicates, the sample overwhelmingly comprised junior doctors in their second year of the Foundation Programme (73.4 percent). These participants had therefore been working in their Foundation job for a minimum of fifteen months at the time the focus groups were conducted. Foundation Year 1 and Specialty Training doctors comprised the remaining 26.6 percent of the sample. Of the Specialty Training doctors, each had been working in the post for a few months at the time of data collection and, as such, had only just completed the Foundation Year 2.

6.5.2 Data analysis

The five audio recorded focus groups were transcribed verbatim and imported into the qualitative software management tool NVivo (Version 7.0) which facilitated data coding. The data were analysed according to the traditions of template analysis which has been previously described in 3.4.1. In line with the traditions of template analysis, a number of codes had been pre defined prior to the analysis of the transcribed data based on the researcher's personal expectations and in line with emergent themes from the interview and questionnaire studies. The coding template can be found in Appendix K. The analysis and coding of the data were performed on a transcript by transcript basis once data collection had ceased.

Each focus group transcript was read through three times before codes were applied. The coding template applied to the data was arranged in a hierarchical manner, with lower level codes illustrating specific issues and higher level codes representing general issues. Data were coded according to the method of parallel coding whereby more than one code could be applied to the same selection of text. The original coding template was continually revised and developed as the researcher engaged with the data. In all instances the coded text represented sentences, or parts thereof, as opposed to individual words. Data coding ceased once codes had been assigned to all sections of text relating to the research objectives.

In order to increase coding reliability, an independent researcher trained in qualitative data analysis was employed to code two randomly selected transcripts. The independent researcher was provided with the coding template developed by the author and asked to apply codes to sections of text according to the template. The independent researcher was also given the discretion to generate new codes. The two researchers subsequently compared their sets of coded data and had the opportunity to discuss any inconsistencies. A small number of inconsistencies in coding emerged which arose owing to differing interpretations of coding definitions. The researchers discuss individual inconsistencies, revising coding terminology until consensus was achieved. The final coding template is included in Appendix K and documents codes which were added or removed in light of data analysis.

The following section presents key findings in relation to the Research Objectives outlined in 6.2. Results are displayed in accordance with main themes from the coding template. As discussed in 6.4.2, in order to protect participant identity, personally identifiable information has been removed.

6.5.3 Working Time Directive: overview

Across the five focus groups, participants expressed a range of views on their general feelings towards the Directive. Typically, participants articulated mixed views, acknowledging the benefits of a regulation of working hours but also stating their frustration at the way in which the Directive had been implemented.

Discussion theme 1, from focus group four, illustrates this issue.

Discussion theme 1: *A regulation of hours as beneficial*

D: But the thing I always hear over and over again is that all the doctors are saying oh, back in our day, before the Directive we could do lots of hours, we were really experienced and are you going to be really inexperienced and really crap doctors because ...

B: But I think they forget, I mean when they used to do I don't know how many on calls in a row, they wouldn't sleep for 24 hours... they weren't sleeping at all and how...

D: They probably forget how many mistakes they made

B I mean that's not a good lifestyle but I ..

D: But I think it's (WTD) a good thing.

A: *In theory it's a good thing...*

B: *But in practise it's got a way to go.*

Code: A = Participant A

B = Participant B

D = Participant D

Many participants made reference to the 'traditional' way in which medicine was practised, recognising that this was not only unsafe for doctors but also for patients. Participants therefore largely viewed the legislation as a potentially positive initiative, which was theoretically intended to protect doctors and their patients. Several participants made reference to medics being 'human', possessing the same needs and fallibilities as other professional groups, whilst simultaneously recognising that some doctors like to think this is not the case. However, as previously highlighted in 5.5.2.3, it may be that the views expressed here may reflect Intergenerational Learning; insofar as participants may be reporting the views they have learned from their senior colleagues. Further to this, it may be that views are subject to selection bias. This is possible because for those doctors who found earlier training regimes too demanding may have left the profession. As such, it is only those whom have survived the punishing training regimes that we are able to hear the views from.

Notwithstanding, in terms of the reported protective element of the Working Time Directive, a 25 year old male Foundation Year 2 doctor shared his views on the Directive as a welcome initiative, owing to the safeguards it provides for doctors-in-training:

'...Yes, you're right, the Directive restricts the number of hours you can work, but it also gives you an enormous amount of protection, it's European law, it's about as big as it gets within our limit, and there's a lot of other things in the Directive, things like not being bullied to work extra hours and things like that that people don't necessarily know about. People always hear about this 44 hours or however many hours they are now going to

change it to, they hear about that and they think that's bad, but they don't recognise that actually there's a lot of really strong benefits and a lot of contract protection that you get through that and if jobs are made around that to be compliant with the WTD people will have a nicer life.'

A number of participants made reference to the negative attention the Directive had received and the lack of acknowledgement for the positives of the Directive. The above participant described his frustration at the emphasis that had been placed on number of hours and the failure of Trusts, Medical Schools and Government to provide adequate information on the wider remit of the Directive. In line with this, many participants discussed being ill informed on the provisions of the Directive, as illustrated by the above participant making reference to '*44 hours or however many hours...*'. A small number of participants commented that misunderstandings on the Directive had not been helped by the negative media attention the Directive had received and, furthermore, the failure of senior medical staff to engage with the Directive. In line with this, several references were made to the ways in which consultant grade doctors 'mocked' the Directive, and the impact this had not only on junior doctors, but the wider effect on the medical climate.

Whilst several participants acknowledged the protective benefits of the Directive, a number of issues were raised about the rigidity of the Directive and lack of opportunity for individual choice. A 27 year old female Foundation Year 2 doctor described the sacrifices she had made for her medical career and irritation at the way in which the Directive had hampered her progress:

'I've spoken to people who are happy to get a balance between their work and personal life and they're very happy working 9-5 and having no weekends at work. Some of us though make a decision that their work is important. My partner and I live hours apart, all my friends live in London and I made a conscious decision that the job would come first and then having made that decision and then being told that you only get to work 9-5 Monday to Friday and that you're going to get kicked off if someone catches you on the ward. You think this isn't right, you've spent 6 years working for this, you have spent a hell a lot of your parents money, gone through

everything you do in that time and then left everyone behind so you can come and do what you want to do then somebody takes it away.'

The above participant discussed her anger towards the Directive, viewing it as hampering not only her professional life but also her personal life. The participant described her annoyance at not being informed about the constraints and limited working hours of her post prior to her moving to a new geographic area to commence the job. In line with the views of several other participants, the above female understood why excessive working hours were unsuitable but expressed frustration at not having any individual choice or discretion at working beyond scheduled hours. As with other participants, this individual described her experiences of being 'kicked off' the ward owing to compliance issues and her frustration at being unable to see a case through and learn from it. Indeed, an overarching theme from the focus groups was how such a rigid Directive is incompatible with the practise of medicine. This theme is discussed in greater detail in 6.5.4.

6.5.4 Compliance with the Directive

A topic discussed at some length across the focus groups concerned the degree to which scheduled working hours were adhered to. All participants made reference to their 'rostered hours', but a general consensus among participants was that medicine was not compatible with rigid scheduled working hours. A 25 year old Specialty Trainee year 1 doctor outlined her views on this seeming incompatibility:

'It can't be made 9 to 5, there are always going to be sick patients, there are always going to be problems that you can't anticipate so it doesn't work being so set like this is the hours you will work and you will have a break at this time because there is always something that will crop up.'

Participants regularly alluded to the issue of flexible working, which was viewed as integral to the practise of medicine. Consequently, participants regarded a rigid enforcement of hours as both impracticable and unworkable. A number of specialty specific issues were raised across the focus groups in relation to compliance with

scheduled hours. In particular, participants remarked on there being a unique attitude towards the Directive among the surgical specialties. The discussions provided insights into number of informal norms and traditions among doctors working in the surgical specialties as illustrated by Discussion theme 2.

Discussion theme 2: *Specialty specific informal norms*

C: There's a lot of competitiveness in surgery so basically if you want to have the extra edge you have to well you can't comply with the Directive, you just have to come in and just see more cases because that's what, because the consultants say I haven't seen your round, you are not like that's when I was on nights most of the week, and they say you are not around so we are not learning much so, so he (the consultant) is not very happy about me so basically I'm expected to come for the morning round when I'm on twilights as well.

D: I think it's a reflection of the surgical kind of mentality.

Whilst the incident described by participant C (above) was unique, this participant's experience reflected a broader theme which emerged across the focus groups. Specifically, there was a consensus that the general ethos within the surgical specialties was one of sheer hours equating to experience, a very very much transmitted from senior colleagues. As such, when discussing hours compliance, those participants who were interested in entering surgical specialties reported actively taking opportunities which arose regardless of hours, reporting this not only to be the prevailing norm but also expected of doctors who wished to 'get ahead'. A 25 year old Foundation Year 2 male described his experiences working in a surgical specialty, commenting on prevailing norms and the importance of not making 'a fuss' about hours:

'Consultants are very big on if you're keen, if you keep your mouth shut, if you do your work you get, especially now, an F2, they will remember you, at interview they'll remember you and you'll get your ST job and there's a lot of that, there's so much of that.'

The experiences described by the above participant highlighted participants' concerns at making a good impression, particularly on senior colleagues. A number of participants shared their beliefs that the most successful way to do this was to 'show face', be keen and be 'on hand' as much as possible. Several participants who were interested in entering a career in specialties other than surgery discussed the surgical specialties being 'a law unto themselves'. In some instances, these participants appeared to sympathise with the prevailing surgical ethos, but simultaneously disagreed with the informal norms and practises, failing to understand why surgery should be exempt and the other specialties forced to comply.

6.5.5 Work intensity under the Directive

One of the most pertinent themes raised across the focus groups concerned an issue which had been discussed at some length in both the interview and questionnaire studies. Specifically, many participants voiced their concerns at a Directive which was theoretically implemented to benefit the welfare of junior doctors but had, in practise, failed to do so owing to increased work intensity typical of junior doctors' shifts. This is illustrated by Discussion theme 3.

Discussion theme 3: *Reduced working hours but increased work intensity*

A: *I also wonder if at nights there's less people around, so even though you're working nights it's so much busier because whenever I talk to seniors, they say oh yes, I did nights, but you'd get sleep from time to time, you would never dream of getting sleep at the minute and I wonder if that's because of the Directive, they have to put less on, you know, they make your nights more infrequent but there's less of you around at nights to cover so you're really much busier.*

D: *It would be an official on call room available so you'd be there for like a stretch of 24 hours, now you can only do a maximum of 13, but you're working flat out ...*

A: *Definitely, yes, because you just don't stop.*

Participants discussed their concerns at the intense working conditions which were described as typical of out-of-hours shifts. However, a number of participants also made reference to work intensity during day shifts. As Discussion theme 3 illustrates, participants described the busy nature of out-of-hours shifts which were characterised by few rest opportunities, a lack of staff and a seemingly 'overwhelming' number of jobs. Several issues were raised about the Directive stipulating rest provisions, but that in practice these failed to transpire. This point is illustrated by Discussion theme 4.

Discussion theme 4: *Lack of scheduled breaks*

B: They say that you can take breaks every four hours but in reality it's just get a sip of water after seven hours.

A: In my last set of nights I don't think once I went for a break, I think the earliest I got off was 3 o'clock, 4 o'clock? So that's eight, can you imagine, that's eight hours really busy work without a break.

B: Because you are the only SHO and

A: You're the only SHO in the whole medical admissions unit.

B: The whole night.

A: I'm an F2, so not even ... a junior SHO.

B: Nobody is going to cover you are they?

A: No-one to cover in the ward. I just think it's incredible that those working conditions can exist.

Whilst participants commented that they had only ever worked within the remit of the Directive and therefore had little to personally compare their experiences to, many participants drew comparisons to the working conditions of their senior colleagues who had completed their medical training prior to the implementation of the Directive. As Discussion theme 4 illustrates, whilst participants recognised the working hours of their seniors were greater in number prior to the implementation of the WTD, participants viewed the workload of their senior colleagues as less intense, more supported and more team based. However, participants acknowledged that the reports from senior consultants were based on anecdote and some participants therefore questioned the reliability of these accounts and

the degree to which they were able to draw comparisons. In line with this notion, an interesting comparison was drawn between way in which medicine is practised in the UK and Canada, with one participant sharing their views on the intensity of work in the UK as outlined by Discussion theme 5.

Discussion theme 5: UK based practise: lack of team support

C: *I think the problem that whenever anyone mentions the Working Time Directive, what it seems we have done is allowed the rotas, well this that and the other to have said okay you are going to work this set of 10 hours, you're going to be on your feet these 10 hours, you can do all these jobs and you kind of cover four wards. Whereas perhaps when the archaic consultants say, 'we used to work for three weeks without a break' you know they used to be there with five of their mates at the same level, a bit of camaraderie going on and a little bit of side chat about, I've got this patient and I don't quite know what to do and you can approach it as, not as a team but as a group of like minded people and you'd have times where you could have a break someone to take their bleep for them so when teaching opportunities do arise you can't give your bleep to someone and say I'm just going to do this central line, like it used to have happened because that is not the way the rota is set up. But the only time we ever come across the Directive is when someone is trying to hedge us into a box and saying no you will work this time, you will be accountable for this time and that is how it is going to be from now on.*

FM: *Is that similar to how you described the Canadian system?*

C: *Yes.*

FM: *So how have you found the UK system?*

C: *Well, like I said, I mean nobody likes being on-call for 24-48 hours, 24-30 hours in a row but I would much rather do that again than I would do this as it exists right now with this shift system so I think a point that you put on that I don't think we have mentioned yet is that morale is low because of it, you feel alone and isolated and you know there is I think generally speaking poor continuity of care for patients and less learning opportunity as doctors.*

Code: FM = Focus group moderator

The comparison made by the above participant provided a unique insight into why many junior doctors found difficulty with the shift based system. The insight highlighted the isolative aspects of shift-based working practices, the breakdown of a team based system, and the impact of these two issues on morale and a doctor's workload. This is discussed in further detail in 6.5.8. Discussion theme 5 also illustrated a point made by other participants regarding junior doctors' lack of involvement in rota planning issues. The above participant made reference to the ways in which rota planners and medical staffing groups '*...this that and the other...*' performed number crunching strategies, balancing staff and hours. Participants conveyed some frustration at these strategies, describing hours as working successfully on paper but not in practise. Involving doctors in rota planning might therefore be beneficial for optimising rota design, with these staff groups offering an added insight into work at 'ground level'. This may also be beneficial for securing doctors sense of ownership in their working hours.

6.5.6 Wellbeing and work-life balance

In terms of the impact of the Working Time Directive on wellbeing and work-life balance, participants typically made reference to the Directive as a positive initiative. A number of discussions arose wherein participants discussed the Working Time Directive providing an impetus for change, encouraging doctors' to

take greater personal responsibility for their health and wellbeing. This is illustrated by Discussion theme 6.

Discussion theme 6: *WTD encouraging better self-care*

A: It means we have more of a life outside our jobs than people who trained 20 years ago did. I've still been able to go out and meet my friends during the week, whereas 20 years ago a junior doctor hadn't that at all. But as I say yes, it does impact positively on our health, wellbeing and our social lives.

E: Doctors often ask people to think about themselves in a way, their health and wellbeing, so I think it's ...

A: It's forced.

E: Yes, it makes you do that doesn't it?

A: It forces doctors to be more healthy I suppose.

E: Yes, which is better for patients at the end of the day.

Across the focus groups, several references were made to the history of self-neglect which traditionally characterised the medical profession and the ways in which the Directive has challenged norms within medicine. Nonetheless, acknowledgement is given to Intergenerational perceptions and the transmission of beliefs from senior generations. Participants spoke of the Directive enabling doctors to develop their own identity outside of their career and it actively encouraging doctors to consider their work-life balance, rather than being defined by work as may have been the case traditionally. In line with this, there was a general consensus that the Directive promoted healthier working practices and that this was beneficial for the medical profession in general and for patient care.

Whilst the Directive was typically viewed as favourable towards health and wellbeing, in line with Discussion theme 5, a number of references were made to work intensity under the Directive. Specifically, participants discussed how through poor rota planning the Directive had, in some instances, been potentially deleterious to health. This is outlined in Discussion theme 7.

Discussion theme 7: Work intensity and health effects

D: I think one problem is that yes we work a lot shorter hours than doctors used to but the hours we work can be quite horrific. Because there are so few doctors on as they are not allowed to make doctors work long hours, when we are actually working, like we both just did a weekend on-call and it was just horrific and by the end of each day you just felt like physically and mentally exhausted. Even things like I don't always feel safe driving home because you know how you are so tired and there is so much pressure on that weekend. It's all very well we work less hours but the hours you work can be horrible...

F: I think definitely more intensive.

Participants made reference to excessive working hours still being possible under the Working Time Directive owing to the 26 week reference period over which working hours were calculated. As illustrated by Discussion theme 7, a number of participants described their experiences of working 'a weekend on-call' which were typically regarded as an arduous working experience. This was attributed not only to the intensity of the work but also owing to the experience being, in some instances, confounded by occurring at the end of a continuous 12-day stretch. However, the potentially deleterious effects of such working schedules were typically attributed to poor rota planning on the behalf of medical staffing rather than on the Working Time Directive per se.

6.5.7 Training and education

With regards to the impact of the Directive on training and education, participants typically discussed the Directive as a negative initiative. A number of participants alluded to their feelings that the role of the junior doctor has been increasingly reduced and that their responsibilities had been lessened to administrative roles. This was contrasted to the 'traditional' role of a junior doctor. A male Foundation Year 2 doctor from focus group four discussed his concerns at the increased use of night matrons and associated impact of such initiatives on the training of junior doctors:

'Also there's the training issue. I know you've probably heard a lot about this, but the argument could be made that by replacing F1s with lots of night matrons they effectively do the same job as an F1, but then that F1 misses out on training. Then when the F1 gets to F2 level they're then expected to have even more or the same amount of experience. But when it comes to nights, because obviously we haven't well a lot of us have done quite a few un-banded jobs so we won't have the same level of out-of-hours experience. So I think that does effect our training quite a lot.'

As illustrated by above participant, a number of concerns were expressed at the perceived reduction in available opportunities to junior doctors. This was also discussed in relation to increased competition from both peers and more senior colleagues. Indeed, the above participant alluded to 'un-banded' jobs which offered no out-of-hours experiences and expressed frustration that these working experiences were being passed to other healthcare professionals at the expense of doctors-in-training. As such, a degree of resentment was expressed towards other staffing groups. It was also evident from the discussions amongst doctors that the rationale behind the use of initiatives such as the night matron role had not been clearly explained to doctors-in-training. This appeared to augment participants' views that changes to the design of their jobs were compromising training rather than being beneficial.

A number of concerns were also expressed at the impact of what was perceived as 'professional reductionism' would have on doctors progressing to their second year of training. Participants made reference to the issue of expectations and, more specifically, the need to manage expectations within the profession in line with the changes brought about by the Working Time Directive. This was a pertinent issue for the participants in the study owing to the fragmented working experiences reported by these doctors. As such, a number of participants voiced their personal concerns at having experienced restricted working hours and managing the expectations of senior colleagues who, participants thought, may view them as incompetent or less able.

The issue of changing expectations was a theme which consistently emerged across the focus groups. A number of discussions were raised about the norms and cultural practises of UK based medicine requiring cultural adjustment, particularly in relation to training. This is illustrated by Discussion theme 8.

Discussion theme 8: *Changing expectations*

B: The other thing is in eight years if you consider training in the number of actual hours you've spent on a job, not in the number of years, not in the number of weeks doing that, but the actual number of hours you've spent doing the job, following the introduction of the Working Time Directive, everyone's number of hours after eight years will probably have fallen. You know, that's fair enough and you're absolutely right, people after eight years, won't know as much as someone who's been working more hours than you have.

D: True.

B: Having said that, that doesn't mean that European Working Time Directive is bad, that just means that training has to change.

A: Yes, that's what I think.

Participants recognised that the way in which medicine is practised in the UK had changed irrevocably owing to the Working Time Directive. Whilst participants appeared to share this understanding, several discussions were raising which revealed that the wider cultural climate in medicine seemed somewhat delayed in accepting this. Indeed, discussions revealed that, in some instance, cultural norms appeared to be resisting the Working Time Directive as an instigator for change.

Amongst the discussions which arose concerning the impact of the Directive on training, several participants associated the Directive with the lengthening of the UK based training programme. Interestingly, only a few participants discussed this in relation to the Modernising Medical Careers initiative. Participants expressed a wide range of views regarding the lengthening of medical training, with some participants appreciating the benefits of this, as displayed by Discussion theme 9, and other individuals displaying some anger and frustration at this initiative.

Discussion theme 9: *Lengthening medical training*

A: *And you need to make sure that you have enough exposure. I mean if you're not ready to be a consultant after eight years then do ten. Ultimately you're going to spend the largest portion of your medical career doing something like consultant so you're only going to be a junior doctor for about ten, maybe twelve years.*

B: *A quarter of your life, yes.*

A: *A quarter of your medical life yes and the rest of the time you're going to be doing the rest of it, so you're going to continually be gaining experience and there's no rush to suddenly become a consultant. I don't want to be a consultant by the time I'm 30 if I'm not going to be any good. I'll quite happily be a registrar for as long as it takes. If it takes 10, 15 years, so what? I'm still going to be a doctor.*

Although the discussions from Discussion theme 9 appeared to indicate an acceptance at the changes introduced to training, both in line with WTD and MMC, this was not necessarily reflective of the views of all participants. Indeed, there was a dominant attitude amongst trainees who wished to enter the surgical specialities that the Directive was hampering their careers. This related to an issue raised in Discussion theme 2 (Specialty specific informal norms) where participants discussed the prevailing surgical ethos that sheer hours spent in hospital equated to experience. Consequently, for these participants the lengthening of medical training was viewed as preventing trainees being as competent, skilled or successful as previous generations. This therefore added to their seeming 'dislike' of the Directive.

Whilst participants working in, or hoping to enter into careers in the surgical specialties expressed a unique attitude towards the Directive, a number of

participants attracted to alternate specialties appeared to recognise that the Working Time Directive necessitates a reform in training delivery. Specifically, these participants made reference to the need for 'active training' such as that delivered to other groups of healthcare professionals, as illustrated by Discussion theme 10.

Discussion theme 10: *Delivering 'training' under the Working Time Directive*

A: They do need to change the training because for example when I was on nights the Registrar was like, I need to do this lumbar puncture, can you do it? I said no. Yes, I've seen one, I've assisted with one, so I just haven't had enough ... (a) enough exposure to it because I haven't done as many on calls as my predecessors would have, and (b) if I'm not going to get as much kind of one to one exposure with it then someone needs to actually teach me and train me how to do those things, rather than I think before traditionally the method was you kind of pick it up by osmosis, you watch someone do it, then they talk you through it, then you do one, you know, see one, do one, teach one, that model's got to change. They've got to kind of actively train us how to do these things.

E: I think they have to maybe teach it how they teach the nurses, like they teach the nurses so differently.

As the above discussions illustrate, the apprenticeship model on which medicine has been conventionally based is, in some participants' views, incompatible with the Working Time Directive. Participants therefore recognised that the way in which training is delivered under the Directive requires some readjustment both in theory and in practice. Specifically, participants spoke of there being a greater requirement for 'active training' in line with the way other healthcare professionals are trained, if doctors are to acquire the skills they perceive as necessary. In line

with Discussion theme 8 (Changing expectations), a further important theme which arose in relation to training concerned the issue of 'expectations'. In particular, a number of participants emphasised that the expectations of young and upcoming junior cohorts must be managed such that their ideas of what 'training' entails is clear, free from ambiguity and in line with the reality of medical practise.

6.5.8 Working schedules

Across the focus groups, participants described experiencing a range of working schedules and conditions. A topic all five groups touched on concerned the difference between day and out-of-hours shifts, with all participants reaching consensus that the two working periods inherently differed. When identifying how day and out-of-hours shifts differed, participants cited a number of interesting responses which echoed themes from the interview and questionnaire studies. However, one of the most common responses from the focus group research concerned the way in which out-of-hours shifts provided more experiential opportunities and were less administrative in nature. This is illustrated by Discussion theme 11.

Discussion theme 11: *Day shifts as administrative*

A: Well there's more doctory stuff really (during out-of-hours). I think that's the big point as well isn't it? There's less paperwork.

FM: Can you define this 'doctoriness'?

B: There's less paperwork, there's more assessing unwell patients and making decisions.

A: You're not just discharging people or making phone calls and referrals ... like you're doing none of that every night because ... well, the rest of the world doesn't work at night, so there's none of that, yes, paper chasing stuff.

B: Which is probably why it's such a good experience.

Participants regularly associated out-of-hours periods with management of acute medical situations as opposed to their completing 'routine, administrative, duties', described as characteristic of day-shift work. Participants described the ways in which personally managing acute medical situations assisted in a range of skills including prioritisation, time management and coping with pressure.

Overwhelmingly, participants viewed out-of-hours shifts as providing greater experiential learning opportunities and were associated with training more so than with service provision when compared to day-shifts. Across the focus groups, a number of discussions were raised which cited the importance of engaging in out-of-hours working opportunities at an early stage in medical training. Analysis of the data identified this as important for a number of reasons as outlined in Discussion theme 12.

Discussion theme 12: *Early career experiences as important*

B: As an ST1 (Specialty Trainee Year 1) you don't gain that much from doing nights, it's just like you're trundling through the same stuff you already know. But as an F1 it's all new so it's definitely worth doing it. You're managing cases from start to finish almost, apart from the phone call at the end often to the Registrar, so your development is twice as fast, and I did a lot of nights as an F1. Whilst everyone's complaining at doing them (nights) but just comparing to the rotations where they (other colleagues) weren't doing it, you just ended up streets ahead with the management. It didn't make you a better doctor but it just made you that much more confident earlier.

FM: Right.

B: Which then means you can go on to doing more advanced stuff more quickly. It's all really about confidence in your first year because everyone's competent.

Typically, participants agreed that although out-of-hours working opportunities were often stressful in nature, they provided an invaluable learning experience, facilitating the acquisition of a range of skills. Consequently, there was a general consensus that engaging in out-of-hours working was important for the learning of young doctors, allowing them to use clinical decision-making skills and further develop their professional competencies. A number of participants also commented that by delaying out-of-hours working experiences, such as to the Foundation Year 2, this may impact on morale. In particular, participants stressed that Foundation Year 1 doctors, recently graduated from medical school, are typically enthusiastic to learn and eager to acquire opportunities to put their clinical knowledge into practise. Concerns were voiced about restricting their working experiences and, in so doing, curtailing doctors' enthusiasm, diminishing their professional status and adding to a general low morale. This was particularly

discussed in relation to the night shift, and participants disappointment about not having the opportunity to engage in night working as outlined in Discussion theme 13.

Discussion theme 13: Removal/reduction of night working opportunities

FM: And how did you feel when you found out you weren't doing nights?

C: I was really disappointed actually.

E: Yes, I was too.

C: Because one thing is as an F1 doctor obviously you're at the bottom of the food chain again. Like you've just started work and we know it's the most supportive role really and we know but the reason we wanted to do them was for the experience.

Interestingly however, with regards to the utility of different working schedules, the data appeared to present an incongruous finding. Whilst participants reported out-of-hours working experiences as valuable particularly in terms of learning opportunities, confidence building and time management, participants also expressed their objections to these working periods owing to their characteristic work intensity, a theme which has been previously outlined in Discussion theme 3 (Reduced hours but increased work intensity). How it may be possible to reconcile these two issues is explored in Chapter 7.

6.6 Discussion

6.6.1 Summary of key findings

This third research study provided a qualitative insight into junior doctors' experiences of working within the remit of the Working Time Directive. The key findings from the chapter are as follows:

In terms of Research Objective 1, the perceived utility of the Working Time Directive, participants largely recognised the importance of regulated working hours within the medical profession. Participants principally described the Working Time Directive as a positive initiative, particularly for the health and wellbeing of doctors, with the Directive operating as an instigator for cultural change within the profession. However, several concerns were raised at the manner in which the Directive had been implemented, with participants commenting that intensive working conditions still existed and the reference period of the Directive still affording the opportunity long working hours in any given working week. Whilst some participants recognised the Directive as merely necessitating changes in the way in which training is delivered, the overwhelming majority of participants perceived the Directive as detrimental to the UK medical training system. Addressing and managing these concerns is discussed in Chapter 7.

With regards to Research Objective 2, compliance with the Working Time Directive, focus group discussions revealed a unique insight into informal norms and practises in the medical profession. Whilst a 'fudging' of working hours was reported as commonplace, this was attributed to medicine being incompatible with a rigid enforcement of working hours. As such, participants discussed the need for flexibility in medical practice, and this requiring due consideration under the Directive. A number of specialty specific idiosyncrasies emerged in terms of hours compliance, particularly in relation to the surgical specialties. The data suggested that of all the medical specialties, the surgical specialties appear the most resistant to the Working Time Directive, with the dominant cultural norms appearing to refute the Directive and its practise.

In relation to Research Objective 3, advantages and disadvantages of different working schedules, a number of discussions were raised about the Directive instigating a move towards a shift based working and this prompting a major reform in the practise of UK based medicine. In line with the findings from the interview and questionnaire studies, participants viewed there being inherent differences between day and out-of-hours working experiences. Participants described the perceived utility of out-of-hours shifts which were viewed as providing opportunities for the management of acute medical situations which served to develop skills including time management, prioritisation and coping with pressure. Out-of-hours shifts were largely viewed as providing greater experiential learning opportunities and were associated with training compared to day-shifts which were typically associated with administration and service provision. There was a general consensus that engaging in out-of-hours working was highly beneficial for the learning of junior doctors. In line with this, a number of concerns were raised about restricting the working experiences of Foundation Year 1 doctors in particular, owing to the perceived impact on training, and, more broadly speaking, general morale and enthusiasm. However, one of the most interesting findings from the data concerned reconciling the perceived benefits of out-of-hours opportunities with work intensity and burnout resulting from these periods. How to reconcile these seemingly contradictory findings is further discussed in relation to Research Objective 4.

Finally, utilising the research findings for future workforce reconfiguration and rota planning, Research Objective 4, there are a number of recommendations from the present data. Firstly, where possible, it may be an idea to provide junior doctors with the opportunity to engage in out-of-hours working opportunities in a suitably supportive environment. Reducing traditional silo working, though the provision of appropriate cross-cover and support, may also serve to address the issue of work intensity during the out-of-hours period. Secondly, it appears that minimising the administrative roles of doctors during day-shifts, such that these working conditions are not perceived as service provision to such an extent, may be of benefit. A third suggestion derived from the research concerns the provision of additional information on the benefits of working with allied healthcare professional groups. In particular, having greater clarity on the roles of other professional groups may

assist in challenging the notion that the role of the junior doctor is becoming increasingly deskilled and 'replaced' by other groups.

A further suggestion from the research, concerning the delivery of training under the Working Time Directive, centred on the notion of 'active training'. Specifically, in terms of the delivery of doctors' training, the data indicated that aligning training in the way that it is provided to groups of allied healthcare professionals, such as nurses and phlebotomists, may be a line of enquiry to investigate. Finally, one of the most important recommendations from the research concerns managing expectations in line with the Directive. One way to achieve this may be through providing greater clarity of information on the Directive, which is particularly important to upcoming cohorts of junior doctors. The data suggested that challenging prevailing attitudes among more senior colleagues within the profession, particularly among the surgical specialties, might also be beneficial and provide wider cultural reform and greater general support for the Directive. The ways in which these suggestions may be translated into practice is discussed in Chapter 7.

6.6.2 Strengths and limitations

This study provided an in-depth exploration of junior doctors' experiences of working under the Working Time Directive, highlighting key issues from the perspectives of junior doctors. The unique nature of this focus group research offered a number of advantages. The use of focus groups was particularly fruitful in cultivating rich and detailed data owing to the unique interactions of individual group members and resultant discussions. A further advantage of the study lay in the research being conducted by an independent researcher not affiliated with the NHS. This may have meant that participants were more honest and forthcoming in their responses, safe in the knowledge that their discussions were confidential.

However, the research also possessed a number of limitations. Firstly, in terms of participant demographics, the sample comprised an increased number of female participants in comparison to male participants. This may mean that the views

obtained offered limited generalisability and were not necessarily entirely reflective of male junior doctors. A second limitation of the research concerned the sampling strategy used to recruit participants. Owing to the involved nature of focus group research, it was not possible to randomly select participants. Therefore participation in the study was constrained by geographic locality and working schedule, thus filtering off a given percentage of the total possible sample. Indeed, a proportion of the sample that participated in the questionnaire research had relocated to a different Deanery and geographic area at the time the focus groups were conducted. This therefore meant that these individuals were unable to participate in the scheduled focus groups. Furthermore, whilst a proportion of participants from the sample population contacted the researcher prior to the focus group to confirm their availability for any given session, many of the participants just turned up at the session meaning it was not possible to balance the composition of the groups. Finally, there were a large number of individuals who expressed an interest in attending a focus group but when it came to engaging in the research were unable to attend, owing to a number of reasons. Indeed, a number of participants contacted the researcher indicating that they had been unable to leave work when they might have anticipated, thus meaning they missed the focus group session. This, in itself, was an interesting observation, further substantiating the findings in the previous chapter regarding the number of junior doctors who work beyond their scheduled working hours.

A final methodological limitation of the research concerned the participant numbers within the focus groups. Whilst the literature recommends a group size of between five and eight participants for a focus group research pertaining to a non-commercial topic (Krueger & Casey, 2000), due to the busy nature of the sample population this figure was difficult to achieve. Nonetheless, the focus groups served to provide interactive and lengthy discussions between group members as is documented by the duration of the sessions and the focus group transcripts. Indeed, 'small' or 'mini-size' focus groups are gaining increasing recognition among the academic community given the merits that they that may be more comfortable for participants and that they are easier to host and recruit (Kitzinger 1995). The relative limitations of reduced numbers also mean that participants' total range of experiences is also accordingly diminished. Consequently, the

researcher acknowledges the limitations of the data obtained for groups conducted with less than five participants.

6.7 Summary and conclusions

This aim of this research was to explore findings from the interview and questionnaire studies in order to further investigate significant topics and resolve ambiguous issues. Data from 23 participants across five focus groups provided a unique insight into the experiences of junior doctors operating with the remit of the Working Time Directive. Principal findings from the research included managing the issue of expectations for current doctors-in-training and for upcoming cohorts in line with what may be practicable and achievable under the Directive. This may be possible by providing clearer information on the Directive for both for junior and indeed senior medical professionals. In turn, this may serve to challenge informal norms and practises within the profession and target some of the negative attitudes which may be holding back the progress of the Directive. The means through which these research findings may be translated into practise is explored in Chapter 7.

Chapter One
Introduction



Chapter Two
Literature review



Chapter Three
Interviews with junior doctors



Chapter Four
Questionnaire survey: part 1



Chapter Five
Questionnaire survey: part 2



Chapter Six
Focus groups



Chapter Seven
Expert Panel



Chapter Eight
Discussion, implications and recommendations

Chapter 7

7.1 Introduction

This chapter presents the outcomes from a final research phase, an expert panel, which was conducted for the purpose of further investigating the research findings from the interview, questionnaire and focus group studies. The aim of the research was to collate opinion from experts in order to explore the implications of the research for policy and practice. The discussions from eight panel members revealed in-depth insights from a wide range of perspectives and provided tangible suggestions as to how the research findings may be developed and utilised. This chapter outlines the main discussion themes from the panel and summarises the key contributions from the panel members.

7.2 Research objectives

In line with the sequential nature of the research, the aim of this research study was to explore the results presented in Chapters 3, 4, 5 and 6 with the assistance of expert users. In so doing, the study sought to further investigate the research findings by consulting experts as to how the data might be extrapolated into policy and practice. Specifically, the research aims for the study were as follows:

1: Examine hours compliance and future strategies for hours monitoring given the August 2009 deadline.

2: Assess the delivery of training for junior doctors under the Working Time Directive and how to address the perceived negative impact on training and education.

3: Investigate ways in which to manage the expectations of current and upcoming trainees in accordance with the Working Time Directive.

4: Explore the perceived utility of different working schedules and ways in which to manage work intensity.

7.3 Research methodology

For the present research, the selection of the expert panel as a research tool was determined by its suitability in relation to the research objectives as outlined in 7.2. Specifically, the tool was used to consolidate opinion from a range of subject experts, with interests in the topic under investigation. The expert panel is described as a specifically constituted work group, of between six and twelve members, who meet for an evaluative or exploratory purpose (Cozzens, 1987). The literature suggests that the expert panel is useful to provide an interpretation and development of findings from exploratory or evaluative work (Oliver, 2002). An expert panel typically comprises a range of specialists recognised in the topic domain under investigation who are selected to represent a range of viewpoints in a balanced and impartial way. Whilst the criterion for qualification as an 'expert' are many and varied, the general consensus in the literature is that a panel's constituent members should be appropriate for the nature of the issue being addressed (Oliver, 2002). The structure of the expert panel is such that constituent members are presented with data, analyses and observations made during the research project. The experts are then asked to examine and explore what is presented in an attempt to identify and highlight key issues with the overarching aim of drawing general conclusions and, where possible, providing answers to evaluative questions posed.

The flexibility afforded by the expert panel has meant that it has become widely regarded as a useful generic research tool, offering a number of advantages over and above other research methods. Firstly, the panels are viewed as useful way of bringing together expert opinion in an efficient, practical and cost effective manner. Secondly, the conclusions drawn from an expert panel offer a high degree of

credibility owing to the use of recognised subject experts (Witkin & Altschuld, 1995). However, there are also a number of limitations to the expert panel which may stem from the way in which the panel is constructed and conducted. Specifically, members may have personal biases which may affect the view of the group and individual panel members may be more vocal when compared to others. This may therefore mean that minority points of view may be under-evaluated. However, the weaknesses of the expert panel may be overcome through careful assembly of the panel and through the use of skilled moderators experienced in managing group dynamics (Schuster et al., 1985) who provide panel members with clear objectives and a clear focus.

7.4 Method

7.4.1 Procedure and participant recruitment

In line with the recommendations from the literature (Oliver, 2002), the selection of panel members was a lengthy and carefully planned process. In the first instance, a number of key stakeholders from the East Midlands Healthcare Workforce Deanery, who had been fruitful in supporting the project and providing access to participants, were invited to attend the expert panel. These stakeholders were involved in a range of roles including: postgraduate medical education and training; medical staffing; and human resources. In addition, a number of key contacts which had been established at networking events and conferences were invited to attend the panel. These included: representatives from Deaneries across a range of geographic locations; individuals from the Health and Safety Executive; and academics specialising in the fields of occupational psychology, organisational behaviour, and health and safety. The invitation letter sent to potential panel members provided an overview of the research, outlined the purpose of the panel, and specified a schedule of events for the panel (see Appendix L). The final panel comprised eight individuals.

7.4.2 Participant characteristics

An expert panel discussion was held at the Department of Human Sciences, Loughborough University on 1st July 2009. The panel was hosted by the author and facilitated by an independent secondary researcher. The panel comprised eight experts from the disciplines of organisational psychology, postgraduate medical education, and medical staffing. The diverse backgrounds from which panel members came offered a great strength to the research. Specifically, the breadth of expertise meant that panel was able to provide a wide range of insights and perspectives on the research. Panel members provided their informed consent for their names, job profiles and verbatim quotes to be released. The profile of the expert panel is shown in Table 24.

Table 24 - Members of the expert panel

Name	Job Title	Affiliation
Dr Alistair Cheyne	Senior Lecturer in Organisational Psychology	Loughborough University Business School
Mr Darren Forward	Consultant Orthopaedic Surgeon, Core Surgical Training Director	East Midlands North
Ms Sue Hepworth	Programme Director for WTD	NHS East Midlands Strategic Health Authority
Dr Richard Higgins	Quality Management Advisor	East Midlands Healthcare Workforce Deanery
Mr Tim Lund	National Programme Lead	Skills for Health
Mr Simon Mallinson	Medical Human Resources Advisor	East Midlands Healthcare Workforce Deanery
Ms Wendy Ridley	Medical Staffing and Postgraduate Medical Education Manager	Chesterfield NHS Royal Hospital
Dr Cheryl Travers	Senior Lecturer in Organisational Behaviour	Loughborough University Business School

7.4.3 Expert panel presentation

The expert panel began with an introduction to the research, and overview of the Working Time Directive and outline of the sequential research phases. The presentation was structured in such a way that the nature and findings from the

three discrete research phases were discussed in turn. After explaining the details and main findings from the three research phases, panel members were invited to openly discuss the nature of the results and how they might be interpreted and explained. During the panel there were four scheduled discussion opportunities wherein panel members were given between ten to 15 minutes to discuss and debate the research findings. The total presentation, including all discussions, lasted 1 hour and 45 minutes.

7.5 Results

7.5.1 Data analysis

The expert panel discussion was audio recorded with the consent of all panel members and subsequently transcribed verbatim. The data transcript was then read through three times in order for the author to become familiar with the data. Following this, analysis of the data were performed, whereby main themes which arose from the panel discussions were identified. Unlike the analysis of qualitative data in Chapters 3, 5 and 6, which were performed using a template analysis, the analysis of the panel discussions adhered to a more general method of thematic analysis, previously outlined in Chapter 3, section 3.3.1. This method of qualitative data analysis offered a means of identifying and reporting general patterns in data (Braun & Clarke, 2006, p. 79). The principal reason to employ this method, as opposed to template analysis, was because unlike the previous three research studies, where the researcher was able to develop a template based on information obtained from the literature and from personal expectations, this study provided limited opportunity for this. More specifically, because the panel was conducted for the purpose of validation, the researcher was not able to pre-empt answers or themes which might arise because panel members offered greater expertise than the author in their respective subject fields. Consequently, the researcher was unable to develop a 'template' prior to the analysis of the textual data.

The following results section presents themes arising from analysis of the panel discussion. These themes summarise the ideas and conclusions of attending delegates, with each theme being supported by verbatim quotes from panel members.

7.5.2 Hours monitoring and compliance with the Directive

With regards to compliance with the Working Time Directive, participants alluded to the difficulties in imposing rigid working hours in line with the requirements of the legislation. Indeed, participants remarked that it is often in the nature of medics to seek opportunities where possible, regardless of working hours:

‘There are individuals who are very driven and will take every experience they possibly can and fraudulently claim on their monitoring forms that they have finished at a set time but have in fact stayed on behind for personal experience and personal development.’

Participants discussed the difficulties involved in regulating working hours and the lengths to which some trainee doctors may go to disguise the true number of hours they work. There was a general consensus among panel members that gauging the full extent of compliance with the Directive, both at the time of data collection and in the future, may prove difficult. In line with this, several participants shared their belief that a ‘fudging’ of hours and breeches of the Directive may continue despite initiatives to address this:

‘There’s definite variety in people staying late and to some we say look we’re monitoring hours go home, and they say no, I just want to do this thing...’

As the above participant described, whilst Trusts are able to regulate hours on paper, enforcing these hours in practise may prove difficult. A number of discussions were raised about medicine being incompatible with rigid working hours, such as those prescribed by the Directive, and the need for flexibility in the

legislation as applied to the medical profession. This was discussed in some detail by one panel member who described a recent experience of hours monitoring:

‘Some of our surgical F1s are un-banded, we’ve monitored them and it has come back they’re working 40.22 hours per week. In my view that’s not excessive hours, this is a person who was contracted for 40 hours. There are no extremes, just a bit of bobbling up at the end of the day. We need to tighten up handover but we do it (monitoring) every now and then and we still get that little bit of drift because they’re (junior doctors) not really clock watching. A lot of them are professional people who deal with a situation and then close it down and walk away from it. But we’ve actually said to them whoa if it takes you 15 more minutes to close that situation down in their case potentially they’re entitled to 40 percent extra pay. And we’re all like how do we manage this, it’s not sensible’

Participants outlined the difficulties in adhering to rigid working hours, with this rigidity being described as dissonant with the practise of medicine. As the above participant described, doctors typically aim to *‘deal with a situation and then close it down’*. Reference was therefore made to professional obligations inherent in the practise of medicine such as personal accountability for patients. However, some of the professional obligations and practises were noted as being incompatible with the stringent requirements of the Directive. The data therefore suggested that if the Working Time Directive is to function as it is theoretically intended, this may necessitate a number of challenges to several of the reported informal norms and practises in medicine, and a degree of cultural reform.

7.5.3 Working hours and training

With regards to changing attitudes and practises in the medical profession, one participant described an increasing recognition among senior medics (such as consultants) that sheer hours at work does not necessarily equate to training:

'I think trainers, the consultants, well some of them anyway, are coming around to the idea that just simply time on the job doesn't necessarily equal quality training. But I'm wondering whether trainees, and maybe its linked to confidence, whether they appreciate that.'

The above quote highlighted an interesting theme about the importance of educating both trainees and trainers on the benefits of structured training systems, and providing clearer information to all that hours per se is not necessarily an indicator of 'quality' training. Whilst panel members generally supported a regulation in working hours, noting improvements in the health and wellbeing of healthcare professionals, a number of discussions were raised about the inflexible nature of the Directive. Several participants discussed how the inflexible enforcement of hours may be detrimental to trainee learning, particularly in terms of it inhibiting opportunities for continuity of care. In line with this, one participant argued that the Directive may curtail the progression of some trainees, particularly those doctors who are career-minded:

'...why are we stifling the people who are saying frankly I work 48 hours and am truly not bothered because this is what I want to get out of it. But we're not allowed to facilitate opportunities for those people, it's all about closing it down so that its water tight and it's not good for people who want to train in a professional capacity, it really isn't.'

Participants raised the issue of individual differences and a 'one size fits all' approach not necessarily being suited to the needs of individual trainees. Whilst participants largely recognised the importance of a regulation of working hours, several panel members commented that it would be desirable for the Directive to have scope for flexibility, which was a recurring theme. Participants commented that a small amount of discretion in calculating working hours would be of great benefit, otherwise, it was argued, the Directive might encourage a 'fudging' of documented working hours. This issue of flexibility was further discussed in terms of individual specialties and is outlined in 7.5.4.

7.5.4 Implementation of the Directive across the specialties

Participants discussed a number of issues regarding various medical specialties with some panel members suggesting that the Directive may not necessarily be appropriate, or able, to accommodate the needs of the many different hospital and non-hospital based specialties. Panel members engaged in a dialogue where they discussed the impact of the Directive on the craft and surgical specialties, as outlined in Panel dialogue 1.

Panel dialogue 1: The craft and surgical specialties

PP7: I think that's becoming increasingly recognised in the craft specialties that time served apprenticeship is undoubtedly the best way to do it. I don't think anybody thought much different did they

PP8: I don't think any surgeons thought any different

PP7: Well I'm not a surgeon and I thought whoa, why would we do this? But there are other areas where competency based training is going to be fine'

Code: PP: Participant number

Panel members explored the difficulties in imposing a universal model for the many different medical specialties. As Panel dialogue 1 reveals, it appears that in the craft and surgical specialties the apprenticeship model of training was viewed as 'greatest benefit' for trainees. Therefore, panel members considered restrictions on working hours to present more of a challenge for the surgical and craft specialties. Panel members further explored the notion that there was a greater opposition and resistance towards the Directive for those in the surgical specialties. Participants subsequently explored the implications of such resistance on junior trainees, both within the surgical specialties and on those in other general specialties. Following this, the panel examined the ways in which it might be possible to confront

resistant attitudes towards the Directive. Suggestions typically centred around managing perceptions of the Directive and providing greater clarity of information on the Directive so as to reduce the emphasis on 'curbing' hours. As the following participant pointed out:

'What you are saying about perceptions is very important because I expect the numbers is pretty irrelevant. I was in USA and all the same discussions were had - the 2 countries could be almost identical in their experiences but their number is 80 not 48 otherwise the discussion is almost identical with them saying how can we get trained in 80 hours that isn't enough to do all this stuff and we're having the same discussion about 48 which is almost half that. So I think its perception and what people are up to not the actual figure which is important'

The above comments provided an interesting perspective and reiterated the importance of managing perceptions and having greater transparency in the remit of the Directive. Such clarity of information may be one way in which to target misconceptions surrounding the Directive and address concerns that it may negatively impact training.

7.5.5 Working schedules

In line with the research objectives as outlined in 7.2, the panel were presented with the topic of working schedules. One of issues the panel examined in relation to this topic concerned the nature of out-of-hours working and the means through which the perceived benefits of these opportunities, as highlighted by the findings from the three previous research studies, might be extrapolated. Secondly, the panel examined the issue of work intensity and the Directive, particularly in relation to the perceived extremes between day and out-of-hours. These two topics are discussed in turn, in addition to several interesting themes which emerged concerning role identity, health and wellbeing. Whilst the themes discussed in relation to working schedules were not mutually exclusive, for the ease of the

reader 7.5.5 is divided into four subsections, with relevant links between each theme highlighted where appropriate.

7.5.5.1 Extracting the benefits of out-of-hours working opportunities

Panel members discussed at some length the reasons why junior doctors valued out-of-hours working opportunities. One participant was surprised at this finding from the data and stated that historically doctors-in-training described out-of-hours working as irrelevant to training:

‘Junior doctors were perpetually telling us that out-of-hours was service and they were put under strain out-of-hours and it had no bearing on the training whatsoever.’

Several panel members alluded to out-of-hours working as inextricably linked to pay, with a number of participants arguing that out-of-hours working may be principally valued for financial reasons. This idea stimulated an interesting debate among the panel, with some panel members contending this notion and arguing that out-of-hours were useful for acquiring and applying a range of skills. As the following participant commented:

‘We’ve all always understood that there is some value in working out-of hours to develop coping mechanisms and to put into practise what you’ve learnt in the day.’

Discussions indicated that out-of-hours shifts may be useful in developing doctors’ coping mechanisms because doctors have increased responsibilities during these periods, being personally accountable for more patients. Balancing these demands and potentially stressful situations was therefore identified as challenging doctors in ways day-shift work does not necessarily do. There were many fruitful discussions surrounding the perceived benefits of out-of-hours working, but one participant in particular remarked that views expressed by junior doctors may be misrepresenting the ‘main issue’. Specifically, this participant suggested that the

idea that day and out-of-hours shifts were necessarily 'different' was a flawed concept:

'For me, the out-of-hours is synonymous with acute care so admissions, Accident and Emergency referrals, that type of thing, which doesn't have to be out-of-hours because obviously that happens during the day as well versus your regular non-on-call activity. So for me, the out-of-hours thing is a bit of a distraction actually its just about ward work versus Accident and Emergency work rather than having to be out-of-hours.'

The above participant provided a unique perspective on the perceived advantages of out-of-hours working, offering additional explanations for the differences in the working schedules as identified by the previous research phases. Indeed, the suggestions provided by the above participant echoed a number of issues raised about out-of-hours offering greater opportunities for managing acute situations (raised across the three studies), and hence being valued. Whilst this insight was valuable, in terms of developing these suggestions, panel members emphasised that providing junior trainees with acute care situations, whether out-of-hours or otherwise, was largely determined by the needs of more senior trainees. Additionally, these training needs may be unique to any given hospital Trust:

'The opportunities afforded are, to some extent, dictated by what we have to do for the others. They all have a huge bearing one on the other. If I had a pound for every time you had an SHO (Senior House Officer) saying I can't get to theatre because the Reg. is in, and then that slightly displaces the F2 doctor who could go and look. But really there is still that hierarchy of who needs to do what, where and how they determine it in their own minds or how we determine it for them.'

The managerial perspective added by the above panel member highlighted the difficulties of meeting the requirements and requests of the different staffing groups. Whilst the participant stressed that medical staffing endeavour to accommodate the needs of staff at all grades, pragmatically speaking the requirements of senior staff took precedent and a 'hierarchy of needs' dominated

practise. Despite panel members achieving consensus that some out-of-hours experience were of benefit to trainee doctors, panel members emphasised that practically providing these experiences was problematic and inextricably interlinked with financial issues as the following discussions outlined in Panel dialogue 2 revealed.

Panel dialogue 2: Pragmatic constraints

PP4: I think that healthcare institutions are recognising the importance of out-of-hours and there is a trend now to ensure some out-of-hours elements within Foundation Programmes. Whereas previously it was so tied up in pay protection issues it was difficult to make the transition between no out-of-hours and some out-of-hours but now they've had a few more years to do that there are Trusts doing it

PP5: But the basic salary is paid by the Deanery so they take the trainee because they have the capacity to train the trainee but the Trust or Department may not have the money to finance the out-of-hours element of that post

The discussions in Panel dialogue 2 related back to a theme raised in the three previous research studies concerning differential opportunities, perceived unfairness and lack of standardisation between junior doctors both within and across Deaneries and NHS Foundation Schools. Where possible, introducing a degree of standardisation in the out-of-hours experiences of junior doctors was highlighted as a key suggestion from panel discussions. A degree of standardisation may not only benefit trainee doctors in terms of facilitating their access to acute care situations, but also assist in managing expectations of what training comprises.

7.5.5.2 Autonomy, role identity and working schedules

A further theme the panel explored in relation to working arrangements concerned doctors' changing roles under the Working Time Directive. One panel member suggested that trainee doctors may perceive that they have limited control over their working hours and little involvement or choice in their working arrangements. The panel member discussed this at some length, commenting on a perceived reduction in autonomy under the Directive:

'I wonder if it has more to do with this perception of autonomy being taken away. So suddenly they think I might as well be an administrator because I've got 9 to 5. Most people don't think of the 9 to 5 existing anymore but here we've got people thinking they're quite special. I think there are other issues about who they think they are in the hospital and what their role is and they're being told I can only do this and the out-of-hours is when I show my edge and essence.'

The above quote illustrated an important theme regarding doctors' changing notions of their professional roles and identity within the medical hierarchy. Several panel members explored the idea that doctors may have conflicting or inconsistent messages regarding their roles, in line with changes introduced to working arrangements under the Directive. Discussions further touched on the issue of professional reductionism and the notion that trainee doctors may perceive their role as less important than has traditionally been regarded. Discussions also noted that trainees may feel increasingly displaced owing to the delegation of a number of their 'traditional' work roles to other allied healthcare professionals. Participants therefore suggested that the reasons out-of-hours shifts were valued by junior doctors may be because they have a greater sense of professional identity during these periods and are able to differentiate their work roles from those of other healthcare groups. Furthermore, during these periods, doctors may have increased opportunity to apply skills they have traditionally associated as 'doctoring skills'.

In line with the notion of changing roles, panel members alluded to the unique period in which the research was conducted and the unparalleled experiences of

the cohorts studied. One participant made reference to changes in working practices under the Directive and gradual shift in expectations of current and upcoming trainees and indeed those of their senior counterparts:

‘They (junior doctors) are the first people going through a new system which is being designed. It’s our design and it’s them who are living through it. But they’re working with consultants and senior trainees who have done it a different way. For as many people who say actually I think competency based training is a good thing there are an equal amount of people who say the time served job in apprenticeship is the best way to train doctors. And some people are extreme about this, some are rational about it, but you do hear “by the time I was your age I could do x” or this doctors is useless because they can’t do x, y and z. And everybody is reeling from making the adjustment but they (juniors) are the first cohort living through it.’

The above description provided an interesting insight into the adjustments the medical workforce has experienced in recent years and the way in which medics have responded to these changes. Discussions highlighted the diverse views of senior trainees and difficulties in challenging the ‘status quo’ of medical training. Panel members considered the impact of the disparate views of senior colleagues on trainees, specifically alluding to the problems of inconsistent messages which may serve to further perpetuate negativity surrounding the Directive. In line with this, panel members’ comments appeared to validate the findings from previous research phases which highlighted the ways in which the views of senior doctors impacted trainees. The data therefore suggested that actively realigning the expectations of all grades of doctors, not only juniors, is integral to the future success of the Directive and is necessary for the medical profession as a whole. This point is further discussed in 7.5.6.

7.5.5.3 Work intensity

A discussion point posed to panel members concerned how best to address work intensity which, the three previous research studies, identified as characteristic of

the out-of-hours working period. Panel members engaged with this issue at some length and, from the outset, were largely unsurprised with the finding from the data. One of the suggestions participants identified to address this issue concerned reducing silo working practices. Participants proposed this may be achieved through multi-professional working initiatives, such as the Hospital at Night scheme. Participants commented that initiatives designed to address silo working may provide juniors with extra support and reduce role ambiguity which, in turn, may ameliorate work intensity. As the following participant outlined:

‘Good Hospital at Night teams give a structured support to junior doctors working out-of-hours where they’ve got people they can go to and say this is the medical problem I have, this is the decision I have made, do you agree that this is the right way to proceed. Whereas previously they would have been on their own potentially with someone else on the other end of the phone but here they’ve actually got someone they can go up to.’

Comments from participants indicated that multi-professional working teams may not only assist with the training of juniors, through providing clear lines of structure and support, in so doing the teams may help to manage the workload of doctors. However, panel discussions revealed that in order for these innovative schemes and working practices to operate successfully, it would be imperative to actively challenge silo working practices which were identified as a norm among medics. Indeed, panel discussions highlighted the importance of supporting more cross-cover team working practices through engaging and listening to staff members as part of wider cultural reform within the profession. As the following participant commented:

‘I think the engagement of the staff, particularly doctors is critical because places where they’ve gone a long way down the road with a structured design solution, places like the Homerton, Guys and St Thomas, South Devon there lots and lots of work has gone into the engagement and bringing people on board.’

There was a consensus among panel members that the engagement of staffing groups would be crucial for the successful implementation of multi-professional working practices. Further discussions emphasised the importance of providing clear information to staffing groups about the purpose of any new, or seemingly novel, working initiatives. This was viewed as particularly important in the case of junior doctors who, as the findings from previous research phases has highlighted, may have viewed their role as being deskilled, reduced or replaced under Working Time Directive initiatives. One panel member outlined the importance of managing junior trainees' perceptions on their working roles:

'Some of the issues are due to the solutions that we have put in to cope with the Directive so like clinical support workers have come in as a way of solving one problem and it means that the F1s aren't doing the things they think they need to be doing. Or it might be a matter of perception. For example, psychiatry trainees feeling they ought to be doing particular things when actually they shouldn't be doing them because they're not at that level yet to be able to provide that service.'

Panel members suggested that clarifying the roles of individual team members and outlining the rationale behind new working initiatives was important. The panel commented that clarification may assist in addressing junior doctors' concerns that new working initiatives introduced under the Directive have served to 'displace' rather than benefit trainee doctors. Participants further proposed that greater transparency and information may help in challenging the notion that the Directive has negatively impacted on the training of junior doctors, a point which has been consistently highlighted throughout the research.

7.5.5.4 Health and wellbeing

In relation to work intensity, the panel explored the issue of doctors' health and wellbeing under the Directive. The panel were presented with data from the previous three research studies which suggested that under the Directive excessive working conditions continued to exist. This was principally attributed to

the 26 week reference period over which working hours were calculated. The panel explored this data at some length and provided a number of insightful interpretations on the findings.

Panel members were committed to the view that the Directive had been of benefit to doctors-in-training and had improved their working conditions when compared to those experienced by previous generations. The panel discussed the protective benefits of the Directive and outlined the ways in which it had served to improve the quality of trainee doctors' working lives. The panel emphasised that a regulation of working hours was important in the profession, discussing the historical abuse of hours and detrimental impact on both staff wellbeing and patient care.

However, participants acknowledged that some 'loop holes' did exist within the Directive and that it was technically possible for doctors-in-training to have working weeks which appeared excessive in terms of hours. As the following participant outlined:

'That's something we're all starting to talk about now because yes you've got an average of 48 hours but there could be a week when you're there for 72 or more, there is no question of that.'

As the above quote illustrates, whilst lengthy working weeks were still possible within the remit of the Directive, medical staffing were paying closer attention to any such 'loop holes' to ensure that rotas were designed in such a way that staff were better protected. One panel member also commented that since the research data had been collected there had been increased recognition of the deleterious effects of poor rota planning and greater attention paid to well thought out rota design. For example, a further panel member described how the use of the seven night stretch was being actively discouraged. In relation to working a seven night stretch, the following participant noted:

'But its like with the stuff about changing shift patterns in 2004, the seven consecutive days of nights, you know it's a heinous crime to do that, we know it

and we are all trying to work on four and three (nights) where we can, we're learning the lessons and implementing things but they're living through this learning curve with us.'

Panel members were cognisant of the ongoing learning, trials and errors of Working Time Directive practices. The panel therefore described the adjustments being made in order to accommodate the Directive as gradual. Panel members recognised that there were still many lessons to be learnt in terms of the design of rotas and that August 2009 onwards (marking 48 hour week) would necessitate continual reappraisal, research and that lessons would be ongoing.

The second issue which emerged relating to health and wellbeing, concerned doctors' psychological health and the stressful nature of their working roles. Panel members commented that because of increased pressure on staff under the Directive, owing to the limits on the hours staff can work, the Directive had, in some instances, created problems in terms of skeleton staffing cover. Whilst in a number of ways this issue was related to work intensity (as outlined in 7.5.5.3), more specifically, the panel alluded to junior doctors lack of support resulting from insufficient staffing. As the following participant commented:

'...if there were two people basically dying at two different ends of the hospital you just can't be in both places and I think that's where your stress rises exponentially when you recognise you're at the stage where there aren't enough of you to actually cover common eventualities. It's not every day, but it's not infrequent to be in that kind of position. And you can have the best kind of co-ordination, the best structure you want, but if there aren't enough people then that's not good.'

As the previous quote illustrates, whilst the Directive may have aimed to improve the working conditions of medical doctors, lack of staff resulting from working hours restrictions may have, in some instances, resulted in an additional stress for junior doctors. Whilst panel members recognised that the role of the doctor was still inherently stressful, they noted the importance of good support and cover such that the Directive is able to provide the protection as is intended.

7.5.6 Managing expectations

As previously outlined in 7.5.5.1, the theme of adjusting expectations recurred throughout panel discussions. Panel members engaged in a number of dialogues over this issue, with one specific discussion centring on doctors-in-training having unrealistic expectations of what is possible in terms of training opportunities. This stimulated suggestions as to how it may be possible to adjust the expectations for present trainees and also those of medical students who will be entering the profession subsequent to August 2009. One specific suggestion offered by the panel was that all junior doctors receive a standardised banding supplement for the Foundation Programme which affords their Trust with the money to give them out-of-hours experiences. This would mean that trainees may have greater clarity in terms of what their working lives entail.

In line with the theme of expectations, an interesting and unanticipated discussion which arose during panel discussions concerned participants' views on the increasingly 'consumer' nature of medical school graduates. One participant shared their opinion that the newer generations of medical graduates were taking increasingly longer to make the transition from one of student to that of a doctor-in-training, when compared to previous cohorts. The participant described the ways in which new trainees took a greater amount of time to recognise that their role is of dual nature, such that they are provided with learning opportunities both as service providers and doctor. As the participant commented:

'They (junior doctors) are coming through at F1 and F2 level and are finding that the day time shifts aren't providing them with the learning they think they ought to be provided as increasingly consumer type learners coming out of University. But at the same time when they do out-of-hours they're finding this is crazy, they're thinking and saying well I'm having to do service which I wasn't expecting to do quite so intensely.'

The above panel member's comments regarding juniors' ideas on *'the learning they think they ought to be provided'* stimulated a number of insightful discussions. Specific observations concerned the need to actively manage the expectations of

medical students such as they are aligned to ‘training’ as it stands under the remit of the Working Time Directive and in line with the challenges of medical staffing. Panel members remarked that the consumer nature of new graduates may represent a generational effect (such as that outlined in 4.6.1). However, a number of alternative suggestions were proposed which attributed this phenomenon to insufficient preparation and lack of information at the undergraduate level of medical training:

‘They don’t do enough in medical schools to prepare people for the political and work realities....in the past system they (junior doctors) were coming through a job in apprenticeship through which they were trained but the mindset they’re now is I’ve come to do my training and I’ll do some work while I’m doing it. I really think that’s how it is- a paradigm shift almost and that’s what we’re all trying to cope with.’

The concept of a ‘paradigm shift’ in medicine was something participants explored at a number of points over the course of the expert panel. This was related to the instigation of the Working Time Directive representing a unique period in medicine. In terms of how it might be possible to best manage the ‘paradigm shift’, participants described the importance of engaging with medical schools and medical undergraduates at an early stage. This engagement may assist in preparing medical graduates for the reality of providing both service provision and acquiring training when they commence their roles as doctors-in-training.

7.6 Discussion

This section details the findings from Research Objectives 1 through 4 (as outlined in 7.2) and explores the recommendations derived from the expert panel. This section further examines the relative strengths and limitations of the study before presenting overall conclusions from the study.

7.6.1 Summary of key findings

In terms of Research Objective 1, hours compliance and future strategies for hours monitoring, the research has highlighted the challenges the Working Time Directive presents to the medical profession. The data across all research phases pointed towards the benefits of there being a degree of flexibility within the Directive in terms of the calculation of hours. The research highlighted the problems associated with a rigid enforcement of hours, indicating that this may encourage further deception regarding the actual, rather than documented, number of hours junior doctors work. Whilst findings from the research would advocate some flexibility in hours enforcement, this is not possible given the requirements of the Working Time Directive. As such, exploring this issue in greater depth is recommended for future research and further discussed in Chapter 8.

With regards to Research Objective 2, the delivery of training for junior doctors, the research has provided a number of suggestions as to how high quality training may still be provided to doctors within the remit of the Working Time Directive. The panel supported the themes raised in the three previous research phases and acknowledged that out-of-hours working may be of benefit to doctors in terms of providing greater experiential opportunities, time management and coping skills. Consequently, where possible, it may be an idea to offer junior doctors with some out-of-hours experiences in a suitably supportive environment. However, an alternate suggestion may be to provide sufficient experience in the management of acute care situations, again with adequate support. Regardless of the strategy employed, the research highlighted the importance of providing equality of opportunity to trainees. In line with this, one suggestion from the research was that all junior doctors receive standardised banding supplement for the Foundation Programme which affords their Trust with the money to give them a given number of experiences, perhaps within an out-of-hours situation. This may also assist in managing expectations of upcoming cohorts (further discussed in relation to Research Objective 3) such that trainees have a clear understanding what their training will entail.

In terms of managing the demands of training and service provision, the research has suggested if the Directive is going to be maintained with any success, then new ways of working ought to be developed. Specifically, the reduction in available working time means that collaboration is more important than ever and that active encouragement of new collaborative working practices should be exercised. This is important at a number of levels including: across different staffing groups: across departments: and at cross-regional levels, such that services are reconfigured so that adequate support is provided as it is needed. In turn, this may assist in managing work intensity. Furthermore, the research has indicated that the Directive necessitates the development of new working roles. One such example has been identified in the creation of the Nurse Practitioner role. Through task reallocation, Nurse Practitioners are now able to perform a number of roles which were traditionally associated with the junior doctor, such as declaration of death. This has therefore assisted in removing non essential administrative jobs away from junior doctors. Indeed, across the three research studies, excess administration has been identified as a major grievance. Consequently, where possible, reallocating non essential tasks such that doctors have more time available for training may be of benefit. In line with this, there may be further scope for the development of additional supportive roles such that working time can be optimised and inefficiencies reduced.

The research has however highlighted the importance of applying any new initiatives in a clear way with the support and engagement of staff. It is particularly important that where new roles are developed, or tasks reallocated, that any changes are clearly explained and communicated to staff. This clarity of information may help in addressing staff concerns that their positions are being compromised or replaced. In the present research, this was chiefly noted in terms of doctors perceiving Nurse Practitioners as 'taking over' their roles at the expense of doctors' experiential learning opportunities and leading to further issues in terms of role ambiguity. This emphasised the importance of engaging staff groups by providing clear information and explaining role allocation in transparent ways. Furthermore, this issue of role management is particularly important given the associations observed between this aspect of work characteristic and psychological health as previously outlined in Chapter 4 and due to the body of

literature substantiating the importance of adequately managing job characteristics (Bond, 2006).

Pertaining to Research Objective 3, managing the expectations of current and upcoming trainees in accordance with the Working Time Directive, the research has consistently highlighted this as a key issue. Specifically, the data has indicated that managing expectations at an early stage in doctors' careers would provide a number of benefits. For example, by engaging with medical schools and providing greater information to medical students both on the Working Time Directive and training pathways may remove ambiguity and better equip individuals for the realities of their role as a doctor-in-training. The research has also highlighted the importance of engaging staff and, where possible, integrating junior doctors in rota planning. The rationale behind the involvement of junior doctors in rota planning is evident. Firstly, doctors work at front line and understand the medical culture, the different demands and requirements of the various medical specialties. Secondly, junior doctors recognise the challenges a reduction of working hours will introduce to training and service provision.

Through junior doctors taking ownership of their working practices and being actively engaged with rota design issues may increase their perceived autonomy and therefore buy-in of working practices. In this vein, research indicates that junior doctors are instrumental and effective in leading both their peers and senior colleagues through periods of change (Kendall et al., 2009). Furthermore the work design literature has suggested that

‘...employee-initiated changes in the design of jobs result in more complex, challenging and meaningful work – which, as now is well-established, is likely to foster positive work and personal outcomes.’

(Oldman & Hackman, 2010, p. 471)

This therefore suggests that the involvement of junior doctors is key not only for engaging them in new working practices, for engaging others, but also for providing them with greater meaning and enjoyment in their work.

In terms of Research Objective 4, the utility of working schedules, the research has offered explanations for the seeming discrepancy reported between out-of-hours and day shift work, as identified in research studies 1, 2 and 3, and how this may be managed. In particular, it may be that out-of-hours involves greater management of acute care where as day work is more involved with ward activities with doctors placing greater value on the former. The research has been fruitful in extracting the reasons why acute care situations are valued and developed suggestions as to how it may be feasible to increase opportunities doctors value so as to ensure there is a suitable divide between training and service provision. This has been identified as an ongoing tension in the literature (Derrick, 2006) and thus it is important to manage doctors' perceptions that they are achieving satisfactory levels of training. This therefore relates to issues outlined in terms of managing perceptions and expectations as discussed in relation to Research Objective 3.

The research has also been valuable in identifying periods of increased work intensity and offered explanations as to why it may occur. Further to this, the research has identified a number of pragmatic suggestions as to how work intensity might be managed. The panel concurred with the findings identified in research phases 1, 2 and 3 concerning the increased intensity of out-of-hours working. Largely this was associated with silo working, which is coupled with junior doctors working out-of-hours. Consequently, a number of suggestions were developed in terms of challenging traditional silo working arrangements and actively encouraging an increased use of multi-professional working teams. The literature has indicated the benefits of initiatives such as Hospital at Night (Beckett et al., 2009) but the data has suggested there may be scope to further develop such schemes and translate them to a 24 hour working period. This may therefore assist in providing greater staffing support and managing work intensity more generally.

7.6.2 Strengths and limitations

This study provided an insight into the implications of the research findings for both policy and practise. The unique use of the expert panel meant that the research

was considered by subject experts who explored the research findings, identified and highlighted key issues from the data and developed conclusions from the research. The diverse experiences and specialities of the experts meant that a range of viewpoints were represented and that the conclusions drawn from the panel offered a high degree of creditability. Indeed, panel members had no vested interest in the research and were therefore able to provide balanced and impartial perspectives on the data presented. Furthermore, the rapport the panel developed during the exercise was extremely conducive to a discussion of the data and the panel was balanced in such a way that no one individual was particularly dominant or biased group opinion.

However, there were also a number of limitations to the research. Firstly, the time constraints of panel members meant the panel were unable to discuss the research implications as extensively as the author might have hoped. Therefore whilst discussions were insightful, there were still further questions the author would have liked the panel to discuss had time permitted. Secondly, the author acknowledges that the panel comprised a greater number of practitioners compared to academics.

7.7 Summary and conclusions

The aim of this study was to investigate the research findings from the interview, questionnaire and focus group studies with the assistance of experts. Opinion was collated from eight panel members who explored the implications of the research for policy and practise. Panel member discussions offered in-depth insights and a range of tangible suggestions as to how the research findings may be developed and utilised. Particular implications included ways in which to manage the expectations of both current and upcoming cohorts of junior doctors in line with the changes introduced by the Working Time Directive. Specific discussions centred on doctors' changing roles and their autonomy under the Directive. Panel members explored the issues such as professional identity and the importance of encouraging multi-professional working initiatives in such a way that trainee

doctors do not feel they are being displaced or their roles diminished. Further implications concerned how to manage work intensity which was discussed in relation to silo working practices. Panel members highlighted ways to address role ambiguity and the importance of staff engagement and clarity of information in any changes introduced to working practices. Finally, panel members discussed the need for due attention to the needs of the individual specialties and the difficulties in imposing a 'one size fits all' model. These research implications are discussed in relation to the relevant literature in Chapter 8 which summarises and synthesis the research presented in this thesis.

Chapter One
Introduction



Chapter Two
Literature review



Chapter Three
Interviews with junior doctors



Chapter Four
Questionnaire survey: part 1



Chapter Five
Questionnaire survey: part 2



Chapter Six
Focus groups



Chapter Seven
Expert Panel



Chapter Eight
Discussion, implications and recommendations

Chapter 8

8.1 Introduction

This thesis is concerned with the impact of the Working Time Directive on junior doctors' working lives. Through a series of studies adopting a mixed-methods approach, the research contained in this thesis sought to develop an in-depth insight into how the Working Time Directive, as a piece of health and safety legislation, has impacted the day-to-day working lives of junior doctors.

Chapters 3, 4, 5 and 6 presented findings from three research studies conducted with junior doctors which examined the impact of the Working Time Directive from their perspectives. In Chapter 7, the implications of the research collected from these three studies were explored with the assistance of experts who discussed policy and practical implications of the research findings. In this final chapter, the main themes from the research are related to the relevant literature and explored in greater detail. Finally, this chapter concludes by highlighting the overall research findings from the thesis, outlines the original contribution to knowledge and discusses implications and recommendations for future research.

8.2 Summary of key findings

Findings from the first research study, a qualitative interview study comprising 36 in-depth, semi-structured interviews with Foundation Year 2 doctors, were outlined in Chapter 3. This study provided an insight into participants' experiences of working under the Directive. Findings highlighted the recognition of the need for a regulation of working hours in the medical profession, with participants acknowledging that excessive working hours were detrimental to doctors and patients alike. As such, the study pointed towards doctors having general improved health and work-life balance under the Directive. Participants also alluded to the

Directive being an instigator for doctors taking greater personal care. However, this research identified some confusion regarding the remit of the Directive and outlined participants' frustration at the way in which the Directive had been implemented, particularly in terms of rota design. Participants in this study alluded to the Directive as an exercise in manipulating numbers and described frustration at the removal of out-of-hours working experiences as a means to meet Directive requirements. Overwhelmingly, participants voiced their concerns at the impact of the Directive on training and articulated concerns about their long and short-term careers. In terms of working hours, the data pointed towards some 'fudging' of hours, with participants stating that reported working hours did not necessarily reflect the 'actual' working hours of junior doctors. Participants regularly cited staying beyond scheduled hours in order to complete work rather than hand it over to colleagues. This was described as an informal norm in the profession which, in some instances, appeared to stem from senior colleagues.

Chapters 4 and 5 presented the findings from a second research phase, a cross-sectional questionnaire conducted to canvass wider opinion from the junior doctor population. Analysis of qualitative and quantitative findings from 423 participants provided some detailed information regarding doctors' working lives. Despite the regulation of working hours, findings from responses to the GHQ-12 suggested that levels of psychological distress are still relatively high among junior doctors, with 27.9 percent of participants exceeding the above cut-off threshold. This figure is consistent with the literature (Firth-Cozens, 2003) and the data from this study found no association between working hours and GHQ scores. Data obtained from the Health and Safety Executive Management Standards indicator tool revealed that the seven components as assessed by the tool (Change, Role, Relationships, Peer Support, Managers' Support, Control and Demands) were able to explain some 23 percent deal of the variance in observed GHQ scores, even when the effects of hours worked were controlled for. This may therefore suggest that it is not necessarily hours worked which is the issue at hand, but rather job characteristics aspects which play a key component in the relationship with psychological. In particular, Control, Relationships and Role were identified as particularly pertinent factors, playing what appears to be a key component in the observed scores for psychological health, as measured by the GHQ.

Further to this, the data in the present thesis highlighted relatively high levels of work-related illness when compared to data from general population, but also underscored low levels of self-reported sickness absence among respondents. These findings thus highlight the unique working culture and working conditions inherent in medicine.

In terms of participants' views on the Directive, mixed opinions were typically articulated. Whilst the data largely pointed to doctors understanding the need for a regulation of hours in the profession, participants generally viewed the stringent requirements of the Directive as incompatible with the practise of medicine. Consequently, many participants viewed the Directive as theoretically useful but unfeasible in practise. Findings from the study further reiterated participants' concerns at the impact of the Directive on training and outlined their frustration at rota re-design, as highlighted by the interview research.

Pertaining to the impact of the WTD on participants' wellbeing and work-life balance, few participants viewed the Directive as detrimental in these areas. Participants reported a 'change' in the medical climate under the Directive, whereby doctors perceive there being greater encouragement to develop a life outside of medicine and improved promotion of self-care. Indeed, the findings from this study did appear to suggest that regulation of working hours may well have been beneficial to doctors in terms of providing them with extra time to complete extra-curricular activities such as physical activity and study. Nevertheless, findings did not necessarily indicate that the participants viewed the Directive as having a positive impact on wellbeing and work-life balance, rather mixed views were expressed. In particular, the data suggested that the move towards shift-based working practices has not been entirely conducive towards wellbeing or work-life balance, neither has the compensatory rest periods which were often referred to as a 'manipulation of hours'.

Finally, findings from the questionnaire study provided an insight into both scheduled and actual working hours. Whilst the majority of participants reported their rostered working hours as compliant with the Directive, 16.3 percent of respondents were unsure as to whether this was the case. This suggested a

general lack of information on the remit of the WTD which was supported by qualitative data from the questionnaire. Findings also highlighted a number of compliance issues with Foundation Year 1 doctors being more likely to breach scheduled working hours compared to Foundation Year 1 doctors.

The third research study, outlined in Chapter 6, comprised five focus groups with 23 junior doctors and sought to explore findings from the interview and questionnaire studies in order to further investigate significant topics. Principal findings from the research included managing expectations for current and upcoming cohorts of trainee doctors in line with what may be practicable and achievable under the Directive. This included greater clarity regarding expectations of what comprises training and service provision. The research also identified a number of informal norms and practises in the profession, such as the misreporting of working hours, with the data highlighted a number of negative attitudes surrounding the Directive. These negative attitudes appeared to stem from the craft and surgical specialities and were identified as curtailing the progress of the Directive.

The research from this study also provided an interesting insight into working conditions. Participants raised concerns at the manner in which the Directive had been implemented, commenting that intensive working conditions still existed despite the regulation of working hours. This intensity was particularly associated with out-of-hours working. The data pointed towards excessive workload demands, understaffing and there were also reports of increased levels of stress and sickness absence during out-of-hours periods. Participants further discussed the reference period of the Directive still affording the opportunity long working hours and intensive working experiences generally.

The final research study, the expert panel discussed in Chapter 7, explored how the presenting challenges outlined from the research might be managed at an organisational level. As such, the panel discussions considered policy and practical implications of the research. Discussions included doctors' changing roles, their professional identity and autonomy under the Directive and how these issues might be addressed. The panel explored the benefits of multi-professional working

initiatives and how these might tackle work intensity which was highlighted as a pertinent issue throughout the research. Particular implications of the research centred on ways to address role ambiguity and the importance of staff engagement and clarity of information in any changes introduced to working practices or organisational change initiatives more generally.

8.3 Discussion

The findings from the research lend support to the literature which has described a wider cultural move towards a shift mentality under the Directive (Bamford & Bamford, 2008). Across the four research studies, participants alluded to the 'clock watching' culture and the potential negative impact of this on continuity of care and general morale. This echoed findings from Mather & Pounder (2006) which illustrated how under the Working Time Directive doctors are no longer involved in the whole patient journey, with this being to the detriment of training and morale. Indeed, in terms of morale in the present research, whilst large number of participants reported staying late in order to complete jobs (and in so doing breaching scheduled working hours), there was often resentment expressed towards this. This was particularly apparent in the findings from the questionnaire and focus group studies. Whilst some participants did report staying late, or coming in early, in order to gain extra experience, participants often cited the reasons for this as due to insufficient staffing and excess workload pressures. These findings therefore lent some support to those of Ahmed-Little and Bluck which suggested the Directive may be 'gradually eroding away good will amongst juniors and seniors alike' (Ahmed-Little & Bluck, 2006, p. 373).

The findings from the research also highlighted a number of issues in terms of job characteristics aspects. In particular, the research highlighted a perceived blurring of role boundaries between junior doctors and nurses, as attributed to the up-skilling of nurses which has been previously reported in the literature (Wilkinson, 2008). Whilst in the present research, there was no explicit reference to resentment regarding the blurring of boundaries, the findings did however point towards some friction between colleagues. As with the findings from Wilkinson

(2008), participants in this research made reference to changes in authority, levels of autonomy and a perceived reductionism of their roles. These findings not only illustrate the importance providing clear and transparent information to all staffing groups when there are changes to job roles, but also point towards the potential negative impact this may have if not carefully managed on worker satisfaction and, indeed, productivity.

Further to this, relating the outcomes of the research gathered in this thesis to the occupational psychology literature, the findings have highlighted a number of issues regarding the impact of workplace characteristics on employees. In particular, research unequivocally points to the importance of managing the working condition of 'change' (Fugate et al., 2010). As outlined throughout the thesis, the Working Time Directive has represented major changes to the practise of UK based medicine at a micro and macro level. Whilst the management of change may prove challenging (Nadler, 1988), the literature from the fields of occupational and occupational health psychology have demonstrated that when change may not necessarily have a negative impact on employees wellbeing when they are provided with some degree of control in their work (Bordia et al, 2004). The literature also indicates that is important for the change process to be carefully managed (Palmer & Dunford, 2008) and the importance of timely, accurate, clear and adequate information (Johnson et al., 1996; Kernan & Hanges, 2002).

Indeed, a major discussion point from the research concerns the communication of change initiatives, particularly those related to the design of work roles (such as to junior doctors, nurse practitioners and other healthcare professional roles). For example, advancement of nurses' skills means that some senior nurses now take on roles which have traditionally been associated with junior doctors, such as assessment, diagnosis and patient prescriptions. This may therefore have led to confusion and ambiguity in job roles such that junior doctors view their roles as being infringed upon. Indeed, this was one of the findings highlighted in 5.5.2.4 and, peripherally, in 6.5.6. This therefore relates back to the notion of clarifying expectations, a theme consistently highlighted throughout the research.

It is suggested that a lack of information of change initiatives, such as those to work design, may have led to a mismatch in expectations of what a job should and actually does entail. It may therefore be that the many changes introduced under the Working Time Directive, such as modifications in working hours, working patterns, work design and work roles of junior doctors, may have impacted on doctors' psychological contract (Robinson & Rousseau, 1994). Previous research which has examined sources of strain for healthcare employees highlighted those related to the psychological contract, such as excessive administrative duties and doing a job different to that which doctors felt trained to do (Prosser et al., 1997), may serve to violate the psychological contract. This concept appears to fit both with the findings from the qualitative and quantitative research studies presented in this thesis. In terms of the qualitative findings, this issue was reflected in relation to changing expectations, highlighted in the interview and focus group studies. Quantitatively, this may be reflected in questionnaire findings which reported administrative duties as one of doctors principal stressors and furthermore by the low rates of change, as measured by the Management Standards Indicator tool.

In terms the research findings regarding work intensity and worker wellbeing under the Directive, there has been a paucity of research documenting aspects of the workplace as predictors of both psychological and physical wellbeing. In particular, it has been noted that aspects of control and workload are important (Sparks et al., 2001) which has echoed some of the findings in the present research. Indeed, the importance of managing these two workplace characteristics consistently been identified, with research indicating that higher levels of control may longitudinally predict better objective measures of performance and performance ratings in addition to lower levels of absenteeism and turnover intention (Bond et al., 2006, p.7). In the scope of this thesis, one suggestion to address the issue of worker control and workload may be through initiatives such as involving doctors in rota planning. This may be particularly useful for doctors at an early stage in their medical career which may offer the additional function of providing greater clarity in the remit of the Directive and further emphasise the importance of adhering to the 48 hour week. In line with this, the involvement of junior doctors in new working initiatives may assist in challenging the 'fudging' of working hours highlighted as a finding across the research studies. Such initiatives may be of benefit more widely

as research has illustrated the benefits of involving doctors in rota planning initiatives and how they may be instrumental in engaging staff when there are changes to working practices (Mimnagh & Murphy, 2004; Kendall et al., 2009). Furthermore, this may offer benefits in terms of positive work and personal outcomes (Oldman & Hackman, 2010).

The research derived from this thesis has also been fruitful in identifying how it may be possible to provide a suitable divide between training and service provision under the Working Time Directive, which has been identified as an ongoing tension in the literature (Derrick, 2006). The research has pointed towards the importance of managing doctors' perceptions that they are achieving satisfactory levels of training and has suggested that 'active' training initiatives, such as those provided to other healthcare groups, may be one way to achieve this. Such strategies may help provide greater clarity in what training entails and may help aligned expectations in what is realistic, given the reduction in working hours.

8.4 Limitations of the research

This section outlines the limitations of the research contained in this thesis. Specific consideration is given to the cross-sectional design of the research, the nature of the sample studied and the generalisability of the data.

Firstly, there are limitations in the research in terms of the cross-sectional design and the inability to draw causal inferences from the data. This is particularly the case with the quantitative data and the research is only able to examine correlations between information. For example, in terms of the relationship between job satisfaction and intention to leave, it is unclear whether increased turnover intention causes decreased job satisfaction, or whether decreased job satisfaction causes increased turnover intention. Whilst the use of supplementary qualitative data allowed for an exploration of potentially causal relationships, causality cannot be proven. Indeed, the only way in which to identify causal relationship would be through a longitudinal research design which, in the present research was not pragmatic owing to financial and logistic factors. Therefore, in

order to better understand relationships between factors, future longitudinal research with junior doctors cohorts is required.

Secondly, due consideration must be given to the sample studied, particularly in terms of participants being self-selecting, which may pose a further limitation to the research. It may be that the research is subject to volunteer effects in that those individuals who opted to participate in the study (or studies) did so because the research was of personal interest or salience to them. This may therefore potentially skew the results in such a way that they are not representative of the population. However, it is difficult to know with any certainty whether the data may be potentially skewed, although the views from expert panel members and the consistently emerging themes throughout the research phases may suggest the data is not overly biased towards one particular perspective.

A further limitation of the research concerns the generalisability of the data. The data were collected from only one Deanery, in a specific geographic area, and therefore the research findings may offer limited generalisability to other Deaneries. This may be a particularly pertinent issue owing to working initiatives which are Deanery or geographically idiosyncratic. Consequently, the author does not profess to the data being representative to the junior doctor population.

8.5 Original contribution to knowledge

This section outlines the contributions to knowledge made by this thesis. Firstly, a unique contribution is offered owing to the timely manner of the research. Specifically, the period under which the research was conducted represented a unique period. The research therefore provided an in-depth insight into reforms in the medical profession and represented the experiences of a unique generation of trainees. Through a detailed exploration of the experiences of junior doctors across a wide range of specialties the research has provided a unique insight. Indeed, this diversity has been neglected by previous studies which have largely focused on individual specialties and the associated impact therein (Shah et al., 2004; Lowry & Cripps, 2005).

A second major contribution of the research lies in the use of a mixed-methods approach to explore the phenomena under investigation. In so doing, this has facilitated an understanding of the ways in which the Directive has impacted on junior doctors' working hours and also their quality of working life. In particular, the insight provided by the qualitative data has offered additional depth to that reported in the literature which has an emphasis on quantitative findings.

A further contribution to knowledge offered by this thesis concerned the way in which the research not only attempted to understand the experiences of doctors-in-training, but the way in which it sought to extrapolate the research findings into practise. In particular, the use of the expert panel offered additional validation to the research process. This thesis therefore offers new information in terms of work design, role allocation and workforce reconfiguration in light of the challenges posed by the Working Time Directive.

8.6 Recommendations for future research

The information presented in Chapters 3, 4, 5 and 6 offered a valuable insight into the experiences of the cohorts studied and of the formative years of the Working Time Directive. Based on the information obtained from the research, there are a number of recommendations for further studies.

Firstly, the author would encourage future research which monitors perceptions of the Directive, using both qualitative and quantitative means, specifically examining attitudes and understandings on the Directive for upcoming cohorts of trainees. This may be a particularly interesting line of enquiry as the Directive will no longer be in its infancy. It may also be an idea to examine the ways in which perceptions from senior trainees' impact on the views of juniors and broader cultural attitudes towards the Directive.

Secondly, exploring the progress of trainees would be useful. In particular, research which assesses the impact of the Directive specifically on training may be useful. One way in which to gauge this may be through examining future

indicators, such as the rate of applicants for successful certificates of completing of both Foundation Programme and Specialist Training programmes. Additional qualitative strategies, such as the use of interviews or focus groups in a longitudinal sense, exploring the progress of trainees would also be encouraged. Thirdly, it may also be interesting to monitor future rates of psychological health (using the GHQ-12) and sickness absence of future junior doctors' cohorts commencing the Foundation Programme post August 2009. One suggestion for future research would be to compare data on these groups, all of whom will be working less than an average 48 hour week, to the findings of cohorts studied in the present research. Indeed, the author hopes that the present data may be used as a benchmark for future prospective studies. It may be interesting to monitor rates to see whether health and psychological wellbeing demonstrates any improvements in line with hour reductions.

Fourthly, a further recommendation for future research would be to look closely at the concept of the psychological contract in junior doctors. In particular, it may be interesting to monitor perceptions of infringement in the psychological contract among future cohorts, particularly in light of the many changes which have, and will continue to be introduced to working practices. Such research is welcomed in terms of both qualitative and quantitative lines of enquiry. Indeed, exploring this issue in relation to the idea of expectations (consistently highlighted as a pertinent topic throughout the research) may be a further suggestion. Further research could explicitly assess the interplay between psychological and physical health factors in current and upcoming cohorts of doctors-in-training. Whilst in the present research it was difficult to draw any direct links between these two aspects, future research could usefully explore sickness absence and, more specifically, the issue of presenteeism in the workplace.

Finally, developing and implementing interventions targeted at issues of control among junior doctor populations may be a further line of enquiry. One recommendation for intervention research may be through involving certain groups of trainees in rota planning and comparing their perceived work control to those of trainees who are not afforded this facility. Indeed, further quantitative data examining work based factors, such as work intensity, worker control and

associations with wellbeing in future cohorts would be particularly informative as also further contribute to the body of literature on the impact of job characteristics.

8.7 Final conclusions

The staged implementation of the Working Time Directive represented a unique period in the history of the medical profession. This thesis aimed to capture the experiences of a unique group of trainees adjusting to the many changes introduced under the Directive. In so doing, the research has provided a detailed insight into perceptions of the Directive at an individual and organisational level, advancing knowledge and exploring policy and practical implications.

The research has identified support for a regulation of working hours in the profession and has largely pointed to the Working Time Directive benefiting trainees in terms of their wellbeing and quality of working life. However, the research has uncovered a number of concerns regarding the Directive, particularly in terms of training and educational issues. In many instances, concerns have stemmed from a lack of clarity regarding change initiatives introduced under the Directive and has resulted in confusion regarding its remit and indeed apparent impact. The research has therefore been instrumental in identifying how concerns may be addressed, specifically in terms of issues such as management of expectations, providing greater clarity of information and the importance of staff engagement.

References

- Ahmed-Little, Y., & Bluck, M. (2006). The European Working Time Directive 2009. *British Journal of Healthcare Management*, 12, 373-422.
- Akerstedt, T. E., Fredlund, P., Gillberg, M., & Jansson, B. (2002). A Prospective Study of Fatal Occupational Accidents: Relationship to Sleeping Difficulties and Occupational Factors. *Journal of Sleep Research*, 11, 69-71.
- Antaki, C., Billig, M., Edwards, D., & Potter, J. (2002). Discourse analysis means doing analysis: a critique of six analytic shortcomings. *Discourse Analysis Online* 1,1.
- Arnold, J., Cooper, C. L., & Robertson, I. (1995). *Work Psychology: understanding human behaviour in the workplace*. (Second ed.). London: Pitman.
- Axelsson, G., & Rylander, R. (1989). Outcome of Pregnancy in Relation to Irregular and Inconvenient Work Schedules. *British Journal of Industrial Medicine*, 46, 306-312.
- Baker, C., West, J., & Stern, P.N. (1992). Method Slurring: The Grounded Theory/Phenomenology Example'. *Journal of Advanced Nursing*, 17, 1355-1360.
- Baker, M. J. (2003). *Business and Management Research: How to complete your research project successfully*. Helensburg, Scotland: Westburn Publishers.
- Bamford, N., & Bamford, D. (2008). The effect of a full shift system on doctors. *Journal of Health Organization and Management*, 22, 223-237.
- Bazeley, P. (2007). *Qualitative Data Analysis with NVivo*. London: Sage.
- Beckett, D. J., Gordon, C. F., Paterson, R., Chalkley, S., Stewart, C., Jones, M. C., et al. (2009). Improvement in out-of-hours outcomes following the implementation of Hospital at Night. *QJMed: An International Journal of Medicine*, 102, 539-546.
- Barger, L. K., Ayas, N. T., Cade, B. E., Cronin, J. W., Rosner, B., Speizer, .F. E., et al. (2006). Impact of extended-duration shifts on medical errors, adverse events, and attentional failures. *Plos Med*, 3, e487.
- Bartram, D. J., Yadegarfar, G., & Bartram, D. S. (2009). Psychosocial working conditions and work-related stressors among UK veterinary surgeons. *Occupational Medicine*, 59, 334-341.
- Bellini, L. M., Baime, M., & Shea, J. A. (2002). Variation of mood and empathy during internship. *JAMA*, 287, 3146.
- Bellini, L. M., & Shea, J. A. (2005). Mood Change and Empathy Decline Persist during Three Years of Internal Medicine Training. *Academic Medicine*, 80, 164-167.

Bennett, R. J., & Robinson, S. L. (2000). Development of a measure of workplace deviance. *Journal of Applied Psychology*, 85, 349-360.

Best, S. J., & Krueger, B. (2002). New approaches to assessing opinion: The prospects for electronic mail surveys. *International Journal of Public Opinion Research*, 14, 73-92.

Black, P. (2006). The European working time directive. *British Journal of Ophthalmology*, 90, 1082-1083.

Bogg, J., Gibbs, T., & Bundred, P. (2001). Training, job demands and mental health of pre-registration house officers. *Medical Education*, 35, 590-595.

Bøggild, H., & Knutsson, A. (1999). Shift Work, Risk Factors and Cardiovascular Disease. *Scandinavian Journal of Work Environment and Health*, 25, 85-99.

Bond, F. W., Flaxman, P. E., & Loivette, S. (2006). *A business case of the Management Standards for stress. Research report 431*. London: HSE Books.

Bordia, P., Hobman, E., Jones, E., Gallois, C., & Callan, V.J. (2004). Uncertainty during organizational change: types, consequences and management strategies. *Journal of Business and Psychology*, 18, 507-532.

Bohway, A. R. (2009). An investigation into how the European Working Time Directive has affected anaesthetic training. *BMC Medical Education*, 8, 41.

Bowling, N. A., & Hammond, G. D. (2008). A meta-analytic examination of the construct validity of the Michigan Organizational Assessment Questionnaire Job Satisfaction Subscale. *Journal of Vocational Behavior*, 73, 63-77.

Boyatzis, R. E. (1998). *Transforming Qualitative information*. London: Sage.

Boynton, P. M., & Greenhalgh, T. (2004). Selecting, designing, and developing your questionnaire. *British Medical Journal*, 328, 1312-1315.

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3, 77-101.

British Medical Association. (2004). *Time's Up 1 August 2004: A guide on the EWTD for junior doctors*. London. BMA publications.

British Medical Association. (2008). *BMA Survey of members' views on European Working Time Directive*. Retrieved 22 September, 2008, from <http://www.bma.org.uk/ap.nsf/Content/SummarysurveysEWTD?OpenDocument&Highlight=2,ewtd>

British Medical Association. (2009). *Maintaining the Quality of Training in the Craft Specialties: Managing EWTD Implementation*. BMA Junior Doctors Committee. London: BMA Publications.

British Psychological Society. (2006). *Ethics Guidelines and Support*. Retrieved 30 October, 2006, from [http://www.bps.org.uk/document-download-area/document-download\\$.cfm?file_uid=5084A882-1143-DFD0-7E6C-F1938A65C242&ext=pdf](http://www.bps.org.uk/document-download-area/document-download$.cfm?file_uid=5084A882-1143-DFD0-7E6C-F1938A65C242&ext=pdf)

Bryman, A. (2001). *Social Research Methods*. (p.355). Oxford: Oxford University Press.

Bryman, A. (2004). *Social Research Methods* (Second ed). Oxford: Oxford University Press.

Burke, D. (2002). Making the European working time directive a reality. *British Medical Journal*, 325, S66.

Cairns, H., Hendry, B., Leather, A., & Moxham, J. (2008). Outcomes of the European Working Time Directive: From 56 to 48 hours is a step too far. *British Medical Journal*, 337, 421-422j.

Cammann, C., Fichman, M., Jenkins, D., & Klesh, J. (1979). *The Michigan Organizational Assessment Questionnaire*. Unpublished manuscript, University of Michigan, Ann Arbor, Michigan.

Cappuccio, F. P., Bakewell, A., Taggart, F. M., Ward, G., Ji, C., Sullivan, J. P. et al. (2009). Implementing a 48 h EWTD-compliant rota for junior doctors in the UK does not compromise patients' safety: assessor-blind pilot comparison. *QJMed: An International Journal Of Medicine*, 102, 271-282.

Caruso, C. C. (2006). Possible Broad Impacts of Long Work Hours. *Industrial Health*, 44, 531-536.

Cass, H. D., Smith, I., Unthank, C., Starling, C., & Collins, J. E. (2003). Improving compliance with requirements on junior doctors' hours. *British Medical Journal*, 327, 270-273.

Chesser, S., Bowman, K., & Phillips, H. (2002). The European Working Time Directive and the training of surgeons. *British Medical Journal*, 325, S69.

Ciechanowski, P. S., Russo, J. E., Katon, W. J., & Walker, E. A. (2004). Attachment theory in health care: the influence of relationship style on medical students' specialty choice. *Medical Education*, 38, 262-270.

Cook, C., Heath, F., & Thompson, R. L. (2000). A Meta-Analysis of Response Rates in Web- or Internet-Based Surveys. *Educational and Psychological Measurement*, 60, 821-836.

Cooligan, M. J., & Rosa, R. R. (1990). Shift work effects on social and family life. *Occupational Medicine*, 5, 315-322.

Costa, G. (2003). Shift work and occupational medicine: an overview. *Occupational Medicine*, 53, 83-88.

Council Directive 93/104/EC. (1993). *Official Journal of the European Community*. L307, 18-24.

Cousins, R., C. J. MacKay, C. J., Clarke, S. D., Kelly, C., Kelly, P. J. & McCaig, R. H. (2004). Management Standards work-related stress in the UK: practical development. *Work Stress*, 18, 113-136.

Cox, T., & Griffiths, A. (1995). The nature and measurement of work stress: theory and practice (p. 783-803). In J. R. Wilson, E. Corlett, & E. Nigel (Eds.). *Evaluation of human work: a practical ergonomics methodology* (Second ed., pp. 783-803) London: Taylor & Francis.

Cozzens, S. E. (1987). Expert Review in Evaluating Programs. *Science & Public Policy*, 14, 71-81.

Creswell, J. W. (2003). *Research design. Qualitative, quantitative and missed-methods approaches* (Second ed.). London: Sage Publications Ltd.

Cresswell, J. W., & Plano-Clark, V. L. (2007). *Designing and conducting mixed methods research*. Thousand Oaks, California: Sage.

Davies, H., Archer, J., Heard, S., & Southgate, L. (2005). Assessment tools for the Foundation Programmes-a practical guide. *British Medical Journal Career Focus*, 330, 195-196.

Dawson, D., & Reid, K. (1997). Fatigue, alcohol & performance impairment. *Nature*, 388, 235.

Dembe, A. E., Erickson, J. B., Delbos, R. G., & Banks, S. M. (2005). The Impact of Overtime and Long Work Hours on Occupational Injuries and Illnesses: New Evidence from the United States. *Occupational & Environmental Medicine*, 62, 588-597.

Dembe, A. E. (2009). Ethical issues relating to the health effects of long working hours. *Journal of Business Ethics*, 84, 195-208.

Denzin, N. K. (1989). *The research act: A theoretical introduction to sociological method* (Third ed.). New York: McGraw-Hill.

Department of Health. (2002a). *Guidance on working patterns for Junior Doctors*. London: Department of Health Publications.

Department of Health. (2002b). *Working Time Pilots 2002*. London: Department of Health Publications.

Department of Health. (2004). *Extending Independent Nurse Prescribing Within the NHS in England. A Guide for Implementation* (Second ed.). London: Department of Health Publications.

Department of Health. (2005a). *Curriculum for the Foundation Years in Postgraduate Education and Training*. Department of Health Publications: London.

Department of Health (2005b). *The Implementation and Impact of Hospital at Night Pilot Projects. An Evaluation Report*. London: Stationary Office.

Department of Health. (2006). *Hospital doctors-junior doctors' hours*. Retrieved 20 October, 2007, from <http://www.bma.org.uk/ap.nsf/Content/HospitalDoctors/JunHrs>

Department of Health. (2008). *Units and you*. Retrieved 19 February, 2010, from: http://www.dh.gov.uk/prod_consum_dh/groups/dh_digitalassets/documents/digitalasset/dh_085427.pdf

Derrick, S. (2006). The training/service continuum: exploring the training/service balance of senior house officer activities. *Medical Education*, 40, 355-362.

Deutskens, E., DeRuyter, K., & Wetzels, M. (2006). An Assessment of Equivalence Between Online & Mail Surveys in Service Research. *Journal of Service Research*, 8, 346-355.

Dillman, D. A. (1983). Mail and other self-administered questionnaires. In P. H. Rossi, J. D. Wright, & A. B. Anderson. (Eds.). *Handbook of Survey Research* (pp. 359-377). New York: Academic Press.

Directive 2000/34/EC of the European Parliament and Council. (2000). *Official Journal of the European Community*, L195, 41-45.

Duffy, D. J., Jeys, L., & London, N. J (2008). Changing times? Doctors' sick leave in a district general hospital. *Bulletin of the Royal College of Surgeons of England*, 90, 130-133.

Eaker, S., Bergstrom, R., Bergstrom, A., Adami, H. O., & Nyren, O. (1998). Response rate to mailed epidemiological questionnaires: a population-based randomized trial of variations in design and mailing routines. *American Journal of Epidemiology*, 147, 74-82.

Edwards, J. A., Webster, S., VanLaar, D., & Easton, S. (2008). Psychometric analysis of the UK Health and Safety Executive's Management Standards work-related stress Indicator Tool. *Work Stress*, 22, 96-107.

Elliott, R., Fischer, C. T., & Rennie, D. L. (1999). Evolving guidelines for the publication of qualitative research studies in psychology and related fields. *British Journal of Clinical Psychology*, 38, 215-229.

Ely, M., Vinz, R., Downing, M., & Anzul, M. (1997). *On writing qualitative research: living by words*. Routledge/Falmer.

European Foundation for the Improvement of Living and Working Conditions (2007). *Fourth European Working Conditions Survey*. Office for the Official Publications of the European Communities: Luxembourg.

European Industrial Relations Observatory (2007). *Working Time Developments 2007*.

Eysenbach, G., & Wyatt, J. (2002). Using the Internet for Surveys and Health Research. *Journal of Medical Internet Research*, 4, e13.

Ferguson, E., & Cox, T. (1993). Exploratory Factor Analysis: A Users' Guide. *International Journal of Selection and Assessment*, 1, 84-94.

Field, A. (2009). *Discovering Statistics Using SPSS* (Third ed.). London: Sage.

Fife-Schaw, C. (2006). Questionnaire Design. In G. M. Breakwell, S. Hammond, C. Fife-Schaw & J. A. Smith (Eds.), *Research Methods in Psychology* (Third ed., pp. 210-231). London: Sage.

Firth-Cozens, J. (1987). Emotional distress in junior house officers. *British Medical Journal*, 295, 533-536.

Firth-Cozens, J. (1995). Sources of stress in junior doctors and general practitioners. *Yorkshire Medicine*, 7, 10-13.

Firth-Cozens, J. (1998). Individual and organisational predictors of depression in general practitioners. *British Journal of General Practice*, 48, 1647-1651.

Firth-Cozens, J. (1999a). The psychological problems of doctors. In J. Firth-Cozens & R. Payne (Eds.) *Stress in health professionals: psychological and organizational causes and interventions*. London: Wiley.

Firth-Cozens, J. (1999b). *Training in the Pre-registration House Officer Year (Report 1)*. North Thames Department of Postgraduate Medicine and Dental Education, London.

Firth-Cozens, J. (2003). Doctors, their wellbeing, and their stress. *British Medical Journal*, 326, 670-671.

Fisher, R. J. (1993). Social Desirability Bias and the Validity of Indirect Questioning. *The Journal of Consumer Research*, 20, 303-315.

Folkard, S., Lombardi, D. A., & Tucker, P. T. (2005). Shift work: safety, sleepiness and sleep. *Industrial Health*, 43, 20-23.

Fugate, M., Prussia, G. E., & Kinicki, A. J. (2010). Managing Employee Withdrawal During Organizational Change: The Role of Threat Appraisal. *Journal of Management*, doi: 0149206309352881.

- Gabbard, G. B., Menninger, M. D., & Coyne, L. (1987). Sources of conflict in the medical marriage. *American Journal of Psychiatry*, 144, 5672-5677.
- Gardner, S. F. (2006). Preparing for the Nexters. *American Journal of Pharmaceutical Education*, 70, 1.
- Gadsden, V. L., & Hall, M. (1996). *Intergenerational Learning: A Review of the Literature* (Second Ed.). National Centre on Fathers and Families. Report No. LR-FP-96-07.
- Gasper, P. (1999). Social Constructivism. In R. Audi (Ed.). *The Cambridge dictionary of philosophy* (Second ed. pp.855). Cambridge: Cambridge University Press.
- General Medical Council. (1997). *The New Doctor*. London: General Medical Council.
- General Medical Council. (2001). *Good Medical Practice*. London. General Medical Council.
- Gillham, B. (2000). *Developing a questionnaire*. London: Continuum.
- Goldberg, R., Boss, R. W., Chan, L., Goldberg, J., Mallon, W. K., Moradzadeh, D. et al. (1996). Burnout and its correlates in emergency physicians: four years' experience with a wellness booth. *Academic Emergency Medicine*, 3, 1156-1164.
- Goldberg, D. P., Gater, R., & Sartorius. N. (1997). The validity of two versions of the GHQ in the WHO study of mental illness in general health care. *Psychological Medicine*, 27, 191-197.
- Goldberg, D. P., Oldehinkel, T., & Ormel, J. (1998). Why GHQ threshold varies from one place to another. *Cambridge Journals Online*, 28, 915-921.
- Goldberg, D. P., & Williams, P. (1988). *A users guide to the General Health Questionnaire*. Windsor: NFER-Nelson.
- Gracia, F. J., Silla, I., Peiró, J. M., & Fortes-Ferreira, L. (2007). The state of the psychological contract and its relation to employees' psychological health. *Psychology in Spain*, 11, 33-41.
- Grant, A. M., & Parker, S. K. (2009). Redesigning work design theories: The rise of relational and proactive perspectives. *Academy of Management Annals*, 3, 317-375.
- Greene, J. C., Caracelli, V. J., & Graham, W. F. (1989). Toward a conceptual framework for mixed-methods evaluation designs. *Educational Evaluation and Policy Analysis*, 11, 255-274.

Greenwald, A. G., Pratkanis, A. R., Leippe, M. R., & Baumgardner, M. H. (1986). Under What Conditions Does Theory Obstruct Research Progress? *Psychological Review*, 93, 216-229.

Griffiths, A. (1999). Organizational interventions: Facing the limits of the natural science paradigm. *Scandinavian Journal of Work, Environment and Health*, 25, 589-596.

Guthrie, E., Tattan, T., & Williams, E. (1999). Sources of stress, psychological distress and burnout in psychiatrists. Comparison of junior doctors, senior registrars and consultants. *Psychiatric Bulletin*, 23, 207-212.

Hackman, J. R., & Oldham, G. R. (1976). Motivation through the Design of Work: Test of a Theory. *Organizational Behavior and Human Performance*, 16, 250-279.

Hackman, J. R., & Oldham, G. R. (2010). Not what it was and not what it will be: The future of job design research. *Journal of Organizational Behavior*, 31, 463-479.

Harrington, J. M. (2001). Health effects of shift work and extended hours of work. *Occupational Environmental Medicine*, 58, 68-72.

Hawton, K., Clements, A., & Sakarovitch, C. (2001). Suicide in doctors. *Journal of Epidemiological Community Health*, 55, 296-300.

Hayes, N. (1997). Qualitative research and research in psychology. In N. Hayes (Ed.), *Doing qualitative enquiry analysis in psychology*. Hove, UK: Psychology Press.

Hayes, R. (2005). Foundation Programme for newly qualified doctors. *British Medical Journal*, 331, 465-466.

Health Policy & Economic Research Unit. (1999). *Stress among junior doctors*. London: British Medical Association.

Health & Safety Commission. (2006). *Health and Safety Statistics 2005/2006*. Sudbury: HSE Books.

Health & Safety Executive. (2008). HSE Analysis tool. Retrieved 8 November, 2009, from <http://www.hse.gov.uk/stress/standards/downloads.htm>

Hewson, C., Yule, P., Laurant, D., & Vogel, C. (2003). *Internet Research Methods: a practical guide for the social and behavioural sciences*. London: Sage.

Hoepfl, M. (1997). Choosing qualitative research: A primer for technology education researchers. *Journal of Technology Education*, 9, 47-65.

Hollander, J. A. (2004). The social context of focus groups. *Journal of Contemporary Ethnography*, 33, 602-637.

Holloway, I. & Todres, L. (2003). The status of method: Flexibility, consistency and coherence. *Qualitative Research*, 3, 345-357.

Horrocks, N., & Pounder, R. (2006a). *Designing safer rotas for junior doctors in the 48-hour week*. Royal College of Physicians, Multidisciplinary Working Group, London.

Howitt, D., & Cramer, D. (2000). *First steps in research and statistics*. London: Routledge.

Hughes, R., & Stone, P. (2004). The Perils of Shift Work. *American Journal of Nursing*, 104, 60-63.

Humphrey, S. E., Nahrgang, J. D., & Morgeson, F. P. (2007). Integrating Motivational, Social, and Contextual Work Design Features: A Meta-Analytic Summary and Theoretical Extension of the Work Design Literature. *Journal of Applied Psychology*, 92, 1332-1356.

Illieva, J., Baron, S. & Nigel, M., & Healey, N. M. (2002). Online Surveys in Marketing Research: Pros and Cons. *International Journal of Market Research*, 44, 361-382.

Ivankova, N. V., Creswell, J. W., & Stick, S. L. (2006). Using Mixed-Methods Sequential Explanatory Design: From Theory to Practice. *Field Methods*, 18, 3-20.

Jacques, C., Lynch, J., & Samkoff, S. (1990). The effects of sleep loss on resident physicians. *Journal of Family Practice*, 30, 223-229.

Joffe, H., & Yardley, L. (2004). Content and thematic analysis. In D. F. Marks & L. Yardley (Eds.). *Research methods for clinical and health psychology* (pp. 56-68). London: Sage.

Johnson, J. R., Bernhagen, M. J., Miller, V., & Allen, M. (1996). The role of communication in managing reductions in work force. *Journal of Applied Communication Research*, 24, 139-164.

Kapur, N., & House, A. (1998). Working patterns and the quality of training of medical house officers: evaluating the effect of the New Deal. *Medical Education*, 32, 432-438.

Kelle, U. (2004). Computer-assisted analysis of qualitative data. In U. Flick, E. Von Kardorff, & I. Steinke. *A companion to qualitative research* (pp. 276-283). London: Sage.

Keller, F., Corley, M., Corley, S., Konieczny, L., & Todirascu, A. (1998). Webexp: a Java toolbox for web-based psychological experiments. In C. Hewson, P. Yule, D. Laurant, & C. Vogel. (Eds.). *Internet Research Methods: a practical guide for the social and behavioural sciences*. London: Sage.

Kendall, D., Ahmed-Little, Y., Cousins, D., Sunderland, H., Johnston, M., & Najim, O. (2009). Achieving the 48-hour week for junior doctors. *British Journal of Healthcare Management*, 15, 127-131.

Kernan, M. C., & Hanges, P. J. (2002). Survivor reactions to reorganization: Antecedents and consequences of procedural, interpersonal, and informational justice. *Journal of Applied Psychology*, 87, 916-928.

Kessler, R. C., Barber, C., Beck, A. L., Berglund, P. A., Cleary, P. D., McKenas, D., et al. (2003). The World Health Organization Health and Work Performance Questionnaire (HPQ). *Journal of Occupational and Environmental Medicine*, 45, 156-174.

King, N. (1998). Template analysis. In G. Symon & C. Cassell (Eds.), *Qualitative methods and analysis in organizational research: A practical guide* (pp. 118-134). London: Sage.

Kitzinger, J. (1995). Qualitative Research: Introducing focus groups. *British Medical Journal*, 311, 299-302.

Knuttsen, A. (2003). Health disorders of shift workers. *Occupational Medicine*, 53, 103-108.

Kotz, J., Davis, S., Lain, D., Strebler, M., Rick, J., Cumming, J., et al (2003). *Working long hours: a review of the evidence. Volume 1 – main report*. Employment Relations Research Series No. 16. The Institute for Employment Studies. Department of Trade and Industry Publications.

Kotz, J., Lain, D., Sheppard, E., Davis, S., Bates, P., & Cummings, J. (2001). *Working long hours: A review of the literature and secondary data analysis (draft interim report)*. Brighton: Institute for Employment Studies.

Krantz, J. H., Ballard, J., & Scher, J. (1997). Comparing the results of laboratory and Word-Wide Web samples on the determinants of female attractiveness. *Behavior Research Methods, Instruments, & Computers*, 29, 264-269.

Krueger, R. A. (1994). *Focus groups: A practical guide for applied research*. Thousand Oaks, California: Sage.

Krueger, R. A. & Casey, M. A. (2000). *Focus groups: A practical guide for applied research*. (Third ed). Thousand Oaks, California: Sage.

Labour Force Survey (2009). Self-reported work-related illness and workplace injuries in 2008/09. Accessed 11 January, 2010, from <http://www.hse.gov.uk/statistics/lfs/0809/wriind6.htm>

Landeshauptstadt Kiel v Dr Medical Norbert Jaeger. (2002). European Court of Justice, Case C-151/02 2002.

Landrigan, C. P., Rothschild, J. M., Cronin, J. W., Kaushal, R., Burdick, E., Katz, J.T. et al. (2004). Effect of reducing intern's work hours on serious medical errors in intensive care units. *New England Journal of Medicine*, 351, 1838-1848.

Landrigan, C. P. (2006). *New Zealand Junior Doctors - An Analysis of Current Scheduling Practices and Recommendations for the Future*. Retrieved 15 February, 2010, from http://www.rcplondon.ac.uk/news/eu/ewtd_nz-jnr-doc.pdf

Lawrence, J. (1997). The tragedy of doctor suicide. *Journal of the Queensland Branch of the Australian Medical Association*, 1, 12-13.

Leslie, P. J., Williams, J. A., & McKenna, C. (1990) Hours, volume, and type of work of pre-registration house officers. *British Medical Journal*, 300, 1038-1041.
Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic Inquiry*. California: Sage.

Linell, P. (2001). A dialogical conception of focus groups and social representations. In U. Sätterlund-Larsson (Ed.), *Socio-cultural theory and methods: An anthology*. Department of Nursing, University of Trollhättan/Uddevalla.

Lingenfelser, T., Kaschel, R., Weber, A., Zaiser-Kaschel, H., Jakober, B., & Kuper, J. (1994). Young hospital doctors after night duty: their task-specific cognitive status and emotional condition. *Medical Education*, 28, 566-572.

Litosseliti, L. (2003). *Using Focus Groups in Research*. London: Continuum.

Lowenstein, J. (2003). Where have all the giants gone? Reconciling medical education and the traditions of patient care with limitations on resident work hours. *Perspectives in Biology and Medicine*, 46, 273-282.

Lowry, J., & Cripps, J. (2005). Results of the online EWTD trainee survey. *Bulletin of the Royal College of Surgeons of England*, 87, 86-87.

Magnusson, C., Finnerty, G., & Pope, R. (2005). Methodological triangulation in midwifery education research. *Nurse Researcher*, 12, 30-39.

Mather, H., & Pounder, R. (2006). *Coping with the problems in acute medicine in the post-WTD era-a December 2004 survey of RCP College Tutors*. Retrieved August 9, 2008, from http://www.rcplondon.ac.uk/professional/spr/spr_ewtd05.htm

McDonald, R., & Eccles, S. (2004). The hospital at night. *British Medical Journal Career Focus*, 328, 19.

McKee, M., & Black, N. (1992). Does the current use of junior doctors in UK affect quality of medical care? *Social Science and Medicine*, 34, 549-558.

- McManus, I. C., Winder, B. C., & Gordon, D. (1999). Are UK doctors particularly stressed? *Lancet*, 354, 1358-1359.
- Mensch, B. S., & Kandel, D. B. (1998). Underreporting of substance use in a national longitudinal youth cohort: Individual and interviewer effects. *Public Opinion Quarterly*, 52, 100-124.
- Miles, M. B., & Huberman, A. M. (1994). *Qualitative data analysis: An expanded sourcebook*. Thousand Oaks: California: Sage.
- Miller, C. (1995). In-depth interviewing by telephone: Some practical considerations. *Evaluation and Research in Education*, 9, 29-38.
- Mimnagh, C. J. & Murphy, M. (2004). Junior doctors working patterns: application of knowledge management theory to junior doctors training. *Healthcare Computing*, 42-47.
- Morse, J. M. (2003). Principles of mixed methods and multimethod research design. In A. Tashakkori, & C. Teddlie (Eds). *Handbook of mixed methods in social and behavioral research*. (pp. 189-208). Thousand Oaks, California: Sage.
- Nadler, D. A. (1988). Concepts for the management of organisational change in M. L Tushman & W. L. Moore (Eds.). *Readings in the management of innovation*. (pp. 148-163). New York: Baillinger.
- Nakanishi, N., Yoshida, H., Nagano, K., Kawashimo, H., Nakamura, K., & Tatara, K. (2001). Long Working Hours and Risk for Hypertension in Japanese Male White Collar Workers. *Journal of Epidemiology and Community Health*, 55, 316-322.
- National Workforce Projects. (2007). Retrieved November 8, 2007 from <http://www.healthcareworkforce.nhs.uk/wtdcasestudies.htm>
- Neuendorf, K. A. (2002). *The content analysis guidebook*. California: Sage.
- NHS Employers. (2009). *EWTD: Resources and Operational Issues* . Accessed 26 December, 2009, from <http://www.nhsemployers.org/PlanningYourWorkforce/MedicalWorkforce/EWTD/Pages/EWTDOperationalissues.aspx>
- NHS Healthcare Workforce. (2008). *New Deal for Junior Doctors: The Basics*. Retrieved 3 March, 2009, from <http://bit.ly/aPeazi>
- NHS Information Centre. (2010). *Sickness Absence Rates in the NHS: July - September 2009, Experimental Statistics*. Accessed 28 February, 2010, from http://www.ic.nhs.uk/webfiles/publications/workforce/sickness_absence/Sickness_Absence_Rates_NHS_July_September_2009.pdf
- NHS Management Executive. (1991). *The New Deal: Hours of Work of Doctors in Training*. NHMSE: London.
- NHS Organisational Memoranda. (2006). *Confidential questionnaire about current SHO/F2 post (v2.38)*. LNR Healthcare Workforce Deanery, NHS East Midlands.

Norgate, C., & Okunuga, C. (2008). Taking Care 24:7: the story so far. NHS National Workforce Projects. Retrieved 14 February, 2010, from http://www.healthcareworkforce.nhs.uk/backup/index.php?option=com_docman&task=cat_view&gid=679&limit=5&limitstart=0&order=name&dir=DESC&Itemid=697

Office of Public Sector Information.(1998). *The Working Time Regulations*. Retrieved 16 September, 2008, from <http://www.opsi.gov.uk/si/si1998/19981833.htm>

Oliver, I. (2002). An expert panel-based approach to the assessment of vegetation condition within the context of biodiversity conservation: Stage 1: the identification of condition indicators. *Ecological Indicators*, 2, 223-237.

Onwuegbuzie, A., & Leech, N. (2007). Validity and Qualitative Research: An Oxymoron? *Quality and Quantity*, 41, 233-249.

Oppenheim, A. N. (1992). *Questionnaire design, interviewing and attitude measurement*. London: Continuum.

Orton, D. I., & Gruzelier, J. H. (1989). Adverse changes in mood and cognitive performance of house officers after a night on duty. *British Medical Journal*, 298, 21-23.

Paice, E., Rutter, H., Wetherell, M., Winder, B., & McManus, I. (2002). Stressful incidents, stress and coping strategies in the pre-registration house officer years. *Medical Education*, 36, 56-65.

Palmer, I. & Dunford, R. W. (2008). Organizational Change and the Importance of Embedded Assumptions. *British Journal of Management*, 19, S20-S32.

Patton, M. C. (2002). *Qualitative Evaluation and Research Methods*. London: Sage.

Paulhus, D. L. (1984). Two-component models of socially desirable responding. *Journal of Personality and Social Psychology*, 46, 598-609.

Payne, R., & Firth-Cozens, J. (1987). Introduction. In R. Payne & J. Firth-Cozens (Eds.). *Stress in Health Professionals*. (pp. 15-22). Chichester: John Wiley & Sons.

Philibert, I. (2005). Sleep loss and performance in residents and non-physicians: a meta-analytic examination. *Sleep*, 28, 1392-1402.

Pickersgill, T. (2001). The European working time directive for doctors in training. *British Medical Journal*, 323, 1266.

PMETB (2009a). *The State of Postgraduate Medical Education and Training 2009: Laying foundations for the future*. (2009) Accessed March 3, 2010, from

[http://www.pmetb.org.uk/fileadmin/user/Communications/Publications/State_of PMET_2009.pdf](http://www.pmetb.org.uk/fileadmin/user/Communications/Publications/State_of_PMET_2009.pdf)

PMETB (2009b). *National Training Surveys 2008-2009: Key Findings*. Retrieved September 4, 2009 from

[http://www.pmetb.org.uk/fileadmin/user/QA/Trainee Trainer Survey Report/National Training Surveys 2008-09_20090929.pdf](http://www.pmetb.org.uk/fileadmin/user/QA/Trainee_Trainer_Survey_Report/National_Training_Surveys_2008-09_20090929.pdf)

Prosser, D., Johnson, S., Kuipers, E., Szmukler, G., Bebbington, P., & Thornicroft, G. (1997). Perceived sources of work stress and satisfaction among hospital and community mental health staff, and their relation to mental health, burnout and job satisfaction. *Journal of Psychosomatic Research*, 43, 51-59.

Ratanawongsa, N., Wright, S. M., & Carrese, J. A. (2007). Well-being in residency: a time for temporary imbalance? *Medical Education*, 41, 273-280.

Richards, T. (2009). Running out of time. *British Medical Journal*, 338, b1507.

Rickards, L., Fox, K., Roberts, C., Fletcher, L., & Goddard, E. (2004). *Living in Britain: results from the General Household Survey*. London. The Stationery Office.

Roberton, D. M. (1998). Shifts in opportunities for doctors in training. *British Medical Journal*, 316, 1032-1033.

Robinson, G. (2006). From medical student to junior doctor: maintaining good health during the 'baptism of fire'. *Student British Medical Journal*, 14, 138-139.

Robinson, S. L., & Rousseau, D. M. (1994). Violating the Psychological Contract: Not the Exception but the Norm. *Journal of Organizational Behavior*, 15, 245-259.

Rohrich, R. J., Persing, J. A., & Phillips, L. (2003). Mandating shorter work hours and enhancing patient safety: a new challenge for resident education. *Plastic & Reconstructive Surgery*, 395-397.

Sapsford, R. (2007). *Survey Research* (Second ed.). London: Sage.

Santry, C. (2009). Trainee NHS doctors being told to lie about long working hours. *Health Service Journal*. Retrieved 28 May, 2009, from

<http://www.hsj.co.uk/news/workforce/trainee-nhs-doctors-being-told-to-lie-about-long-working-hours/5002032.article>

Schernhammer, E. S., Laden, F. E., Speizer, W. C., Willett, D. L., Hunter, I., Kawachi, C. S., et al. (2003). Night-Shift Work and Risk of Colorectal Cancer in the Nurses' Health Study. *Journal of the National Cancer Institute*, 95, 825-828.

Schuldt, B. A., & Totten, J. W. (1994). Electronic mail vs. mail survey response rates. *Marketing Research*, 6, 36-39.

Schuman, H., & Presser, S. (1996). *Questions and answers in attitude surveys: Experiments on question form, writing and context*. London: Sage.

Schuster, E. G., Frissell, S. S., Baker, E. E., & Loveless Jr., R. S. (1985). *The Delphi Method: Application to Elk Habitat Quality* (pp. 69). United States Department of Agriculture: Forest Service, Research Paper INT-353, Ogden.

Scott, A. (2000). Shift Work and Health. *Primary Care*, 27, 1057-1079.

Scott, A. J., & LaDou, J. (1990). Shiftwork: Effects on Sleep and Health with Recommendations for Medical Surveillance and Screening. *Occupational Medicine*, 5, 273-299.

Segawa, K., Nakazawa, S., Tsukamoto, Y., Kurita, Y., Goto, H., Fukui, A. et al. (1987). Peptic Ulcer is Prevalent Among Shift Workers. *Digestive Diseases and Sciences*, 32, 449-453.

Seiler, R. E. (1965). *Improving the Effectiveness of Research and Development*. New York: McGraw-Hill.

Shadbolt, N., & Bunker, J. (2009). Choosing general practice. A review of career choice determinants. *Australian Family Physician*, 38, 53-55.

Shah, P., Raman, S., & Vaughan-Williams, E. (2004). European Working Time Directive - a turning stone on the career of junior doctors. *Colorectal Disease: The official journal of the Association of Coloproctology of Great Britain and Ireland*, 6, 12.

Shanafelt, T. D., Bradley, K. A., Wipf, J. E., & Back, A. L. (2002). Burnout and Self-Reported Patient Care in an Internal Medicine Residency Program. *Annals of Internal Medicine*, 136, 358-367.

Shanafelt, T. D., West, C., Zhao, X., Novotny, P., Kolars, J., Habermann, T., et al. (2005). Relationship Between Increased Personal Well-Being and Enhanced Empathy Among Internal Medicine Residents. *Journal of General Internal Medicine*, 20, 559-564.

Shepard, E., & Clifton, T. (2000). Are longer hours reducing productivity in manufacturing? *International Journal of Manpower*, 21, 540-552.

Shields, M. (1999). Long Working Hours and Health. *Health Reports*, 11, 33-48.

Simon, B. L. (1990). Impact of Shift Work on Individuals and Families. *Families in Society*, 71, 342-348.

Sindicato de Médicos de Asistencia Pública (SIMAP) v Conselleria de Sanidad y Consumo de la Generalidad Valenciana. (2000). *Judgement of 3 October 2000*. Case C-303/98. European Court Reports 2000: 1-7963.

Skills for Health (2008). *Hospital at Night Assessment 2008: UK report*. Skills for Health, Workforce Projects Team. Retrieved 3 June, 2009, from http://www.healthcareworkforce.nhs.uk/working_time_directive/hospital_at_night/hospital_at_night_2008_uk_implementation_survey_report.html

Skills for Health (2009a). *Working Time Directive 2009 Publication Series: Rota Design for 2009* (p. 4). Retrieved 8 August 10, 2009, from <http://www.healthcareworkforce.nhs.uk/rotashandoverescalation.html>

Skills for Health (2009b). *WTD- Implications and Practical Suggestions to Achieve Compliance. Joint Royal College of Anaesthetists and Royal College of Surgeons of England WTD 2009 Project*. Skills for Health, Workforce Projects Team. Retrieved 28 October, 2009, from http://www.rcoa.ac.uk/docs/RCS-RCOA_report.pdf

Smith, L. (2006). Workload, sleep loss and shift work. In J. Cox, J. King, A. Hutchinson, & P. McAvoy. (Eds.). *Understanding Doctors' Performance* (pp. 134-158). Oxford: Radcliffe Publishing.

Smola, K. W., & Sutton, C. D. (2002). Generational differences: Revisiting generational work values for the new millennium. *Journal of Organizational Behavior*, 23, 363-382.

Sparks, K., Faragher, B., & Cooper, C. L. (2001). Well-being and occupational health in the 21st century workplace. *Journal of Occupational and Organizational Psychology*, 74, 489-509.

Spector, P. E. (1992). A consideration of the validity and meaning of self-report measures of job conditions. In C. L. Cooper, and Robertson, I. T. (Eds.). *International Review of Industrial and Organisational Psychology*. West Sussex: John Wiley.

Spurgeon, A. (2003). *Working Time: Its Impact on Safety and Health*. International Labor Organization, Geneva. Retrieved December 24, 2008, from <http://www.ilo.org/public/english/protection/condtrav/publ/wtwo-as-03.htm>.

Sturges, J. E., & Hanrahan, K. J. (2004). Comparing telephone and face-to-face qualitative interviewing: A research note. *Qualitative Research*, 4, 107-118.

Tabachnick, B. G., & Fidell, L. S. (2007). *Using Multivariate Statistics* (Fifth ed.). London: Pearson.

Tan, K., Kendall, D., & Ahmed-Little, Y. (2008). Impact of the EWTD and Night Working on Junior Doctor Lives. EWTD Medical Workforce Development Team. *Proceedings of International Conference on Doctors Health, London*. November 17-19, 2008. Page 42.

Tashakkori, A., & Teddlie, C. (2003). The past and future of mixed methods research: From data triangulation to mixed model designs. In A. Tashakkori & C. Teddlie (Eds.), *Handbook of mixed methods in social and behavioral research* (pp.671-702). Thousand Oaks, California: Sage.

Tashakkori, A., & Teddlie, C. (2008). Quality of inference in mixed methods research: Calling for an integrative framework. In M. M. Bergman (Ed.), *Advances in mixed methods research: Theories and applications* (pp. 101-119). Thousand Oaks, California: Sage.

Tattersall, A. J., Bennett, P., & Pugh, S. (1999). Stress and coping in hospital doctors. *Stress Medicine*, 15, 109-113.

Taylor, G. W., & Ussher, J. M. (2001). Making sense of S&M: a discourse analytic account. *Sexualities*, 4, 293-314.

Thomas, N. (2004). Resident Burnout. *JAMA*, 292, 2880-2890.

Tucker, P., Davies, G., Dahlgren, A., Macdonald, I., Blagrove, M., Hutchings, H. et al. (2005) Circadian adaptation in shift-working hospital doctors. *Sleep*, 28, A66.

Tull, D. S., & Hawkins, D. (1987). *Marketing research: measurement and method*. New York: MacMillan Publishing.

Trinkoff, A. M., Le, R., Geiger-Brown, J., Lipscomb, L., & Lang, G. (2006). Longitudinal Relationship of Work Hours, Mandatory Overtime, and On-Call to Musculoskeletal Problems in Nurses. *American Journal of Industrial Medicine*, 49, 964-971.

Vincent, C. (1996). Editorial: Needs of staff after serious incidents and during litigation. *Clinical Risk*, 2, 179-180.

Wade, R. G., & Henderson, J. (2009). Perceived impact of EWTD on UK Doctors. *Annual Bulletin of the Royal College of Surgeons England*, 91, 132-134.

Wall, T. D., Bolden, R. I., Borrill, C. S., Carter, A. J., Golya, D. A., & Hardy, G. E. (1997). Minor psychiatric disorders in NHS trust staff: occupational and gender differences. *British Journal of Psychiatry*, 171, 519-523.

Walker, A. et al. (2003). *Living in Britain: results from the 2001 General Household Survey: Appendix E*. London: Office of National Statistics, The Stationary Office, HMSO.

Warburton, D. E. R., Nicol, C. W., & Bredin, S. D. (2006). Health benefits of physical activity: the evidence. *Canadian Medical Association Journal*, 174, 801-809.

Weinberg, A. & Creed, F. (2000). Stress and psychiatric disorder in healthcare professionals and hospital staff. *The Lancet*, 355, 533-537.

Whelan, P., Meerten, M., Rao, R., Jarrett, P., Muthukumaraswamy, A., & Bhugra, D. (2008). Stress, lies and red tape: the views, success rates and stress levels of the MTAS cohort. *Journal of the Royal Society of Medicine*, 101, 313-318.

White, J. & Beswick, J. (2003). *Working Long Hours. Report HSL/2003/02*. Health and Safety Laboratory, Sheffield, UK. Retrieved January 2, 2010, from http://www.hse.gov.uk/research/hsl_pdf/2003/hsl03-02.pdf.

Wilkinson, S. (2003). Focus groups. In J. A. Smith (Ed.), *Qualitative psychology: A practical guide to research methods* (pp. 184-204). London: Sage.

Wilkinson, C. (2008). Junior doctors' working hours: Perspective on the reforms. *International Journal of Nursing Practice*, 14, 200-214.

Witkin, B. R., & Altschuld, J. W. (1995). *Planning & Conducting Needs Assessments*, Thousand Oaks, California: Sage.

Yang, H., Schnall, P. L., Jauregui, M., Su, T., & Baker, D. (2006). Work Hours and Self-Reported Hypertension Among Working People in California. *Hypertension*, 48, 744-750.

Zemke, R., Raines, C., & Filipczak, B. (2000). *Generations at work: Managing the clash of Veterans, Boomers, Xers, and Nexters in your workplace* (pp. 127-150). New York: American Management Association.

Zerbe, W. J., & Paulhus, D. L. (1987). Socially Desirable Responding in Organizational Behavior: A Reconception. *The Academy of Management Review*, 12, 250-264.

APPENDIX A: Invitation to participate – information for organisations



(Address X)

Date X

Dear X

I am conducting Doctoral research at the Department of Human Sciences, Loughborough University. The purpose of the research is to investigate the impact of the Working Time Directive on Junior Doctors' quality of working life.

I would like to invite (X) to participate in the research and have enclosed an outline of the study. If you have any queries or would like further information about the research please contact me (details listed below). I would be pleased to arrange a meeting to discuss the project further.

All research conducted through Loughborough University is approved by its Ethical Committee Board which adheres to strict standards of confidentiality.

I look forward to hearing from you soon.

Yours sincerely,

Miss Myanna Duncan

Email:- M.Duncan@lboro.ac.uk

Telephone: - 01509 228485

Impact of the Working Time Directive on Junior Doctors' Training, Education & Quality of Working Life

Background

The Working Time Directive (WTD) has led to changes to the working patterns of junior doctors as Deaneries and Trusts strive to ensure compliance with its targets, and in so doing achieve the 48-hour working week by 2009. One consequence of the WTD has been a reduction in the time many junior doctors spend performing out-of-hours work (i.e. nights and weekends), with some trainees now no longer working in any out-of-hours periods. However, little research has been conducted to examine how the new working patterns are impacting on junior doctors' training and education opportunities, and on their quality of working life. Consequently, the present study will survey the experiences and views of junior doctors working in the East Midlands, and draw on secondary data nationally to explore the impact of the changes.

Aim

To explore the impact of a reduction in junior doctors' exposure to out-of-hours work, resulting from WTD related changes to working patterns, in terms of:

- a) education and training
- b) quality of working life
- c) preparedness for future out-of-hours working. Most doctors will have to work nights and weekends in their second year (and beyond) of work-based training, yet few will have experienced out-of-hours working in their first year of training

Methods

Participants will include junior doctors in the first two years of work-based training (Foundation years 1 and 2). The study will compare the experiences and views of trainees with different levels of out-of-hours exposure.

The project will adopt a survey approach and include:

- a) interviews with junior doctors
- b) questionnaire survey of junior doctors
- c) interviews with key stakeholders, including registrars and consultants, to explore the organisational perspective
- d) secondary data from the results of national surveys conducted by the Postgraduate Medical Education & Training Board (PMETB)

Benefits for the Deanery and local Trusts

Findings will be shared with the Deanery and Trusts. They will provide a valuable insight into the impact of the changes to junior doctors' working patterns resulting from the WTD. These findings will inform evaluations of local initiatives to achieve compliance with WTD targets, as well as future plans for workforce reconfiguration (to meet the 2009 target).

Resources

Survey costs will be borne by Loughborough University (e.g. freepost envelopes, interview transcription and data analyses).

The Deanery will facilitate access to trainees, although participation will be strictly voluntary.

Ethical approval

The survey of junior doctors constitutes an 'audit' and, therefore, ethical approval is not required. Patients will not be involved.

Contacts

Loughborough University:

Miss Myanna Duncan, B.Sc. (Hons) M.Sc.

Telephone: -01509 228 485; Email: - M.Duncan@lboro.ac.uk

Deanery:

Mr Simon Mallinson, Improving Doctors Working Lives Operational Manager

Telephone: - 0116 295 7631; Email: - Simon.Mallinson@eastmidlands.nhs.uk

Dr Richard Higgins, Quality Management, Regulation & Capacity Advisor

Telephone: - 0116 295 7632; Email: - Richard.Higgins@eastmidlands.nhs.uk

APPENDIX B: Interview Schedule

BACKGROUND

1. How long have you worked as a Junior Doctor?
2. What is your current job title?
3. Can you tell me briefly what your post involves?
4. Can you tell me about your current working arrangement with regards to hours worked?
5. Could you tell me a little about your F1 year and the working arrangements you experienced?
6. What aspects of your job do you find enjoyable?
7. Are there aspects of your job that you don't enjoy? Can you give some examples?

STRESS/COPING

8. Can you describe what you consider to be the most stressful aspect of your work?
9. When faced with stress at work, do you actively employ a particular strategy to help you deal with the stress? If so, could you tell me more about it? (*Prompt: Making a plan of action, talking to others, seeking advice*)
10. What do you do to relax after having a particularly stressful day?
11. Who are you most likely to talk to about a stressful day?
12. Would you like to have received more information in your medical course curricula about managing stress?

WTD

13. How many hours would you estimate that you work in an average week?
14. Has the WTD regulation of hours been fully implemented in your hospital?
15. Have you signed an 'Opt Out' waiver of the WTD?
16. Are you in favour of the WTD applying to your profession? Do you think you will benefit from it?
17. How do you think the introduction of the WTD has impacted on your well-being?

18. How do you think the introduction of the WTD has affected your training opportunities?
19. What are your contemporaries perspective on this?
20. Are you in favour of the application of the WTD in August 2009 which will limit your hours to 48 per week? How do you think this will affect you?
21. Could you tell me a little about the teaching arrangements you have had as a Junior Doctor and how you have found them?
22. Are you happy with the quality of training you have received so far under the Foundation Programme?

THE NIGHT SHIFT

23. Can you tell me a little about the arrangements your Trust has for working night shifts (*Prompt: How regularly do you work a night shift, what is their duration?*)
24. How do you feel about this arrangement?
25. How would you feel about not working night shifts?
26. What do you find to be the most difficult aspect of working the night shift?
27. How do you maintain energy and keep awake during the night shift?
28. What preparations do you make before commencing night shifts? (*Prompt: stay up late night before to adjust body clock, take short frequent naps*)
29. How do you readjust your body clock once you have finished your set of night shifts?
30. Does your Trust give you any advice on dealing with working night shifts, for example pamphlets, information leaflets?

SLEEP

31. Do you have good quality sleep? (*Prompt: Do you feel you get sufficient sleep/when you wake do you feel rested?*)
32. Do you feel that your sleep is being disrupted as a direct result of your job? If yes, in what ways?
33. Do you ever use sleeping tablets to help you sleep?

34. Do you employ any other strategies to help you to sleep? (*Prompt: Reading, Hot Bath, Drinking*)
35. Have you ever experienced any difficulty in sleeping after an incident at work or a particularly stressful day? Can you describe the preceding incident?
36. Can you foresee yourself working for the NHS in the near future?
37. Do you have any thing else you would like to raise or things you feel I haven't asked you?

APPENDIX C: Invitation to Participate in Interview Study

Dear Foundation Year 2 doctor,

Research on the reduction of out-of-hours experience for junior doctors: Invitation to participate

Researchers at Loughborough University are conducting research to explore the impact of a reduction in Junior Doctors' out-of-hours work on their education and training opportunities and their quality of working life. This reduction has resulted from the Working Time Directive, with hours set to be reduced further in 2009.

So far, little research has been conducted to examine Junior Doctors' views on the new working patterns, so the present study aims to survey the experiences and views of Junior Doctors working in the East Midlands region.

As a Foundation Year 2 doctor, your views are particularly important to us and we would like to invite you to take part in a 30 minute interview with a researcher from Loughborough University. The interview will enquire about experiences of work-based training, both in out-of-hours periods (i.e. nights and weekends) and during the normal weekday daytime periods.

The interview will be conducted at a time and location convenient to you and can be completed via telephone if this method is preferable. Confidentiality is strictly assured.

While your Deanery has agreed to forward this message to you, nobody from the Deanery or the Hospital Trusts will know who has participated in the study and all data will be anonymised.

We would be extremely grateful if you would be willing to give us 30 minutes of your time as the information you give us will provide valuable insights into, and evidence of, the impact of changes to Junior Doctors' working patterns on their professional development and quality of life.

If you are prepared to be interviewed, or would like further information regarding the study, please contact the principal researcher at Loughborough University directly:

Myanna Duncan, B.Sc. (Hons) M.Sc.

Email: - M.Duncan@lboro.ac.uk

[Telephone: 01509 228 485](tel:01509228485)

APPENDIX D: Participant characteristics

Participant Identification	Gender	Age	Attachment at time of Interview	Average hours (at time of interview)
1	Male	23	Paediatrics	< 56
2	Female	24	Critical Care/ICU	< 56
3	Female	24	General Medicine	< 56
4	Male	24	General Medicine	< 56
5	Female	24	General Medicine	< 56
6	Female	24	General Surgery	< 56
7	Male	24	Renal Medicine	< 56
8	Male	24	Surgery	< 56
9	Male	24	Trauma & Orthopaedics	< 56
10	Female	24	General Practice	< 56
11	Male	26	Oncology	< 56
12	Female	25	General Practice	< 48
13	Male	24	A & E	< 56
14	Male	30	Neurology	< 56
15	Male	24	General Surgery	< 56
16	Female	24	General Practice	< 48
17	Female	34	General Practice	< 48
18	Female	25	General Practice	< 48
19	Female	27	A & E	< 56
20	Female	25	Obstetrics & Gynaecology	< 56
21	Female	26	General Practice	< 48
22	Female	24	Rehab Medicine	< 56
23	Female	24	Geriatrics	< 56
24	Female	26	AMU	< 56
25	Male	24	Breast Surgery	< 56
26	Male	24	A & E	< 48
27	Female	24	Enterology	< 56
28	Male	24	Acute Admissions Unit	< 56
29	Male	25	General Surgery	< 56
30	Female	24	Ophthalmology	< 56
31	Female	25	Trauma & Orthopaedics	< 48
32	Female	25	A & E	< 56
33	Female	24	Paediatrics	< 56
34	Male	24	Trauma & Orthopaedics	< 56
35	Male	24	Academic medicine	< 48
36	Female	24	General Practice	< 48

APPENDIX E: Interviews coding template

Codes:

Black: a priori codes

Red: emergent codes

Blue: a priori code did not emerge

- 38. How long have you worked as a Junior Doctor?
 - 1.1 More than one year
 - 1.2 More than two years
- 39. What is your current job title?
 - 2.1 Foundation year 2 doctor
 - 2.2 Other
- 40. Can you tell me briefly what your post involves?
 - 3.1 Ward rounds
 - 3.2 Administrative duties
 - 3.3 Clerking patients
 - 3.4 Procedures
 - 3.5 Formal teaching
 - 3.6 Audits
 - 3.7 On-call/out-of-hours duties
- 41. Can you tell me about your current working arrangement with regards to hours worked?
 - 4.1 Day shifts with on-calls & nights (all out-of-hours)
 - 4.1.1 Importance of out-of-hours
 - 4.1.1.1 Increased autonomy
 - 4.1.1.2 Increased patient exposure
 - 4.1.1.3 Less direct supervision forces clinical decision making
 - 4.1.1.4 OOH as a learning opportunity
 - 4.1.1.4.1 Owing to less supervision
 - 4.1.1.4.2 Less competition from colleagues
 - 4.2 Day shifts with on-calls but no nights
 - 4.2.1 On-call
 - 4.2.1.1 Stressful
 - 4.2.1.1.1 Weekend-on call
 - 4.2.1.2 Opportunities
 - 4.2.1.3 Autonomous clinical decision making
 - 4.2.1.4 Educational
 - 4.2.1.5 Valuable experiences
 - 4.2.1.6 Gain confidence
 - 4.2.1.7 Learning opportunities
 - 4.2.1.8 Greater responsibility
 - 4.2.1.9 See more emergencies
 - 4.3 Day shifts only
 - 4.3.1 The 9-5
 - 4.3.1.1 Administrative
 - 4.3.1.2 Don't get feedback on patients
 - 4.3.1.3 Financial impact
 - 4.3.1.4 Frustration
 - 4.3.1.5 Lack confidence
 - 4.3.1.6 Less personal decision making
 - 4.3.1.7 Loose motivation
 - 4.3.1.8 Medicine isn't 9-5
 - 4.3.1.9 Minimal learning

- 4.3.1.10 Provides insufficient experiences
 - 4.3.2 Removal of out-of-hours
 - 4.3.2.1 Downgrading of junior doctors
 - 4.3.2.1.1 Nurse practitioners taking over juniors roles
 - 4.3.2.2 Importance for FY2
 - 4.3.2.3 Personal experiences
 - 4.3.2.4 Concerns for future
 - 4.3.2.5 Disrupts team cohesion
 - 4.3.2.6 Don't put knowledge into practice: forgetting
 - 4.3.2.7 Financial impact
 - 4.3.2.8 Frustration at hours
 - 4.3.2.8.1 Felt cheated
 - 4.3.2.9 Juniors actively addressing the issue
 - 4.3.2.10 Burden moving to seniors
 - 4.4 A and E rota with irregular working patterns
 - 4.5 Compliance with rota
 - 4.5.1 Often breech hours
 - 4.5.1.1 Insufficient staffing
 - 4.5.2 Rarely breech hours
 - 4.5.2.1 Close monitoring
- 42. Could you tell me a little about your F1 year and the working arrangements you experienced?
 - 5.1 Day shifts with on-calls and nights
 - 5.2 Day shifts with on-calls but no nights
 - 5.3 Day shifts only
 - 5.4 A and E rota with irregular working patterns
 - 5.5 Compliance with rota
 - 5.5.1 Often breech hours
 - 5.5.2 Rarely breech hours
- 43. What aspects of your job do you find enjoyable?
 - 6.1 Sociability
 - 6.1.1 With colleagues
 - 6.1.1.1 Team work
 - 6.1.1.2 Support
 - 6.1.2 Patient interaction
 - 6.1.2.1 Children
 - 6.1.2.2 Acutely ill patients
 - 6.2 Making a difference
 - 6.2.1 Continuity of care
 - 6.3 Clinical aspects
 - 6.3.1 Surgery
 - 6.4 Working for the NHS
 - 6.5 Teaching others
 - 6.6 Workload/work nature
 - 6.7.1 Role variety
 - 6.7.2 Responsibility
 - 6.7.4 Autonomy
 - 6.7.5 Stress/pressures
 - 6.7.6 On-call shifts
- 44. Are there aspects of your job that you don't enjoy?
 - 7.1 Admin
 - 7.1.1 Bureaucracy
 - 7.1.1.1 Hospital politics
 - 7.1.2 The 9-5
 - 7.1.1.2 Overstaffed

- 7.1.3 Ward rounds
- 7.2 Death and dying
- 7.3 Patient issues
 - 7.3.1 Patients relatives
 - 7.3.2 Hospital as a 'dumping ground' for families
 - 7.3.3 Difficult patients
 - 7.3.4 Patients with 'lifestyle illnesses'
- 7.4 Excessive workload
 - 7.4.1 Time pressures
 - 7.4.2 Lack of support
 - 7.4.3 Understaffing
 - 7.4.4 No continuity of care
- 7.5 Colleague issues
 - 7.5.1 Senior colleagues
 - 7.5.2 Nurses
 - 7.5.3 Surgical climate
- 7.6 4 month rotations
- 7.7 Working hours
 - 7.7.1 Nights
 - 7.7.2 Excessive anti-social hours
 - 7.7.3 Lack of work-life balance
- 7.8 Uncertainty over future/ careers

45. Can you describe what you consider to be the most stressful aspect of your work?

a. Work duties

- 8.1.1 Workload volume
 - 8.1.1.1 Overwhelming
 - 8.1.1.2 Lack of support
 - 8.1.1.2.1 At large hospitals
 - 8.1.1.2.2 Importance of a good team
 - 8.1.1.2.3 Lack of information when starting new rotations
 - 8.1.1.2.4 Understaffing
 - 8.1.1.2.5 Personal incompetence
- 8.1.2 Prioritisation
- 8.1.3 Responsibility
- 8.1.4 Competing loyalties
- 8.1.5 Decision making
- 8.1.6 Interruptions
- 8.1.7 Time management
- 8.1.8 Clinical aspects
 - 8.1.8.1 Critically ill patients
 - 8.1.8.2 Emergency admissions
- 8.1.9 Ward cover

b. Colleagues

- 8.2.1 Friction
- 8.2.2 Seniors
- 8.2.3 Nurses continually bleeping

c. Time pressures

d. Working hours

- 8.4.1 Anti- social hours
- 8.4.2 Shift length/duration
- 8.4.3 Shift frequency
- 8.4.4 On-calls
- 8.4.5 Nights
- 8.5 Bleeping
 - 8.5.1 Crash bleep
 - 8.5.2 Unnecessary bleeping

- 8.6 Bureaucracy
 - 8.6.1 Meeting targets
- 8.7 Death
- 8.8 Stress as adaptive
- 8.9 Patients relatives

46. When faced with stress at work, do you actively employ a particular strategy to help you deal with the stress?

- a. Yes
 - 9.1.1 Breathing exercises
 - 9.1.2 Make a plan of action
 - 9.1.2.1 Organisation
 - 9.1.2.2 Prioritising
 - 9.1.2.3 Put the patient first
 - 9.1.3 Asking for help and support
 - 9.1.3.1 Nurses as supportive
 - 9.1.3.2 Talking to seniors
 - 9.1.4 Staying calm
 - 9.1.5 Talking to colleagues
 - 9.1.6 Taking manageable workload
 - 9.1.7 It's a learning process
- 9.2 No
 - 9.21 Just get on with the jobs
 - Bite your tongue

9.3 Unsure

9.4 Depends on situation

47. What do you do to do relax after having a particularly stressful day ?

- a. Adaptive coping
 - i. Exercise
 - ii. Talking
 - 10.1.2.1 Non specific group
 - 10.1.2.2 With medics
 - 10.1.2.3 With non medics
 - iii. Read
 - iv. Go out for a meal
 - v. Sleep
 - vi. Hobbies
 - 10.1.7 Getting away from the hospital
 - 10.1.8 Learning to leave work at work
- b. Maladaptive coping
 - i. Drink alcohol
 - ii. Smoke
- 10.3 Don't have time for any
 - 10.3.1 Difficult to have regular planned activities
 - 10.3.2 Not possible if on-call
- 10.4 Gets easier with time

48. Who are you most likely to talk to about a stressful day?

- 11.1 Colleagues
 - 11.1.1 Senior colleagues
 - 11.1.2 Peers/junior doctors
 - 11.1.2.1 Of which are housemates
- 11.2 Family
 - 11.2.1 Non-medical
 - 11.2.2 Medical
- 11.3 Friends

- 11.3.1 Non-medical
- 11.3.2 Medical

49. Would you like to have received more information in your medical course curricula about managing stress?
- a. Yes
 - 12.1.1 The European model
 - 12.1.2 Advice appropriate
 - 12.1.2.1 Depends on source
 - 12.1.3 More support needed at start
 - 12.1.4 Should delay nights for first month
 - 12.1.5 Medical school teaches you to pass exams
 - b. No
 - 12.2.1 Have to learn personally
 - 12.2.2 Shadowing experience beneficial
 - 12.2.3 Training sufficient
 - 12.2.4 The inevitable jump
13. How many hours would you estimate that you work in an average week?
- 13.1 Unable to estimate
 - 13.1.1 Only know banding
 - 13.2 Over 56 hours
 - 13.3 Less than 56 hours but over 48
 - 13.4 Under 48 hours
 - 13.5 Compliance breeches
 - 13.5.1 Work until the job is done
 - 13.5.1.1 F1 experience means you will run over
 - 13.5.1.2 Things juniors won't hand over on principal
 - 13.5.2 Will take opportunities regardless of hours
 - 13.5.2.1 Training comes first
 - 13.5.3 Seniors bully you into signing rotas
 - 13.5.4 Not feasible to take off 'rest' period
 - 13.5.5 Juniors actively addressing compliance issues
 - 13.5.6 Doctoring of hours monitoring forms
 - 13.5.7 Directive broken by Trust
14. Has the WTD regulation of hours been fully implemented in your hospital?
- 14.1 Yes
 - 14.2 No
 - 14.3 Unsure
15. Have you signed an 'Opt Out' waiver of the WTD?
- 15.1 Yes
 - 15.2 No
 - 15.3 Unsure
16. Are you in favour of the WTD applying to your profession? Do you think you will benefit from it?
- 16.1 Yes/Positive
 - 16.1.1 Better work-life balance
 - 16.1.2 Improves patient care & safety
 - 16.1.3 Improves quality of working life
 - 16.1.4 Reduces opportunities for mistakes
 - 16.1.5 Time for personal and professional development
 - 16.1.6 Better compared to non WTD countries and practices
 - 16.2 No/negative
 - 16.2.1 Delaying mistakes
 - 16.2.2 Detrimental to patients

- 16.2.2.1 Handover issues
 - 16.2.2.2 Discontinuity of care
 - 16.2.2.3 Due to shift based working practices
 - 16.2.3 MMC interference
 - 16.2.4 Monetary issues and concerns
 - 16.2.4.1 Trust scrimping on money
 - 16.2.4.2 Trust scrimp on staff
 - 16.2.4.3 Still doing extra hours yet not getting paid
 - 16.2.4.4 Drs taking on locum work
 - 16.2.4.5 Dr's financial difficulties
 - 16.2.5 Political initiative
 - 16.2.6 Synonymous with cutting OOH
 - 16.2.7 Training concerns
 - 16.2.8 Well-being/work life balance now worse
 - 16.2.8.1 Shift based working practices
 - 16.2.8.1.1 Social isolation
 - 16.3 Unsure/mixed
 - 16.3.1 Awareness for need on regulation of hours
 - 16.3.1.1 Sheer hours doesn't equate to training
 - 16.3.1.2 Requires cultural shift
 - 16.3.1.3 It needs a balance
 - 16.3.1.4 It has gone too far
 - 16.3.1.4.1 HRM interfering
 - 16.3.1.5 Cutting OOH not a solution
 - 16.3.2 Directive not been applied appropriately
 - 16.3.2.1 Poor rota design
 - 16.3.2.1.1 Affects wellbeing
 - 16.3.2.1.2 Doctors not involved in rota design
 - 16.3.2.1.3 Still working excessive hours
 - 16.3.2.1.3.1 Annual leave taken as rest
 - 16.3.2.2 One size fits all approach not appropriate
 - 16.3.2.3 Juniors self managing rotas
 - 16.3.3 WTD more appropriate for some specialities
 - 16.3.4 Haven't personally suffered
 - 16.3.4.1 Everyone in same situation
 - 16.3.5 Not worked under anything else
 - 16.3.6 Nothing they can do about WTD
 - 16.3.7 Progress more slowly re career
17. How do you think the introduction of the WTD has impacted on your well-being?
- 17.1 WTD Positive
 - 17.1.1 Improved work-life balance
 - 17.1.2 Healthier workers
 - 17.2 WTD Negative
 - 17.2.1 Still working excessive hours owing to reference period
 - 17.2.1.1 Annual leave taken as rest
 - 17.3.3 Introduction of shift based system
 - 17.3.3.1 Random days off to compensate
 - 17.3.3.2 Increased social isolation
 - 17.3.3.3 Still difficult to do much outside of work
 - 17.3.3.4 Disruption to life
 - 17.3.4 Work done at home to compensate for lack of hours
 - 17.3.5 Increased anti social hours as a senior
 - 17.3 Unsure/ cannot say
 - 17.4 Minimal impact
18. How do you think the introduction of the WTD has affected your training opportunities?

- 18.1 WTD Positive
 - 18.2 WTD Negative
 - 18.2.1 Lack of standardisation: hours & experiences
 - 18.2.2 Lack of clinical experience
 - 18.2.2.1 Concerns about 'new' grade of doctor & their skills
 - 18.2.2.1.1 Transfers burden to seniors
 - 18.2.2.1.2 Working with inexperienced doctors
 - 18.2.2.2 Prevents confidence building
 - 18.2.3 Less time equals less exposure
 - 18.2.3.1 Has increased competition between colleagues
 - 18.2.3.2 Training opportunities fewer & far between
 - 18.2.4 Detrimental to surgery and craft specialities
 - 18.2.5 Detrimental to patients
 - 18.2.5.1 Insufficiently skilled doctors
 - 18.2.6 Career concerns
 - 18.2.6.1 Moving abroad to get experience
 - 18.2.7 Introduced shift based system
 - 18.2.7.1 Detrimental to team based approach
 - 18.3 Unsure/ cannot say
 - 18.3.1 Have not known anything else
 - 18.4 WTD Mixed
 - 18.4.1 Training must be appropriately lengthened
 - 18.4.2 Training may eventually level out
 - 18.4.3 Is workable as long as have OOH
 - 18.4.4 If sufficient staff then can work
 - 18.4.5 It should go to full shift based system for maximum benefit
 - 18.4.5.1 Importance of experiences different shift systems
19. What are your contemporaries perspective on the WTD?
- 19.1 Unsure
 - 19.2 Positive
 - 19.2.1 Improves wellbeing
 - 19.2.2 Improves patient safety
 - 19.3 Negative
 - 19.3.1 Transferring the burden to seniors
 - 19.3.1.1 Impacts on seniors training
 - 19.3.1.2 Seniors performing more junior roles to compensate
 - 19.3.2 Deskilling and downgrading the profession
 - 19.3.3 Impacts doctors choice of career paths
 - 19.3.4 Less qualified doctors
 - 19.3.5 UK reputation will suffer
20. Are you in favour of the application of the WTD in August 2009 which will limit your hours to 48 per week? How do you think this will affect you?
- 20.1 Positive
 - 20.1.1 For wellbeing
 - 20.1.2 Is workable
 - 20.1.2.1 As long as have out-of-hours shifts
 - 20.1.2.2 Under a shift system
 - 20.1.2.3 Possible with more doctors
 - 20.2 Negative
 - 20.2.1 Concerns for patient safety
 - 20.2.1.1 Increases number of handovers
 - 20.2.2 Concerns for the medical profession
 - 20.2.2.1 Doctors choice of career paths
 - 20.2.2.2 Downgrading & reductionism of the profession
 - 20.2.2.3 Lack of standardisation will impact quality of doctor in

- geographical area
 - 20.2.2.4 Profession will suffer
 - 20.2.2.5 Training pathway needs to be lengthened
 - 20.2.2.6 Transferring the burden further up the medical ladder
 - 20.2.2.6.1 Impacts on seniors training
 - 20.2.2.6.2 The younger generation of consultants
 - 20.2.3 Concerns for upcoming trainees
 - 20.2.3.1 Cutting experience
 - 20.2.3.2 Will influence speciality choices
 - 20.2.3.3 Insufficiently skilled
 - 20.2.3.4 They'll be frustrated & demoralised
 - 20.2.3.5 Training will suffer
 - 20.2.4 Personal concerns
 - 20.2.4.1 Detrimental to career
 - 20.2.4.1.1 Colleagues under 'old' system have greater advantage re jobs
 - 20.2.4.1.2 Will have to go abroad to get experience
 - 20.2.4.1.3 Won't personally have enough experience
 - 20.2.5 Won't be adhered to
 - 20.2.5.1 Just a manipulation of the numbers
 - 20.2.5.2 Will end up working for free just to get experiences
 - 20.3 Unsure
 - 20.3.1 48 won't happen
 - 20.3.1.1 Not enough doctors for the hours
 - 20.3.2 Requires major rota redesign
 - 20.3.1.2 Introduces shift based system
 - 20.3.3 Training will have to change
21. Could you tell me a little about the teaching arrangements you have had as a Junior Doctor and how you have found them?
- 21.1 Foundation Year 1
 - 21.1.1 Negative
 - 21.1.1.1 Content lacking/irrelevant
 - 21.1.1.2 Too infrequent
 - 21.1.2 Positive
 - 21.1.2.1 Relevant content
 - 21.1.2.2 Well taught
 - 21.1.2.3 Sufficient frequency
 - 21.1.3 Mixed
 - 21.2 Foundation Year 2
 - 21.2.1 Negative
 - 21.2.2.1 Content lacking/irrelevant
 - 21.2.2.2 Too infrequent
 - 21.2.2 Positive
 - 21.1.2.1 Relevant content
 - 21.1.2.2 Well taught
 - 21.1.2.3 Sufficient frequency
 - 21.2.3 Mixed
 - 21.3 General teaching issues
 - 21.3.1 Bureaucracy hitting targets
 - 21.3.2 Importance of protected teaching
 - 21.3.3 One size fits all approach not appropriate
 - 21.3.3.1 Frustration that can't attend specialty specific teaching
 - 21.3.4 Opportunistic
 - 21.3.4.1 Variable depending on consultant motivation
 - 21.3.4.2 Reliant on your motivation
 - 21.3.4.3 Dependant on hospital

- 21.3.5 Prevented or difficult to attend teaching
 - 21.3.5.1 Personally have to get cover
 - 21.3.5.2 No adequate cover
 - 21.3.5.3 Inconvenient location
 - 21.3.5.4 Due to poor rota design
 - 21.3.6 The 'old system'
 - 21.4 Educational supervisors
- 22. Are you happy with the quality of training you have received so far under the Foundation Programme?
 - 22.1 Positive reports
 - 22.2 Negative reports
 - 22.2.1 Doesn't differentiate high versus low flyers
 - 22.2.2 Application problems
 - 22.2.3 More administration
 - 22.2.3.1 Doesn't uncover weaker doctors
 - 22.2.3.2 No continuity in assessment
 - 22.2.3.3 Variability in competency scores across juniors
 - 22.2.4 Lack of information and documentation
 - 22.2.4.1 HRM job re-shuffling
 - 22.2.5 Procedural experiences
 - 22.2.5.1 Inexperienced compared to seniors
 - 22.2.5.2 Variation across hospitals
 - 22.2.6 Audits- have to do in own time
 - 22.3 Mixed reports
 - 22.3.1 Issue of hospital size
 - 22.3.1.1 DHG opportunities
 - 22.4 The 4 month rotation
 - 22.4.1 Benefits
 - 22.4.2 Downside
 - 22.4.2.1 Hard to plan regular activities
 - 22.4.2.2 Temporary positions
 - 22.5 Rotation specific issues
 - 22.5.1 Option for 'doss' jobs
 - 22.5.2 Break up non on-call rotations
 - 22.5.3 Creating artificial posts
 - 22.6 Service provision versus training
- 23. Can you tell me a little about the arrangements your Trust has for working night shifts?
 - 23.1 7 nights
 - 23.2 3 / 4 split
 - 23.3 No nights
 - 23.4 Other
 - 23.4.1 Six nights arrangement
- 24. How do you feel about this arrangement?
 - 24.1 3/4 night split
 - 24.1.1 Advantages
 - 24.1.1.1 Continuity of 'team'
 - 24.1.1.2 Less disruptive
 - 24.1.1.3 Days off afterwards
 - 24.1.1.4 Psychologically easier
 - 24.1.1.5 Cognitive decline evident by 4-important to switch
 - 24.1.2 Disadvantages
 - 24.1.2.1 Removed from learning during time off
 - 24.1.2.2 Not enough post work recovery time
 - 24.1.2.3 More adaption required

- 24.1.2.4 Increases frequency of shifts
 - 24.1.2.5 Danger of the first nights
 - 24.2 7 nights
 - 24.2.1 Advantages
 - 24.2.1.1 Less disruptive long term
 - 24.2.1.2 Days off afterwards
 - 24.2.1.3 Build team rapport
 - 24.2.2 Disadvantages
 - 24.2.2.1 Stressful
 - 24.2.2.2 Social isolation
 - 24.2.2.3 Jeopardises patient care
 - 24.2.2.4 Illness
 - 24.2.2.5 Exhaustion
 - 24.2.2.6 Cognitive decline
 - 24.2.2.7 Changes body clock to a greater extent
 - 24.2.2.8 Personal health and safety
 - 24.2.2.8.1 Driving dangerous
 - 24.2.2.8.2 Accidents
 - 24.3 Other
 - 24.3.1 Advantages
 - 24.3.1.1 Hospital at Night
 - 24.3.2 Disadvantages
 - 24.3.2.1 10pm rule
 - 24.3.2.2 12 plus hour duration
 - 24.2.2.3 Shifts not been well planned or implemented
 - 24.2.2.4 24 hour on-call
 - 24.2.2.5 Hospital at Night
 - 24.4 No nights
 - 24.4.1 Frustration at hours
 - 24.4.1.1 Felt cheated
 - 24.4.2 Financial impact
 - 24.4.3 Concerns for future
 - 24.5 Do not know anything else
 - 24.5.1 Indifferent to shift format
 - 24.5.1.1 Depends on duration of rotation
 - 24.5.1.2 Depends on work intensity
 - 24.5.1.3 Individual differences/preferences
 - 24.5 Importance of recovery period
- 25. How would you feel about not working night shifts?
 - 25.1 Positive
 - 25.1.1 Less disruptive to social life
 - 25.1.2 They are stressful
 - 25.2 Negative
 - 25.2.1 Financial implications of no nights
 - 25.2.2 Detrimental impact on learning
 - 25.2.3 Just delays first night
 - 25.2.3.1 Transfers the burden elsewhere
 - 25.2.4 Valuable learning experiences for FY1s
 - 25.2.4.1 Clinical decision making
 - 25.2.4.2 Clinical exposure
 - 25.2.4.2.1 When patient deteriorate
 - 25.2.4.3 Doing less admin
 - 25.2.3.4 Ad hoc teaching
 - 25.2.3.5 Confidence building
 - 25.2.3.6 Autonomy
 - 25.2.3.8 You're first point of call

- 25.2.3.9 The experience itself
 - 25.2.3.10 Time management
 - 25.2.3.11 Benefits you for FY2
 - 25.2.3.12 Helps with competency
 - 25.2.3.13 Important for future career
 - 25.3 Unsure
 - 25.3.1 Easier to do when younger
 - 25.3.1.1 Family considerations
 - 25.4 Personal experiences (of no nights)
 - 25.4.1 Frustration at hours
 - 25.4.2 Financial impact
 - 25.4.3 Concerns for future
26. What do you find to be the most difficult aspect of working the night shift?
- 26.1 Length of shift
 - 26.2 Workload
 - 26.3 Lack of support
 - 26.3.1 Importance of support
 - 26.4 Cognitive decline
 - 26.5 Fatigue
 - 26.6 The first night
 - 26.7 Lack of confidence
 - 26.7.1 Fear about calling seniors
 - 26.8 Lack of hours in the day
 - 26.9 Lack of resources
 - 26.10 Morning hours
 - 26.11 Morning ward round-handover
 - 26.12 New environments
 - 26.13 Prioritisation
 - 26.14 Readjusting body clock
 - 26.15 Responsibility
 - 26.16 Shift duration
 - 26.16.1 Lack of scheduled breaks
 - 26.17 Social isolation
 - 26.18 Unpredictability of work
27. How do you maintain energy and keep awake during the night shift?
- 27.1 Active job keeps you awake
 - 27.2 Take supplements
 - 27.2.1 Pro-plus
 - 27.2.2 Caffeine
 - 27.3 Sleeping at work
 - 27.4 Lack of provisions for doctors during nights
 - 27.5 Rest breaks
 - 27.6 Eating and drinking
28. What preparations do you make before commencing night shifts?
- 28.1 Stay up late night before start
 - 28.2 Take short frequent naps where possible
29. How do you readjust your body clock once you have finished your set of night shifts?
- 29.1 Do not sleep that day
 - 29.2 Get a few hours sleep that day
 - 29.3 Find it very difficult
30. Does your Trust give you any advice on dealing with working night shifts?
- 30.1 No

- 30.1.1 Would have liked some
30.1.1.1 Got some from MDU
- 30.1.2 Unnecessary
30.1.2.1 Wouldn't read it anyway
- 30.1.3 Just a matter of learning yourself
- 30.2 Yes
- 30.3 General advice given by colleagues

31 Do you have good quality sleep?

- 31.1 No
 - 31.1.1 Am a poor sleeper by nature
 - 31.1.2 Working schedules interfere
 - 31.1.3 Disruptions resulting from work
 - 31.1.3.1 9-5 doesn't tire you out
 - 31.1.3.2 Death experiences
 - 31.1.3.3 On-call disruptive
 - 31.1.3.4 Stressful incidences
 - 31.1.3.5 Switching off difficult
 - 31.1.3.6 Worrying about patients
- 31.2 Yes
 - 31.2.1 Am a good sleeper by nature
 - 31.2.2 Active job tires you out
 - 31.2.3 Bedtime routine helps
 - 31.2.4 Current attachment amiable
- 31.3 Variable
 - 31.3.1 Importance of distraction/time out
 - 31.3.2 Gets easier with time

32 Do you feel that your sleep is being disrupted as a direct result of your job? If yes, in what ways?

- 32.1 No
- 32.2 Yes
 - 32.2.1 Switching off
 - 32.2.2 Due to poor rota planning
 - 32.2.3 Over tired from work
 - 32.2.4 Cleaners wake us
 - 32.2.5 Circadian readjustment
- 32.3 Occasionally
 - 32.3.1 During summer months

33 Do you ever use sleeping tablets to help you sleep?

- 33.1 No
 - 33.1.1 Sign of weakness
 - 33.1.2 Concerned would be too drowsy
 - 33.1.3 Have been tempted
 - 33.1.4 No need-too tired
- 33.2 Yes
 - 33.2.1 Herbal
 - 33.2.2 Medical
 - 33.2.2.1 Over the counter
 - 33.2.2.2 Prescribed by doctor
- 33.3 Occasionally

34 Do you employ any other strategies to help you to sleep?

- 34.1 Yes
 - 34.1.1 Adaptive
 - 34.1.1.1 Hot bath
 - 34.1.1.2 Reading

- 34.1.1.3 Night time non-alcoholic drink
 - 34.1.2 Maladaptive
 - 34.1.2.1 Alcohol
 - 34.1.2.2 Smoking
 - 34.2 No
- 35 Have you ever experienced any difficulty in sleeping after an incident at work or a particularly stressful day?
- 35.1 Yes
 - 35.2 No
- 36 Can you foresee yourself working for the NHS in the near future?
- 36.1 Yes
 - 36.1.1 Even with WTD
 - 36.1.2 Importance of work life balance
 - 36.1.2.1 Family considerations
 - 36.1.3 UK quality programme
 - 36.2 No
 - 36.2.1 Politics
 - 36.2.2 Not sufficiently rewarded
 - 36.2.3 NHS will be privatised
 - 36.2.4 Moving abroad
 - 36.2.4.1 Better clinical exposure
 - 36.2.5 May leave medicine or being forced to
 - 36.3 Unsure
 - 36.3.1 Constant struggle
 - 36.3.2 Effect of WTD on decisions
 - 36.3.3 Hospital medicine versus Community based
 - 36.3.4 Lack of job security
 - 36.3.4 Low Morale
 - 36.3.4.1 Job uncertainty
 - 36.3.4.2 Leaving medicine
 - 36.3.4.3 NHS reliant on good will
 - 36.3.4.4 System doesn't distinguish the best doctors from the rest
 - 36.3.4.5 Disenchanted
 - 36.3.4.5.1 Over MTAS (Medical Training Application System)
 - 36.3.4.5.2 By politics
 - 36.3.5 Preference for old system
- 37 Do you have any thing else you would like to raise or things you feel I haven't asked you?
- 37.1 No
 - 37.2 Speciality specific issues
 - 37.2.1 A & E
 - 37.2.2 General Practice
 - 37.2.3 Medical Admissions (MAU)
 - 37.2.4 Paediatrics
 - 37.2.5 Surgery
 - 37.3 Understaffing
 - 37.4 Changing medical climate
 - 37.4.1 Embracing WTD
 - 37.4.2 Infection control issues
 - 37.4.3 Litigation issues
 - 37.4.4 Opportunities for doing procedures reduced

APPENDIX F: Invitation to Participate in Questionnaire Survey

Dear Foundation Doctor,

Online research: The reduction of out-of-hours experience for junior doctors

Researchers at Loughborough University are conducting research to explore the impact of a reduction in junior doctors' out-of-hours work, resulting from the Working Time Directive, on their education and training opportunities and their quality of working life.

The research team at Loughborough have launched an anonymous, online survey and would appreciate you taking the time to complete the survey. As a Foundation Doctor views are particularly important to us. Your views will be used to evaluate local initiatives in addition to informing rota reconfiguration for the impending 2009 deadline.

As an incentive, participants who complete the survey will receive a certificate from Loughborough University which can, for example, be included in your learning portfolio to demonstrate your awareness of and engagement in research. The survey should take approximately 20 minutes to complete and the web link for the survey is as follows:

http://www.surveymonkey.com/s.aspx?sm=ua31y3fDaTLU9SHrpY3J4A_3d_3d

While the East Midlands Deanery has agreed to forward this message to you, nobody from the Deanery or the Hospital Trusts will know who has participated in the study and all data will be anonymised.

If you would like any additional information on the survey, or the wider research project, please feel free to contact the principal researcher at the details listed below.

In advance, many thanks for your time and help.

Kind Regards,

Myanna Duncan BSc. MSc.
Doctoral Researcher
Work & Health Research Centre
Loughborough University
Leicestershire
LE11 3TU

Email: M.Duncan@lboro.ac.uk
Tel: + 44 (0)1509 228485

APPENDIX G: Questionnaire

Researchers at Loughborough University are conducting a series of studies to explore the impact of a reduction in junior doctors' out-of-hours work on their education, training opportunities and quality of working life. This reduction has resulted from the Working Time Directive (WTD), with hours set to be reduced further in 2009.

So far, little research has been conducted to examine junior doctors' views on the new working patterns, so the present study aims to survey the experiences and views of junior doctors working in the East Midlands. The research will provide an insight into the impact of the changes to junior doctors' working patterns resulting from the WTD. These findings will inform evaluations of local initiatives to achieve compliance with WTD targets, as well as future plans for workforce reconfiguration.

As an incentive, participants who complete the survey will receive a certificate from Loughborough University. This certificate can, for example, be included in your learning portfolio to demonstrate your awareness of, and engagement in, applied research.

This survey should take you approximately 20 minutes to complete. Please answer each question in full and complete the survey in a single sitting. If you log off before completing the survey, you may log on again but your previous answers will not have been saved.

Please note that this survey is anonymous. The Hospital Trust will not know who has participated in the study.

If you have any further questions about this survey, or would like any additional information about the wider research project, please contact the principal investigator:

Myanna Duncan (Doctoral Researcher)
Work & Health Research Centre
Loughborough University
Email: M.Duncan@lboro.ac.uk
Tel: 01509 228485

Many thanks for your time and participation in the study.

2. Working arrangements

This section enquires about your working arrangements.

1. What is your current job title?

☐ FY1/House Officer

☐ FY2/Senior House Officer

Other (please specify)

2. How long have you been working for the NHS since qualifying from medical school?

☐ 0 to 1 years

☐ 13 months to 2 years

☐ 2+ years

3. Where did you qualify from medical school?

☐ UK

☐ Europe (excluding UK)

☐ Asia

☐ Africa

Other (please specify)

4. Which Foundation School are you presently associated with?

☐ Trent Foundation School

☐ LNR Foundation School

Other (please specify)

5. If you are an FY2, which Foundation School were you associated with for FY1?

☐ Not applicable: I am an FY1

☐ Trent Foundation School

☐ LNR Foundation School

Other (please specify)

6. Which specialty are you currently working in? (e.g surgery)

7. Please indicate how long you have been working in your current post

☐ 0-2 weeks

☐ 3-4 weeks

☐ 5-6 weeks

☐ 7-8 weeks

☐ 2-3 months

☐ 3+ months

8. Please indicate the type of hospital in which you currently work

☐ Teaching hospital

☐ District general

☐ Community based (including General Practice)

Other (please specify)

3. Working Time Directive

This section enquires about your working hours and views on the Working Time Directive. The Directive currently limits an average 56 hour maximum working week for junior doctors. This is scheduled to reduce to an average 48 hour maximum working week by August 2009. The Directive also sets out a number of minimum rest requirements.

1. Are your rostered working hours compliant with the Working Time Directive?

- ☐ Yes, at 56 hours
- ☐ Yes, at 48 hours
- ☐ No, not compliant at 56 hours
- ☐ Not sure
- ☐ Not applicable

If not applicable, please specify why

2. How often do you work beyond your rostered hours?

- ☐ Daily
- ☐ Weekly
- ☐ Monthly
- ☐ Rarely
- ☐ Never

3. How many hours do you estimate that you actually work in a typical 7-day week?

- ☐ Less than 48 hours
- ☐ 48-52 hours
- ☐ 53-56 hours
- ☐ 57-60 hours
- ☐ 61-65 hours
- ☐ 66-70 hours
- ☐ 70+ hours

Comments

4. Altogether, how many hours do you estimate you have worked in the past 4 weeks (28 days)?

- ☐ Less than 192 hours & have been on annual leave
- ☐ Less than 192 hours
- ☐ 193-208 hours
- ☐ 209-224 hours
- ☐ 225-240 hours
- ☐ 241-260 hours
- ☐ 261-280 hours
- ☐ 280+ hours
- ☐ Cannot estimate

Comments

5. How often has your current working pattern left you feeling short of sleep when at work?

- ☐ Daily
- ☐ Weekly
- ☐ Monthly
- ☐ Rarely
- ☐ Never

6. Generally, are you in favour of the Working Time Directive applying to your profession?

- ☐ Yes
- ☐ No
- ☐ Unsure/mixed views

Please elaborate on your response if you so wish

7. Please identify how you feel the Directive has impacted on your work-life balance

- ☐ Positively
- ☐ Negatively
- ☐ Unsure/mixed views

Please elaborate on your response if you so wish

8. Please identify how you feel the Directive has impacted on your general wellbeing

☐

Positively

☐

Negatively

☐

Unsure/mixed views

Please elaborate on your response if you so wish

9. Please identify how you feel the Directive has impact on your training opportunities

☐

Positively

☐

Negatively

☐

Unsure/mixed views

Please elaborate on your response if you so wish

10. Please identify how you feel the Directive has impacted on your educational opportunities

☐

Positively

☐

Negatively

☐

Unsure/mixed views

Please elaborate on your response if you so wish

This section specifically enquires about your out-of-hours working experiences.

1. Have you had the opportunity to engage in out-of-hours work (i.e nights and weekends) as a junior doctor?

☐

Yes, for all of my rotations

☐

Yes, for some of my rotations

☐

No

Comments

2. Does your current rotation engage you in out-of-hours work?

☐

Yes

☐

No

Other (please specify)

3. Please identify what out-of-hours shifts offer over and above day shifts. Please tick up to 3 responses

☐

Out-of-hours offer little over and above day shifts

☐

More hands on experience/procedural opportunities

☐

Less senior support

☐

More opportunity to deal with acute medical situations

☐

Less administrative in nature

☐

More opportunities for ad hoc teaching

☐

Increased autonomy

☐

More clinical decision making

☐

More one-to-one patient interaction

☐

Enhanced pay

☐

Confidence building

☐

Ownership of patient cases/continuity of care

Other (please specify)

4. Are you in favour or against the removal of out-of-hours working for FY1 doctors?

- ☐ In favour
- ☐ Against
- ☐ Unsure/undecided

Please elaborate on your response if you so wish

5. As an FY1 have you, or did you, work night shifts?

- ☐ Yes, frequently
- ☐ Yes, occasionally
- ☐ Yes, rarely
- ☐ No
- ☐ Other/unsure

Comments

6. If you have worked nights, either as an FY1 or FY2, which working arrangements have you experienced?

- ☐ 7 consecutive nights
- ☐ 3/4 split
- ☐ Both 7 and 3/4 split
- ☐ Other
- ☐ Not applicable

Comments

7. If you have worked night shifts, what is your preferred working arrangement?

- ☐ 7 consecutive nights
- ☐ 3/4 split
- ☐ Other
- ☐ Unsure/undecided
- ☐ Not applicable

Please elaborate on your response if you so wish

8. Have you worked in a 'Hospital at Night' team?

- ☐ Yes ☐
- ☐ No ☐
- ☐ Unsure ☐

9. What do you consider to be the most difficult aspect of the night shift? (Please tick up to 3 responses)

- ☐ Social isolation
- ☐ Lack of senior support
- ☐ Lack of sleep
- ☐ Maintaining cognitive functioning
- ☐ Prioritising cases
- ☐ Workload
- ☐ Medical emergencies
- ☐ Lack of nursing staff
- ☐ Working in unfamiliar specialities
- ☐ Journey home

Other, please specify

10. What do you consider to be the most stressful aspect of your job as a junior doctor? (Please tick up to 3 responses)

- ☐ Difficult patients
- ☐ Dealing with patient's relatives
- ☐ Difficult colleagues
- ☐ Clinical decision-making
- ☐ Long working hours
- ☐ Lack of senior support
- ☐ Understaffing
- ☐ Nights
- ☐ Death & bereavement
- ☐ Out-of-hours working
- ☐ Prioritising
- ☐ Medical emergencies
- ☐ Lack of scheduled breaks

Other (please specify)

5. Health and work-life balance

This section enquires about your current health status and work-life balance.

We should like to know if you have had any medical complaints and how your health has been in general, over the past few weeks.

Please answer all questions by ticking the answer you think most closely applies to you. Remember that we want to know about present and recent complaints, not those that you had in the past.

1. Have you recently

	Not at all	No more than usual	Rather more than usual	Much more than usual
Lost much sleep over worrying?	<input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>
Felt constantly under strain?	<input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>
Felt you couldn't overcome your difficulties?	<input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>
Been feeling unhappy and depressed?	<input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>
Been losing confidence in yourself?	<input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>
Been thinking of yourself as a worthless person?	<input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>

2. Have you recently

	More so than usual	Same as usual	Less so than usual	Much less than usual
Felt capable of making decisions about things?	<input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>
Been able to enjoy your normal day-to-day activities?	<input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>
Been feeling reasonably happy, all things considered?	<input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>
Felt that you were playing a useful part in things?	<input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>
Been able to face up to your problems?	<input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>
Been able to concentrate on whatever you are doing?	<input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>

3. In the past 4 weeks how many days did you:

	0 days	1-2 days	3 days-1 week	1-2 weeks	2+ weeks
Miss an entire work day because of problems with your physical or mental health? (Please include only days missed for your own health, not someone else's health)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Miss an entire work day for any other reason (including annual leave/vacation)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Miss part of a work day because of problems with your own physical or mental health? (Please include only days missed for your own health, not someone else's health)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Miss part of a work day for any other reason (including annual leave/vacation)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

4. Over the past 6-12 months have you had any illness, disability or other physical or mental problem that was caused or made worse by your job?

☐ Yes

☐ No

If yes, please give details

6. Job Satisfaction

This section enquires about your job demands and general job satisfaction.

1. The below questions enquire into your working conditions. When responding, please ensure that your answers reflect your work as a junior doctor in the last six months

	Never	Seldom	Sometimes	Often	Always
I am clear what is expected of me at work	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>
I know how to go about getting my job done	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>
I am clear what my duties & responsibilities are	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>
I am clear about the goals and objectives for my department	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>
I understand how my work fits into the overall aim of the organisation	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>
I am given supportive feedback on the work I do	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>
If work gets difficult, my colleagues will help me	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>
I can rely on my line manager to help me out with a work problem	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>
I can decide when to take a break	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>
I have a say in my own work speed	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>
I have a choice in deciding how I do my work	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>
I have a choice in deciding what I do at work	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>

2. Please ensure that your answers to these questions reflect your work as a junior doctor in the last six months

	Never	Seldom	Sometimes	Often	Always
Different groups at work demand things from me that are hard to combine	<input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>
I have unachievable deadlines	<input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>
I have to work very intensively	<input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>
I have to neglect some tasks because I have too much to do	<input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>
I am unable to take sufficient breaks	<input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>
I am pressured to work long hours	<input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>
I have to work very fast	<input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>
I have unrealistic time pressures	<input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>
I am subject to personal harassment in the form of unkind words or behaviour	<input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>
There is friction or anger between colleagues	<input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>
I am subject to bullying at work	<input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>

3. Please ensure that your answers to these questions reflect your work as a junior doctor in the last six months

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
I have sufficient opportunities to question managers about change at work	<input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>
Staff are always consulted about change at work	<input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>
When changes are made at work, I am clear how they will work out in practice	<input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>
I can talk to my manager about something that has upset or annoyed me about work	<input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>
I am supported through emotionally demanding work	<input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>
My line manager encourages me at work	<input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>
I get help and support I need from colleagues	<input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>
I receive the respect at work I deserve from colleagues	<input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>
My colleagues are willing to listen to my work-related problems	<input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>
I have some say over the way I work	<input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>
My working time can be flexible	<input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>

Relationships at work are
strained



4. Considering your Foundation training programme so far, please indicate the extent to which you have been satisfied with

	Extremely satisfied	Satisfied	Neither satisfied nor dissatisfied	Dissatisfied	Extremely dissatisfied
Overall quality of training					
Formal teaching arrangements					
Educational supervision					
Procedural experiences					
Organisational support					

5. Do you have any further comments about the Foundation Programme?

7. Lifestyle

This section requests some voluntary information about your lifestyle behaviours. Please answer as many of these voluntary questions as you feel comfortable with.

1. This question asks about current and past smoking behaviour

	Yes	No
Do you smoke?	<input type="text"/>	<input type="text"/>

2. Please state which most represents your alcohol consumption in an average week

N.B: - 25ml pub measure of spirit at 40% is 1unit of alcohol

Half a pint of 3.5% beer/lager/cider is 1unit of alcohol

One small (125 ml) glass of wine at 9% is 1unit of alcohol

- ☐ Do not drink alcohol
- ☐ Drink only on special/rare occasions
- ☐ Consume 4-10 units per month
- ☐ Consume 4-10 units per week
- ☐ Consume 11-20 units per week
- ☐ Consume 21-28 units per week
- ☐ Consume 29-34 units per week
- ☐ Consume 35-40 units per week
- ☐ Consume 40+ units per week

3. During the past 7 days, have you taken part in physical activity outside of work?

N.B 'Physical activity' is defined as planned activity for a minimum duration of 20 minutes which produces an increase in ones resting heart rate

- ☐ No
- ☐ Yes

4. If you have taken part in physical activity during the past 7 days, please state the frequency to which you have done so

- ☐ Not applicable
- ☐ 1-2 times
- ☐ 3-4 times
- ☐ 5-6 times
- ☐ 7(+) times

8. Demographics & Future Working Arrangements

The final section of the survey requests some optional demographic information and enquires into your expectations regarding your future working arrangements.

1. Please indicate your age

☐ 22-25

☐ 26-30

☐ 31-35

☐ 36-40

☐ 41-45

☐ 46+

2. Please indicate your gender

☐ Male

☐ Female

3. Please state your ethnic origin

4. Please indicate your marital status

☐ Single

☐ Married/civil partnership

☐ Divorced

☐ Widowed

☐ Cohabiting

☐ In a relationship

Other (please specify)

5. Do you have children?

☐ No

☐ Yes

If yes, please specify how many

6. Do you have any other dependants?

☐ No

☐ Yes

7. What is your present living arrangement?

☐ Hospital

☐ Private

Other (please specify)

8. Do you anticipate remaining in the NHS after completing your Foundation Programme?

☐ Yes

☐ No

☐ Unsure/undecided

Comments

9. If you are an FY2 what will you be doing after completing your Foundation Training Programme?

☐ Not applicable- I am an FY1

☐ Speciality training

☐ Staff grade post

☐ Leaving the NHS

☐ Working abroad

☐ Taking a year off

Other, please specify

10. Please consider your feelings towards your current job in general. To what extent do you agree or disagree with the following statements?

	Strongly disagree	Disagree	Slightly disagree	Neither agree nor disagree	Slightly agree	Agree	Strongly agree
All in all I am satisfied with my job	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
In general, I don't like my job	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
In general, I like working here	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Many thanks for your time and participation in the survey.

If you would like to receive a certificate acknowledging your participation in the research, please enter your email details in the box indicated below. This certificate can, for example, be included in your learning portfolio to demonstrate your awareness of, and engagement in, applied research. Please note that your details will remain anonymous.

1. To receive a certificate of participation in the study, please enter your email address in the box below. The certificate will be emailed to you directly in the next few days

2. If you would like to receive a copy of the summary of the research findings please indicate below

☐ Yes

☐ No

If you have not already supplied your email address please do so

3. If you would be willing to participate in a follow up focus group regarding the issues raised in this survey please indicate below

☐ Yes

☐ No

If you have not already supplied your email address please do so

APPENDIX H: Questionnaire coding template (for open-ended questionnaire items)

Codes:

Black: a priori codes

Red: emergent codes

Blue: a priori code did not emerge (deleted)

1. Generally, are you in favour of the WTD applying to your profession

1.1 Yes/positive

- 1.1.1 Better work-life balance (see item 2)
- 1.1.2 Improves patient care and safety
- 1.1.3 Improves quality of working life
- 1.1.4 Reduces opportunities for mistakes
- 1.1.5 Time for personal & professional development
- 1.1.6 Better compared to non WTD countries & practices
- 1.1.7 Encourages healthier individuals
 - 1.1.7.1 Challenged prevailing norms

1.2 No/negative

- 1.2.1 Delaying mistakes
- 1.2.2 Detrimental to patients
 - 1.2.2.1 Handover issues
 - 1.2.2.2 Discontinuity of care
 - 1.2.2.3 Due to shift based working practices
- 1.2.3 MMC interference
- 1.2.4 Monetary issues and concerns
 - 1.2.4.1 Trust scrimping on money
 - 1.2.4.2 Trust scrimp on staff
 - 1.2.4.3 Still doing extra hours yet not getting paid
 - 1.2.4.4 Drs taking on locum work
 - 1.2.4.5 Dr's financial difficulties
- 1.2.5 Political initiative
- 1.2.6 Synonymous with cutting out-of-hours
- 1.2.7 Training concerns (see item 4)
- 1.2.8 Well-being/work life balance now worse (see item 3)
 - 1.2.8.1 Shift based working practices
 - 1.2.8.1.1 Social isolation
- 1.2.9 Slower career progression
- 1.2.10 Increased work intensity
- 1.2.11 Doesn't work in practice
 - 1.2.11.1 Medicine incompatible with rigid hours

1.3 Unsure/mixed views

- 1.3.1 Awareness for need on regulation of hours
 - 1.3.1.1 Sheer hours doesn't equate to training
 - 1.3.1.2 Requires cultural shift
 - 1.3.1.3 It needs a balance
 - 1.3.1.4 It has gone too far
 - 1.3.1.4.1 HRM interfering
 - 1.3.1.5 Cutting OOH not a solution
- 1.3.2 Directive not been applied appropriately
 - 1.3.2.1 Poor rota design
 - 1.3.2.1.1 Affects wellbeing
 - 1.3.2.1.2 Doctors not involved in rota design
 - 1.3.2.1.3 Still working excessive hours
 - 1.3.2.1.3.1 Annual leave taken as rest
 - 1.3.2.2 One size fits all approach not appropriate
- 1.3.3 Directive more appropriate for some specialities
- 1.3.4 Everyone in same situation
- 1.3.5 Not worked under anything else

1.3.6 Apathy

2. How do you think the introduction of the WTD has impacted on your work-life balance?

- 2.1 Positive impact
 - 2.1.1 Improved work-life balance
 - 2.1.1.1 More time to spend with family
 - 2.1.2 Healthier work force
 - 2.1.3 Challenged prevailing culture
 - 2.1.3.1 Encourages a life outside of medicine
 - 2.1.3.2 Doctors taking better self care
 - 2.1.4 Increased free time for study, research and audit
- 2.2 WTD Negative
 - 2.2.1 Still working excessive hours owing to reference period
 - 2.2.1.1 Annual leave taken as rest
 - 2.2.3 Introduction of shift based system
 - 2.2.3.1 Random days off to compensate
 - 2.2.3.2 Increased social isolation
 - 2.2.3.3 Still difficult to do much outside of work
 - 2.2.3.4 Disruption to life
 - 2.2.4 Anxieties from fewer hours
 - 2.2.4.1 Work done at home to compensate for lack of hours
 - 2.2.5 Increased anti social hours as a senior
 - 2.2.5.1 Impact on self and family
- 2.3 Unsure/ cannot say
 - 2.3.1 Have not worked under anything else

3. How do you think the introduction of the WTD has impacted on your well-being?

- 3.1 Positive impact
 - 3.1.1 Improved concentration at work
 - 3.1.2 Reduced fatigue
 - 3.1.3 Healthier workforce
 - 3.1.3.1 Challenged prevailing culture
- 3.2 Negative impact
 - 3.2.1 Still working excessive hours owing to reference period
 - 3.2.1.1 Annual leave taken as rest
 - 3.2.2 Introduction of shift based system
 - 3.2.2.1 Random days off to compensate
 - 3.2.2.2 Increased social isolation
 - 3.2.2.3 Still difficult to do much outside of work
 - 3.2.2.4 Disruption to life
 - 3.2.3 Work done at home to compensate for lack of hours
 - 3.2.4 Increased stress at lack of experiences/hours
 - 3.2.4.1 Concerns about securing jobs
 - 3.2.5 Will have increased anti social hours as a senior
 - 3.2.5.1 Impact on home life
 - 3.2.5.2 Particularly problematic for females
- 3.3 Mixed/unsure views
 - 3.3.1 Have not worked under anything else/nothing to compare to

4. How do you think the introduction of the WTD has affected your training opportunities?

- 4.1 Positive impact
 - 4.1.1 Structured training & teaching
 - 4.1.2 Clear lines of demarcation between training and service provision
 - 4.1.3 About quality not quantity
- 4.2 Negative impact
 - 4.2.1 Lack of standardisation: hours and experiences
 - 4.2.2 Lack of clinical experience
 - 4.2.2.1 Concerns about 'new' grade of doctor and their skills
 - 4.2.2.1.1 Transfers burden to seniors
 - 4.2.2.1.2 Working with inexperienced doctors

- 4.2.2.2 Prevents confidence building
 - 4.2.3 Less time equals less exposure
 - 4.2.3.1 Has increased competition between colleagues
 - 4.2.3.2 Fewer training opportunities
 - 4.2.4 Detrimental to surgery and craft specialities
 - 4.2.5 Detrimental to patients
 - 4.2.5.1 Insufficiently skilled doctors
 - 4.2.6 Career concerns
 - 4.2.6.1 Moving abroad to get experience
 - 4.2.7 Introduced shift based system
 - 4.2.7.1 Detrimental to team based approach
 - 4.2.8 Personal funding/stuffy budget has been cut
 - 4.2.8.1 Opportunities passed to other healthcare professionals
- 4.3 Unsure/ cannot say
 - 4.3.1 Have not known anything else
- 4.4 Mixed views
 - 4.4.1 Training must be appropriately lengthened
 - 4.4.2 Training may eventually level out
 - 4.4.3 Is workable as long as have OOH
 - 4.4.4 If sufficient staff then can work
 - 4.4.5 It should go to full shift based system for maximum benefit
 - 18.4.5.1 Importance of experiences different shift systems
 - 4.3.2 Associated with removal of out-of-hours (see items 6 and 7)

5. Please identify how you feel the Directive has impacted on your educational opportunities

- 5.1 Positive impact
 - 5.1.1 Foundation Programme provides sufficiently structured training
 - 5.1.2 Importance of protected teaching
- 5.2 Negative impact
 - 5.2.1 Should return to apprenticeship model
- 5.3 Mixed/unsure views
 - 5.3.3 One size fits all approach not appropriate
 - 5.3.4 Variable depending on consultant motivation
 - 5.3.5 Reliant on self-motivation
 - 5.3.4 Dependant on hospital
 - 5.3.5 Prevented or difficult to attend teaching
 - 5.3.5.1 Personally have to get cover
 - 5.3.5.2 No adequate cover
 - 5.3.5.3 Inconvenient location
 - 5.3.5.4 Due to poor rota design
 - 5.3.6 Dependent on educational supervisor

6. Are you in favour or against the removal of out-of-hours shifts for Foundation Year 1 doctors?

- 6.1 Against
 - 6.1.1 Builds confidence
 - 6.1.2 Downgrading of junior doctors
 - 6.1.2.1 Nurse practitioners taking over juniors roles
 - 6.1.3 Insufficiently prepared for Foundation Year 2
 - 6.1.4 Concerns for future
 - Securing job posts
 - 6.1.5 Disrupts team cohesion
 - 6.1.6 Don't put knowledge into practice: forgetting
 - 6.1.7 Financial impact
 - 6.1.8 Frustration at hours
 - 6.1.8.1 Cheats doctors out of medical career
 - 6.1.9 'Burden' moving to senior colleagues
- 6.2 In favour
 - 6.2.1 Out of hours offer little above and above day shifts
 - 6.2.2 Out of hours do not significantly differ from day shifts
- 6.3 Unsure/undecided views

6.3.1 Expectations must adapt

7. What do out-of-hours shifts offer beyond day shifts?

- 7.1 Help build confidence
- 7.2 Increased clinical decision making opportunities
- 7.3 Increased Clinical exposure
 - 7.3.1 When patients deteriorate
 - 7.3.2 More medical emergencies occur
- 7.4 Less administrative work
- 7.5 Ad hoc teaching opportunities
- 7.6 Increased autonomy
 - 7.6.1 Being first on the scene
 - 7.6.2 Personally responsible for more patients
- 7.7 Cover more wards
- 7.8 Time management and prioritisation skills
 - 7.8.1 Learn how to cope with stress

8. Can you describe what you consider to be the most stressful aspect of your work?

- 8.1 Work duties
 - 8.1.1 Workload volume
 - 8.1.1.1 Overwhelming
 - 8.1.1.2 Lack of support
 - 8.1.1.2.1 At large hospitals (compared to smaller hospitals)
 - 8.1.1.2.2 Importance of a good team
 - 8.1.1.2.3 Lack of information when starting new rotations
 - 8.1.1.2.4 Understaffing
 - 8.1.1.2.5 Personal incompetence
 - 8.1.2 Prioritisation
 - 8.1.3 Responsibility
 - 8.1.4 Competing loyalties
 - 8.1.5 Decision making
 - 8.1.6 Interruptions
 - 8.1.7 Time management
 - 8.1.8 Clinical aspects
 - 8.1.8.1 Critically ill patients
 - 8.1.8.2 Emergency admissions
 - 8.1.9 Ward cover
- 8.2 Colleagues
 - 8.2.1 Friction
 - 8.2.2 Seniors
 - 8.2.3 Nurses continually bleeping
- 8.3 Time pressures
- 8.4 Working hours
 - 8.4.1 Anti- social hours
 - 8.4.2 Shift length/duration
 - 8.4.3 Shift frequency
 - 8.4.4 On-calls
 - 8.4.5 Nights
- 8.5 Bleeping
 - 8.5.1 Crash bleep
 - 8.5.2 Unnecessary bleeping
- 8.6 Bureaucracy
 - 8.6.1 Meeting targets
- 8.7 Death
- 8.8 Stress as adaptive
- 8.9 Patients relatives

APPENDIX I: Invitation to participate in focus group study

Dear Colleague,

Several months ago you participated in some online research with Loughborough University regarding the European Working Time Directive. Further to completing the survey, you expressed an interest in participating in a follow up focus group study. **We are emailing you to invite you to participate in one of the focus group dates we have arranged, which are as follows:**

Monday 29th September: 5-7pm CEC, **LRI**, Leicester
Tuesday 30th September: 4-6pm PGC, **City** Hospital, Nottingham
Wednesday 1st October: PGEC, **QMC**, Nottingham (various times available)
Thursday 2nd October: 4.30-6.30pm CEC, **Glenfield** Hospital, Leicester
Friday 3rd October: **Derby Royal Infirmary**, Derby (4-6pm)
Tuesday 7th October: 4-6pm PGC, **City** Hospital, Nottingham
Wednesday 8th October: PGEC, **QMC**, Nottingham (5-7pm)
Thursday 2nd October: 4.30-6.30pm CEC, **Glenfield** Hospital, Leicester
Tuesday 14th October: Leicester General Hospital, Leicester (12.30-1.30 or 4pm onwards)

The focus group will last approximately 50 minutes. During the focus group you will be asked about your experiences of working under the WTD and views on the Directive. Refreshments will be provided.

If you are willing and available to attend any of these sessions, please reply to this email specifying your preferred time and location. If however, you are unavailable for these dates but would still like to participate in the research, please respond to this email stating your availability & preferred location(s).

Please note that confidentiality is strictly assured. No one from your Hospital trust will know who has participated in the focus groups. All data presented will be in an anonymised fashion.

Your participation in the focus groups will provide a valuable insight into the impact of the changes to junior doctors' working patterns resulting from the WTD. These findings will inform evaluations of local initiatives to achieve compliance, as well as future plans for workforce reconfiguration.

If you would like any additional information on the focus groups, or the wider research project, please feel free to contact the principal researcher at the details listed below.

In advance, many thanks for your time and help.

We look forward to hearing from you.

Myanna Duncan
Doctoral Researcher
Work & Health Research Centre
Dept. Human Sciences
Loughborough University
Loughborough
LE11 3TU

Tel: +441509 223942

APPENDIX J: Focus Group Schedule

1. Can I just first of all ask how long have you all worked as junior doctors?
2. Ice breaker: I'd like to present an article that appeared in a mainstream tabloid last year (see page X). Discusses work pressures on junior doctors (allow participants time to read item). I'd like to gauge your views on this article.
3. Can you tell me a little about your working schedules, a typical week for example?
4. Have you had the opportunity to engage in out-of-hours work?
5. Could you tell me a little about your out-of-hours experiences?
6. Have you all had the opportunity to work night shifts?
7. What are the advantages of working out-of-hours?
8. What are the disadvantages of working out-of-hours?
9. Can you tell me what you find to be the most stressful aspects of your work as a junior doctor?
10. What are your general views and feelings about the WTD?
11. How do you feel that working under the WTD has impacted your wellbeing?
12. How do you feel the WTD has impacted your training opportunities?
13. How do you feel the WTD has impacted your educational opportunities?
14. With the 48 hour working week deadline for 2009 how do you feel the WTD might impact your future in medicine?
15. How do you feel the WTD might impact upcoming cohorts?
16. How do you feel the WTD might impact the medical profession as a whole?
17. How have you found your experience of the Programme so far?
18. Do you foresee a future career in the NHS?
19. Are there any questions you feel I haven't asked you, or any further issues you would like to raise at this point?

Focus Group Ice Breaker (question 2)

Retrieved 7 September, 2008, from:
<http://news.bbc.co.uk/1/low/health/7319272.stm>

BBC NEWS / HEALTH

01:00 GMT, Monday, 31 March 2008 02:00 UK

'Work pressure' on junior doctors

Junior doctors are being asked to work longer hours, often unpaid, because of staff shortfalls, the British Medical Association has warned.

Its survey suggests three in ten work on teams with at least one vacancy. It warns care could suffer and of possible bullying and harassment of doctors.

The BMA blames problems with a recruitment system introduced in 2007.

The Department of Health acknowledged the problem, saying it was working with NHS Trusts and doctors to solve it.

"It's fundamentally wrong for junior doctors to be pressured into working excessive hours"

Ram Moorthy
BMA

The BMA has issued guidance to junior doctors asking them to be alert to any changes in their working rotas.

It believes that, in some cases, there is potential for an increase in bullying and harassment as juniors are asked to cover for unfilled posts.

Some doctors who replied to the surveys said that there were as many as five unfilled vacancies in their specialties, increasing their own workload substantially.

Ram Moorthy, chairman of the BMA's Junior Doctors Committee, said: "It's fundamentally wrong for junior doctors to be pressured into working excessive hours.

"This was a problem that employers and the government could and should have foreseen, and it's unfair that doctors are having to prop up rotas without being paid for it. If the problem continues it can only damage the quality of patient care."

The problem has arisen, the BMA believes, because Trusts were given a single opportunity to recruit new juniors last year, and have not been able to fill posts which have become vacant in subsequent months.

Consultant workload

Hospital consultants say they also expect to have to cover extra work as a result.

Dr Jonathan Fielden, chairman of the BMA's Consultants Committee, said:
"Consultants in many trusts are working under extreme pressure to hold the service together for patients."

"Whilst we condemn bullying in any circumstance, consultants and employers must work together constructively to solve this problem and support our junior colleagues at this stressful time."

The Department of Health said it had conducted its own survey of strategic health authorities in February in an effort to gauge the extent of the problem.

A spokesman said: "It is worth bearing in mind that the NHS employs around 120,000 doctors in England and, whilst some Trusts have reported issues, many haven't."

"There have always been some problems staffing some rotas in shortage specialties."

"We understand the theory that the single timetable for specialty training recruitment in 2007 might be a contributor and that is partly why we are moving to a three-phase timetable in 2008, but there may be other factors."

"We are talking to the NHS, to the medical profession and others about potential solutions."

Shadow health secretary Andrew Lansley MP said that it was "unacceptable" that junior doctors were overstretched.

"The measures deployed by the government to try and mitigate the impact of their doctor training shambles are creating more problems."

APPENDIX K: Focus Group coding template

18 items

Topic areas:

A Background: **2 items**

B Ice breaker. Work pressures: **1 item**

C Working schedules & out-of-hours: **6 items**

D WTD: **7 items**

D Foundation Programme & NHS career: **2 item**

F Other: **1 item**

Black: apriori codes

Red: emergent codes

Blue: apriori code did not emerge

50. Ice breaker. I'd like to gauge your views on this article. B
 - a. Article is not representative
 - 1.1.1 Cannot generalise health service in such a way
 - 1.1.2 Many examples of good staffing
 - 1.1.3 Hours monitoring active
 - 1.1.3.1 Follow up of breeches
 - b. Article is representative
 - i. Staff shortfalls common
 - 1.2.1.1 Changing legislation about foreign graduates
 - 1.2.1.2 Poor rota design and planning
 - 1.2.2 Unfilled posts and vacancies
 - 1.2.2.1 Personally raised the issue/ 'complained'
 - 1.2.2.1.1 Medical management ignore
 - 1.2.2.1.2 Doctors 'lack a voice'
 - 1.2.2.2 Reliance on locum doctors
 - 1.2.2.2.1 Difficult to fill locum posts
 - 1.2.2.2.2 Variability in standard to locum doctors
 - 1.2.3 Staff work longer hours to 'pick up slack'
 - 1.2.3.1 Senior colleagues 'pressurise' doctors into doing this
 - 1.2.3.1.1 Won't jeopardise future job opportunities
 - 1.2.3.2 Expected to do this – norms/medical culture
 - 1.2.3.2.1 Trusts won't accept responsibility for doctors presence/litigation issues
 - 1.2.3.2.2 Resentment for lack of recognition
 - 1.2.3.2.3 Low morale
 - 1.2.3.3 Hours not documented
 - 1.2.3.3.1 Lack of recognition and thanks
 - 1.2.3.3.2 Impact on morale
 - 1.2.3.4 Patients come first
 - 1.2.4 Workload intense
 - 1.2.4.1 Increased service provision
 - 1.2.4.2 Doctors reluctant to take on extra locum work – too stressful
 - 1.2.5 Associated with reduced hours for junior doctors
 - 1.2.5.1 Reduction of out-of-hours opportunities in particular
 - 1.2.6 Impact on patient care
 - 1.2.7 Hours monitoring
 - 1.2.7.1 A form filling exercise
 - 1.2.7.2 Told off for honesty/ refusal of consultant to sign
 - 1.2.7.3 Fudging of hours
 - 1.2.7.4 Lack of information on how to complete forms
 - 1.2.7.5 Insufficient returns invalidates monitoring
 - 1.3 Mixed views towards article

- 1.3.1 Varies according to specialty
- 1.3.2 Hours monitoring forms being completed more honestly (cf previously)
- 1.3.3 Lack of standardisation across hospital Trusts

51. Can you tell me a little about your working schedules, a typical week for example? C

- 2.1 Hours wise
 - 2.1.1 Over 56 hours
 - 2.1.2. Less than 56 hours but over 48
 - 2.1.3 Under 48 hours
- 2.2 Shift wise
 - 2.2.1 Day shifts with on-calls & nights
 - 2.2.2 Day shifts with on-calls but no nights
 - 2.2.3 Day shifts only
 - 2.2.4 A and E rota with irregular working patterns
- 2.3 Compliance with rota
 - 2.3.1 Often breech hours
 - 2.3.1.1 Informal norms
 - 2.3.2 New initiatives to prevent breeching hours
 - 2.3.2.1 Clocking in and out

3. Have you had the opportunity to engage in out-of-hours work? C

- 3.1 Yes
 - 3.1.1 Frequently
 - 3.1.1.1 For each attachment
 - 3.1.1.2 For most attachments
 - 3.1.2 Occasionally
 - 3.1.2.1 Not all attachments have had nights
 - 3.1.2.2 Had had just day post(s)
 - 3.1.3 Rarely
 - Have had no nights
- 3.2 No

4. Could you tell me a little about your out-of-hours experiences? C

- 4.1 Regular on-call, nights and weekends
- 4.2 No nights but on-call and weekends
- 4.3 No out-of-hours

5. Have you all had the opportunity to work night shifts? C

- 5.1 Yes
 - 5.1.1 7 nights
 - 5.1.2 3 / 4 split
 - 5.1.3 Both 7 and split
 - 5.1.4 Yes, other arrangement
- 5.2 No
- 5.3 Speciality specific rotas
 - 5.3.1 Accident and Emergency rotas

6. What are the advantages of working out-of-hours? C

- 6.1 Adhoc teaching and learning opportunities
- 6.2 Increased pay/banding
- 6.3 Less administrative work
 - 6.3.1 Able to apply medical knowledge
 - 6.3.2 Opportunities to deal with acute problems
- 6.4 More experiential opportunities
 - 6.4.1 Less competition from colleagues
 - 6.4.2 Being first 'on the scene'
- 6.5 Continuity of care
 - 6.5.1 Able to follow a patient through – beneficial for learning
 - 6.5.2 Medicine doesn't 'fit' into 9-5
- 6.6 Develops time management and prioritisation skills

- 6.7 Increased autonomy
 - 6.7.1 Builds confidence
 - 6.7.2 Clinical decision-making opportunities
 - 6.7.2.1 Forces you out of your 'comfort zone'
 - 6.7.3 Senior support still important / on standby
 - 6.7.4 Responsible for more patients
- 6.8 Multi disciplinary working
 - 6.8.1 Hospital at Night initiative
 - 6.8.1.1 Well supported
 - 6.8.1.2 Success contingent on individual hospitals
- 7. What are the disadvantages of working out-of-hours? C
 - 7.1 Stressful in nature
 - 7.1.1 Some stress beneficial for learning
 - 7.2 Lack of support
 - 7.2.1 From seniors
 - 7.2.2 Support crucial out-of-hours
 - 7.3 Insufficient staff
 - 7.3.1 Increased work intensity (see 7.4)
 - 7.3.2 Staff over stretched
 - 7.3.2.1 Reduced numbers of clinical support workers
 - 7.4 Work intensity
 - 7.4.1 Lack of scheduled breaks
 - 7.4.2 Sheer exhaustion
 - 7.4.3 Increased number of wards to cover
 - 7.4.3.1 Work geographically distributed – large hospitals/cross cover
 - 7.4.3.2 Unfamiliar with individual wards and their procedures/storage of supplies
 - 7.4.4 Reluctance to take on additional locum work
 - 7.5 Anti-social hours as disruptive
 - 7.5.1 To social life
 - 7.5.2 To body clock
 - 7.6 Handover
 - 7.6.1 Expected to stay for post shift ward round
 - 7.6.2 Pressure to not hand jobs over
- 8. Can you tell me what you find to be the most stressful aspects of your work as a junior doctor? A
 - 8.1 Work intensity
 - 8.1.1 On out-of-hours shifts
 - 8.1.2 Lack of support
 - 8.2 Relationships with colleagues
 - 8.2.1 Impressing senior colleagues
 - 8.2.2 Nurses demands
 - 8.2.2.1 'Unnecessary' bleeping
 - 8.3 Time pressures/urgencies
 - 8.4 Working hours
 - 8.4.1 Anti- social hours
 - 8.4.1.1 Unable to do chores/errands
 - 8.4.2 Shift length/duration
 - 8.4.2.1 Fatigue
 - 8.4.3 Shift frequency
 - 8.4.3.1 Long stretches without days off
 - 8.4.4 Lack of breaks
 - 8.5 Death and dying
 - 8.5.1 Breaking bad news
 - 8.6 Medical emergencies/acute situations
- 9. What are your general views and feelings about the WTD?
 - 9.1 Positive

- 9.1.1 Hours regulation necessary
 - 9.1.1.1 History of abuse in the profession
 - 9.1.1.2 Challenged prevailing norms
 - 9.1.2 Fosters better work-life balance
 - 9.1.3 Improves patient care and safety
 - 9.1.4 Improves quality of working life
 - 9.1.5 Reduces opportunities for mistakes
 - 9.1.6 Time for personal & professional development
 - 9.1.7 Better compared to non WTD countries & practices
 - 9.1.8 Encourages healthier individuals
 - 9.2 Negative
 - 9.2.1 Detrimental to training (see item 11)
 - 9.2.1.1 Concerns for future generation of consultants
 - 9.2.1.2 Impact on the UK's international medical reputation
 - 9.2.2 Government interfering
 - 9.2.3 Lack of standardisation in implementation
 - 9.2.3.1 Perceived unfairness between colleagues
 - 9.2.4 Senior colleagues do not support initiative
 - 9.2.5 Shifting 'burden' further up the profession
 - 9.2.6 Associated with removing out-of-hours
 - 9.2.6.1 Decreased pay for junior doctors
 - 9.2.7 Detrimental to patients
 - 9.2.7.1 Handover issues
 - 9.2.7.2 Discontinuity of care
 - 9.2.8 Due to shift based working practices
 - 9.2.9.1
 - 9.2.9 A monetary initiative
 - 9.2.9.1 Participant's financial difficulties
 - 9.2.10 Synonymous with cutting out-of-hours
 - 9.2.11 Increased work intensity
 - 9.3 Mixed/unsure
 - 9.1.3 In favour of 'a' regulation
 - 9.1.4 Workable with careful rota planning
 - 9.1.4.1 Requires increased staffing numbers
 - 9.1.5 Have not worked under anything else
 - 1.2.11 Doesn't work in practice
 - 1.2.11.1 Medicine incompatible with rigid hours
 - 1.3.2 Directive not been applied appropriately
 - 1.3.2.1 Poor rota design
 - 1.3.3 Directive more appropriate for some specialities
 - 1.3.5 Not worked under anything else
10. How do you feel that working under the WTD has impacted your wellbeing?
- 10.1 Positively
 - 10.1.1 More time for self care
 - 10.1.2 Has encouraged better attitudes in the profession
 - 10.1.2.1 Historically doctors overworked to the detriment of the health
 - 10.1.3
 - 10.2 Negatively
 - 10.2.1 Under WTD shift design is still dangerous
 - 10.2.1.1 Long stretches
 - 10.2.1.2 Understaffing
 - 10.2.1.3 Work intensity
 - 10.2.1.4 Lack of support out-of-hours
 - 10.2.1.5 Excess stress
 - 10.3 Unsure
 - 10.3.1 Have not worked under anything else
11. How do you feel the WTD has impacted your training opportunities?
- 11.1 Positively

- 11.2 Negatively
 - 11.2.1 Fewer hours equals fewer opportunities
- 11.3 Unsure/mixed views
 - 11.3.1 Have not worked under anything else
 - 11.1.1 Under MMC training has been streamlined. WTD has had little effect
- 12. How do you feel the WTD has impacted your educational opportunities?
 - 12.1 Positively
 - 12.1.1 Under MMC training has been streamlined. WTD has had little effect
 - 12.2 Negatively
 - 12.2.1 Fewer hours equals fewer opportunities
 - 12.3 Unsure
 - 12.3.1 Have not worked under anything else
- 13. With the 48 hour working week deadline for 2009 how do you feel the WTD might impact your future in medicine?
 - 13.1 Positively
 - 13.1.1 Work-life balance is important for me
 - 13.2 Negatively
 - 13.2.1 Concerned about getting experience
 - 13.2.2 Reluctant to enter surgery
 - 13.2.3 Detrimental to career
 - 13.2.4 Colleagues under 'old' system have greater advantage re jobs
 - 13.2.5 Will have to go abroad to get experience
 - 13.2.6 Won't personally have enough experience
 - 13.3 Unsure
 - 13.3.1 Everyone will adjust
 - 13.3.2 Requires cultural shift
- 14. How do you feel the WTD might impact upcoming cohorts?
 - 14.1 Positively
 - 14.1.1 Will benefit their health & wellbeing
 - 14.2 Negatively
 - 14.2.1 Will adversely affect training
 - 14.2.2 Won't be as good as senior colleagues
 - 14.2.3 Will impact on specialty choices
 - 14.2.4 Concerns about working with inexperienced colleagues
 - 14.2.5 Will be demoralised
 - 14.3 Unsure
 - 14.3.1 NHS is not sustainable
 - 14.3.2 WTD unworkable
 - 14.3.3 Directive won't be adhered to
- 15. How do you feel the WTD might impact the medical profession as a whole?
 - 15.1 Positively
 - 15.1.1 Regulation has been long coming/necessary
 - 15.1.2 Welcome a changing medical climate/challenge to status quo
 - 15.2 Negatively
 - 15.2.1 Reductionism of the profession
 - 15.2.2 Concerns for the upcoming trainees
 - 15.3 Unsure
- 16. How have you found your experience of the Foundation Programme so far?
 - 16.1 Positive
 - 16.1 Well structured
 - 16.2 Negative
 - 16.2.1 Application problems
 - 16.2.2 Inexperienced compared to seniors
 - 16.2.3 The 4 month rotation
 - 16.2.3.1 Lack of team cohesion

- 16.2.4 Creating artificial posts
 - 16.3 Unsure
 - 16.3.1 Doesn't differentiate high versus low flyers
 - 16.3.2 More administration
 - 16.3.3 Lack of information and documentation
 - 16.3.4 Variation across hospitals
 - 16.4 Mixed reports
 - 16.4.1 Issue of hospital size
 - 16.5 Service provision versus training
- 17. Do you foresee a future career in the NHS?
 - 17.1 Yes
 - 17.1.1 EWTD does not present an issue
 - 17.1.2 Unable to move elsewhere
 - 17.2 No
 - 17.2.1 Am moving abroad to train elsewhere
 - 17.3 Unsure
 - 17.3.1 Depends if secure a training post
- 18 Are there any questions you feel I haven't asked you, or any further issues you would like to raise at this point?
 - 18.1 Yes
 - 18.1.1 Low morale
 - Specialty specific issues
 - 18.1.2 Gender discrimination in surgery
 - 18.1.3 WTD shaping specialty choices
 - 18.1.3.1 Reluctance to enter surgery
 - 18.1.4 Want to opt out
 - 18.1.5 Training pathway must be lengthened
 - 18.2 No

Appendix L. Expert panel invitation letter

Junior Doctors' views on the Working Time Directive: Translating theory to practice

This study aims to examine junior doctors' views on the Working Time Directive (WTD) through the use of mixed-methods research techniques. To date, three research phases have been completed, including in-depth semi-structured interviews, a cross-sectional survey and a series of focus groups. The final research phase, which you are participating in, comprises an expert panel discussion and considers implications for practice.

Aims and objectives

The aim of this research is to examine the impact of the WTD on junior doctors' training, education and quality of working life, and from this develop recommendations for NHS policy and practice.

The objectives of the study were to:

- conduct detailed interviews with foundation year 2 doctors to explore their personal experiences of different working schedules within WTD rotas
- develop and administer a cross-sectional survey to foundation doctors in order to examine:
 - doctors' views on new working patterns, resulting from the WTD
 - the impact of a reduction in doctors' hours of work on their training, education opportunities and quality of working life
 - doctors' psychosocial working conditions within WTD rotas
- complete a series of focus groups with junior doctors' for the purpose of data validation
- present the results of the three research phases with junior doctors to a panel of experts to consider the implications of the research for policy and practice

Outcomes:

This study will provide an insight into the impact of the changes to junior doctors' working patterns resulting from the WTD, and in so doing inform evaluations of local initiatives to achieve compliance with Directive targets, as well as future plans for workforce reconfiguration.

For further details please contact:

Myanna Duncan

+44 (0) 1509 223942

M.Duncan@lboro.ac.uk