

Health and Wellbeing of NHS Staff – A Benefit Evaluation Model

Report prepared for the Department of Health as part of the
NHS Workforce Health and Wellbeing Review by The Work
Foundation, Aston Business School and RAND Europe

June 2009



NHSHealthandWellbeing
the Boorman review



Acknowledgements

This report was written by Jeremy Dawson (Aston Business School), with support from Chris Chu, Mandip Kaur, Rebecca Poole, Helen Stoker, Jennifer Surtees, and Michael West (all Aston Business School). Much of the advice on the content was given by other members of the project team, in particular Michelle Mahdon and Richard Murray (The Work Foundation), Christian van Stolk (RAND Europe), Siobhan Smith and Stephen Windsor-Lewis (Department of Health) and Steve Boorman (Royal Mail). Thanks are also due to those who helped access data for inclusion in this report, in particular Iain Bradley (NHS Information Centre) and Tim Sands (Department of Health).

Contents

Executive summary	4
1. Introduction	6
2. Background	7
2.1 Human capital models	7
2.2 Models in healthcare	8
2.3 Financial costs of absenteeism and turnover in the NHS	8
3. Overall model	11
4. Research methods	13
4.1 Analytical methods	13
4.2 Sample and variables used	13
4.3 Causality	16
5. Health and wellbeing linked with patient experiences	18
5.1 Patient satisfaction	18
5.2 Waiting times	18
6. Health and wellbeing linked with health-related outcomes	19
6.1 Infection rates	19
6.2 Patient mortality	19
7. Health and wellbeing linked with annual health check ratings	20
8. Health and wellbeing linked with staff absenteeism	23
9. Health and wellbeing linked with staff turnover	25
9.1 Overall turnover	25
9.2 Ill health retirement	26
10. Health and wellbeing linked with financial outcomes	27
10.1 Health and wellbeing linked with agency spend	27
10.2 Cost of absenteeism	28
10.3 Cost of turnover	29
11. Management practices linked with the health and wellbeing of NHS staff	30
11.1 Work-related injury	30
11.2 Work-related stress	30
11.3 Job satisfaction	31
11.4 Turnover intentions	31
12. Examples of well-performing and poorly-performing trusts	33
13. Conclusions	34
Appendix 1: Background literature 1: Human capital models	35
Appendix 2: Background literature 2: New developments in healthcare models	45
Appendix 3: Background literature 3: Financial consequences of HR outcomes	59
Appendix 4: Description of NHS staff survey variables used	67
Appendix 5: Results of regression analysis	71
Appendix 6: References	84

Executive summary

This report describes the development and testing of a model that aims to test the benefit of good health and wellbeing of NHS staff on organisational outcomes – including patient experience, health outcomes, overall performance, and direct human resources outcomes such as absenteeism and turnover – as well as the benefit of management practices that can promote health and wellbeing. Where appropriate the effects of health and wellbeing are demonstrated with estimates of the financial consequences of the outcomes.

The key findings are as follows:

- Health and wellbeing variables are significantly related to patient satisfaction ratings, with job satisfaction and turnover intentions the most closely linked. A trust that is in the top 10 per cent of organisations in terms of health and wellbeing is also likely to be in the top 20 per cent of trusts in terms of patient satisfaction.
- Health and wellbeing variables are significantly associated with MRSA infection rates. The difference in infection rates between an average and a poor acute trust with regard to health and wellbeing is around 0.32 infections per 10,000 bed days.
- Health and wellbeing variables are significantly associated with annual health check performance ratings, with work-related injury and job satisfaction particularly important. For many trusts, this may mean the difference between a 'fair' and 'good' assessment, or between a 'good' and 'excellent' assessment.
- Health and wellbeing variables are significantly related to staff absenteeism rates, with work-related injury and job satisfaction particularly important. The difference in absenteeism rates between an average and a good trust with regard to health and wellbeing is approximately 0.4 per cent, which equates to an estimated cost of £350,590 for an average-sized trust. Across the whole of the NHS this is equivalent to around £137 million per year.
- Staff turnover intentions, a proxy measure of psychological wellbeing, are significantly related to both actual turnover levels and the proportion of overall staff costs spent on agency staff.

- Management practices are significantly associated with all four health and wellbeing variables (work-related injury, work-related stress, job satisfaction and turnover intentions). In particular, the quality of job design, perceptions of work pressure, support for work-life balance, and the prevalence of well-structured appraisals and well-structured team working are strongly related to health and wellbeing.

Often there are differential results for different types of NHS trust, and these are shown wherever possible.

1. Introduction

One of the purposes of the NHS Workforce Health and Wellbeing Review is to provide estimates of the costs (economic and otherwise) of poor health and wellbeing amongst NHS staff. This report seeks to accomplish this goal insofar as it is possible with established data sources. By bringing together data from the NHS national staff survey and various routinely-collected organisational data sets from the NHS in England, it uses existing theory and models and statistical techniques to estimate the outcomes of NHS staff health and wellbeing, as well as some of the predictors, and places financial estimates on these outcomes where possible.

The report proceeds as follows. We start with a brief description of models that link management practices with health and wellbeing and outcomes, in particular paying attention to such models in the healthcare literature. We then also describe available literature discussing the financial costs of outcomes such as staff absenteeism and turnover. Each of these sections is covered in greater detail in the appendices.

We then set out the model underlying this report, based on matching models in the literature with available data and the aims of this study, and describe the data sources and analytical methods used. We follow this by describing the results in such a way that easily allows users to observe the differences between 'high-performing', 'average' and 'low-performing' organisations. Full details of the fitted models are available in the appendices.

2. Background

The Benefit Evaluation Model presented in this report is based on the ideas inherent in human capital models, which demonstrate how investment in the value of employees (primarily through increasing their knowledge, skills and abilities, but also by improving or maintaining their health and wellbeing) can relate in positive outcomes for organisations. This report focuses on the health and wellbeing aspects: both in terms of evaluating the benefits of a healthy and well workforce, and evaluating the health and wellbeing benefits of management practices designed to improve human capital. Therefore we start with a brief description of human capital models, go on to discuss some specific examples of similar models in healthcare, and then summarise evidence suggesting how staff outcomes that can be a direct function of health and wellbeing, in particular absenteeism and turnover, are linked with bottom line (financial) outcomes.

2.1 Human capital models

The term *human capital* has its origins in economic theory, but is now heavily used in the field of management. It is defined as ‘the knowledge, skills, and abilities (KSAs) employees possess that bring economic value to firms’ (Youndt, Subramaniam & Snell, 2004). Only those attributes that satisfy customer/client demands and can produce value to the firm quantify as the firm’s human capital (Becker, 1993). Individual employee productive capacities are aggregated to form a firm’s human capital pool, which goes beyond KSAs, to include the interaction of human capital with organisational strategy, processes, and culture (Storey, 1995).

Human capital models recognise employees as essential value adding assets (Storey, 1995; Chen & Lin, 2003). Therefore any investment in the productive capabilities of individual employees potentially accrues valuable human capital, which ultimately improves organisational performance. However expenditure is regarded as an investment as opposed to an expense only when it leads to an economic return, eg labour productivity, economic growth or competitive advantage (Becker, 1993; Asefa & Huang, 1994). Anything above the market wage is regarded as investment and thus investment may take various forms, including investment in personal productive capacity through education, training, development, and general health; or even psychological investment to enhance attitudinal dimensions, such as work motivation, commitment and efficacy (Becker, 1962; Mincer, 1993). In terms of the NHS this can perhaps be viewed slightly differently: much organisational performance and competitive advantage is not defined economically, but by the quality and efficiency of patient care provided. However, there are still more direct economic gains to be made by investment in human capital, notably those associated with staff absenteeism and turnover. The most common way for organisations to develop human capital is via human resource management (HRM).

2.2 Models in healthcare A sufficient human capital pool in itself is not adequate to ensure desired performance, as individual employee performance is dependent on the employee's motivation (Franco, Bennett & Kanfer, 2002). Motivation is of essential importance in the healthcare sector, where service quality, efficiency and equity are all directly mediated by workers' willingness to apply themselves. However complexities arise in the health sector as numerous layers influence health worker motivation, including the internal individual level, organisational level, and broader societal determinants.

One model that has been widely used within healthcare is that by Michie and West (2004). This model brings in several elements of traditional human capital models but frames them within a specific healthcare context. Broadly, it describes how five different areas are related. Organisational context helps define the people management practices employed by organisations; these have psychological consequences for employees, leading to changes in employee behaviours, and ultimately organisational performance, including patient care. This model was based on several decades of research in multiple sectors but in particular healthcare, and is used to underpin the NHS national staff survey.

Relatively little research has focussed on outcomes of human capital specifically, or HR practices, within the NHS. One main exception is the research by West et al. (2002, 2006) which demonstrated that there are links between HR practices and the key outcome of patient mortality in acute trusts. This showed that practices such as appraisal, training, team working and job design show significant associations with hospital mortality rates.

Other more recent research has demonstrated links between HR practices and both psychological consequences of staff (related to health and wellbeing), and organisational performance (eg. Labriola et al., 2006; Lu et al., 2005; Arthur et al., 2003; see Appendix 2 for further details). We draw on this entire body of research to identify possible antecedents of staff health and wellbeing from the data available in the NHS staff survey.

2.3 Financial costs of absenteeism and turnover in the NHS Absenteeism is problematic to organisations in that the days of work lost can impact on the quality of organisational performance, while the money lost can have financial implications. The CIPD Annual Survey of Absence Management (2008) has reported that the levels of absenteeism in the public sector are higher than those in the private sector (an average 9.8 days per employee, per year compared with 7.2 days). Within the health sector this was reported to be 11.7 days, indicating a major challenge which the health sector must face.

Mercer (2008) identifies three areas of 'financial impact' on organisations, namely the direct costs (the pay or benefit provided to an employee for time not worked), the indirect costs (the cost of replacement workers and lost productivity due to replacement workers) and the administrative costs (the costs for internal staff, software, office space and equipment to administer absence pay and record absence data). The CIPD Annual Survey of Absence Management (2008) reported that the average cost of absence was £666 (per employee, per year); however, the survey also reports that the average annual cost of absence per employee, per year within the public healthcare sector is £1,153. Elements included in this cost of absence were found to be administration, overtime costs, the costs of reduced performance, replacement labour costs and sick pay (occupational or statutory).

Increased employee engagement was found to give rise to a key benefit of decreased absenteeism within NHS employees (Cohen, 1993; Barber, Hayday & Bevan, 1999). Engaged employees have been found to take fewer days absence by CIPD research. This research also found that progressive HR practices (including flexible working, good quality line management, opportunity for employee voice and training and development) give rise to higher levels of commitment and employee motivation, and significantly lower levels of stress.

Another key cost to organisations is employee turnover. A meta-analysis of the relationship between turnover and job performance confirmed that reducing the HR outcome of turnover should be prioritised by HR professionals (McEvoy & Cascio, 1987). The CIPD Recruitment, Retention and Turnover Annual Survey 2008 reported that 70 per cent of respondents believed that an employee's departure from the organisation has a negative effect on business performance. The survey highlighted that 15 per cent of these respondents believed this to have a serious negative effect. However, the survey also revealed that only 54 per cent of employers were aiming to reduce their levels of turnover.

The CIPD survey (2008) also showed that labour turnover rates have decreased from 18.1 per cent (2007) to 17.3 per cent (2008). The survey reported higher levels of turnover rates within the private sector (20.4 per cent), than within the public sector (13.5 per cent). Within this the health sector figure is 13.2 per cent which appears relatively low compared with other organisations. It is important to point out that in the current state of the economy this reduction in overall turnover from 2007 is to be expected, no matter which sector is being surveyed. This reduction in labour turnover levels has also been demonstrated within the NHS. The National NHS Staff Survey 2008 reported that overall the intention of employees to leave the NHS (31 per cent) was lower than the previous year (36 per cent).

The CIPD Survey (2008) reported that the average cost to organisations of filling a vacancy per employee is £4,667, increasing to £5,800 when organisations are also calculating associated labour turnover costs. Vandenberg et al. (1999) reported that the opportunities and access to training provided for employees within an organisation correlated negatively with turnover rates.

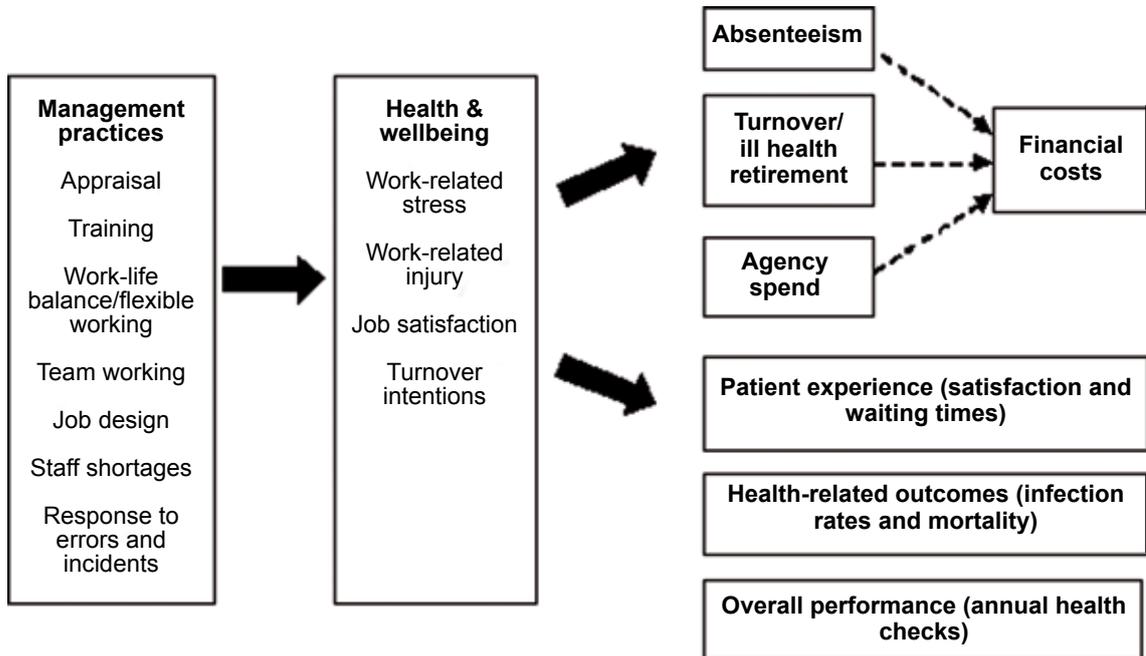
3. Overall model

We form our overall model based on the requirements of the current review, the evidence provided in the literature described above and in the appendices, and the data readily available for analysis. This is based on the following criteria:

- Health and wellbeing is the central focus of the review, so this forms the central focus of the model. Four variables relating directly to the health and wellbeing of NHS staff are available within the NHS staff survey: work-related stress, staff injury rates, job satisfaction and turnover intentions.
- Outcomes included both direct employee management outcomes, and other outcomes relating to organisational performance, including patient experience and health outcomes. Key available direct employee management outcomes are absenteeism and turnover. Another financial human resources outcome is the amount of spend on agency staff. A form of turnover data directly related to health and wellbeing of staff is the number of ill health retirements.
- Other outcomes, less directly linked but also suggested by previous research, included patient experience (satisfaction with care and waiting times), health-related outcomes (infection rates and patient mortality), and the annual health check ratings published by the Healthcare Commission. The patient experience and health-related outcomes covered here are only available for acute trusts.
- Predictors of health and wellbeing from the management practices side came from the staff survey. As suggested by the literature presented in Section 2, and Appendices 1 and 2, areas covered here include appraisal, training, learning and development, team working, flexible working, job design, staffing levels, and practices for reporting and dealing with errors and incidents.

The overall model tested, therefore, can be seen on the next page:

Overall model



4. Research methods

4.1 Analytical methods The model is tested in two phases. The first is to test the links between health and wellbeing and the organisational outcomes in the model, including direct employee management outcomes (absenteeism, turnover and agency spend) and outcomes relating to quality of care (patient satisfaction, waiting times, infection rates, patient mortality, and annual health check performance ratings). The second phase is to establish what links there are between management practices and staff health and wellbeing.

The main method used for the analysis is multiple regression. This allows the linking of several variables with each outcome simultaneously, and enables useful estimates of the effects found.

To allow easy reading of the results by non-specialists, the technical details of the results are not included in the main report but can instead be found in Appendix 5. Instead, the results presented here give summaries of what is found, in particular showing the links between variables in a form that can be used to compare expected outcomes for trusts that are 'high-performing', 'low-performing', and 'average'. These are defined as trusts that fall on the 90th and 10th percentiles, as well as the median values respectively in terms of the explanatory variables (health and wellbeing for the first phase, and management practices for the second phase). Therefore a high-performing trust is one which outperforms 90 per cent of all other trusts on each variable in question.

4.2 Sample and variables used

The organisational outcome variables used in the model are as follows:

- **Patient satisfaction.** This was the average response to the question 'Overall, how would you rate the care you received?' taken from the acute inpatient survey run by the Healthcare Commission in 2007. This was available for 164 trusts (acute trusts only).
- **Waiting times.** This was measured as the proportion of patients who waited less than 18 weeks from the time of their referral by a GP to their first appointment in an acute trust; the data were taken from the first quarter of the NHS year 2008-9. This was available for 168 acute trusts.
- **Patient mortality.** This was the Hospital Standardised Mortality Ratio calculated and published by Dr Foster. It is calculated as the ratio of actual to expected deaths given age, sex, primary diagnosis, co-morbidities, length of stay and some other factors. It was calculated for the year 2005-6, and was available for 168 trusts (acute trusts only).

- **Infection rates.** This was the number of MRSA cases per 10,000 bed days during April 2008. It was available for 170 trusts (acute trusts only).
- **Annual health check ratings.** The annual health check (AHC) conducted by the Care Quality Commission (formerly the Healthcare Commission) yields two overall ratings: one for quality of care provided and one for use of resources. These were each scored on a 1-4 basis. Data related to the NHS year 2007-8, and were available for 381 trusts.
- **Staff absenteeism.** This was taken from the Electronic Staff Record for the period from April 2008 to December 2008, and was available for 385 trusts.
- **Staff turnover.** This was the proportion of staff (head count) within each trust who left during the year 2006-7, and was available for 303 trusts.
- **Ill health retirements.** This was taken from NHS pensions data for the year 2006-7, and was available for 191 trusts.
- **Agency spend.** This was the proportion of total staff costs that went on agency staff during the NHS year 2007-8. This was available for 382 trusts.

The NHS staff survey variables used in the model include both the health and wellbeing variables and the management practices. The variables used are listed below: for details on how these were calculated from the survey, see Appendix 4.

Most of the analysis was conducted with data from the 2007 staff survey, as many of the outcome variables were available for 2007-8. This survey included 155,922 respondents from 396 NHS trusts (at a response rate of 54 per cent). However, for some outcomes (staff turnover, ill-health retirements and patient mortality), data were available only from an earlier point in time, so data from the 2005 staff survey were used for testing health and wellbeing with these outcomes. This survey included 209,124 respondents from 560 NHS trusts (a 58 per cent response rate) – however, as many of these trusts subsequently formed different organisations, the sample size available for each analysis was dictated by the number of data points available for each outcome, described above. It was decided to use these two survey years because:

- 2007 was the most recent year that was not subsequent to most of the outcome data;

- 2006 data was less useful because many trusts did not participate due to new organisations being formed;
- Greater consistency can be gained by limiting the data used to as few years as possible.

The health and wellbeing variables used were:

- **Work-related stress** – the proportion of staff who say they have been injured or felt unwell as a result of work-related stress in the previous 12 months.
- **Work-related injury** – the proportion of staff who say they have been injured or felt unwell as a result of moving and handling; needlestick and sharps injuries; slips, trips or falls; or exposure to dangerous substances in the previous 12 months.
- **Job satisfaction** – this is a measure of job-related psychological wellbeing, based on a scale published by Warr, Cook & Wall (1979). This is often used as a measure of wellbeing.¹
- **Turnover intentions** – this is a measure of the extent to which employees are considering leaving their jobs. Although slightly less directly related to health and wellbeing, it is often used as a proxy for wellbeing in the literature.²

The management practices variables included were:

- **Appraisal**
 - Percentage of staff receiving an appraisal in the previous 12 months;
 - Percentage of staff receiving a well-structured appraisal in the previous 12 months;
 - Percentage of staff receiving an appraisal with personal development plan in the previous 12 months.
- **Training, learning and development**
 - Percentage of staff receiving any training, learning and development in the previous 12 months;
 - Percentage of staff receiving job-relevant training, learning and development in the previous 12 months;

¹ eg Kahneman & Krueger (2006); Warr et al. (1979)

² eg Janssen, De Jonge & Bakke (1999); George & Jones (1996); Netemeyer, Boles & McMurrian (1996)

- Percentage of staff receiving health and safety training;
- Percentage of staff receiving training in how to handle violence and aggression;
- Percentage of staff receiving training in infection control.

- Work-life balance
 - Support for work-life balance;
 - Use of flexible working options;
 - Shift working;
 - Working additional hours (paid and unpaid).

- **Staff shortages**
 - Work pressure (proxy variable).

- **Team working**
 - Percentage of staff working in well-structured teams.

- **Job design**
 - Quality of job design.

- **Dealing with errors and incidents**
 - Fairness and effectiveness of incident reporting procedures.

Additionally, the analysis controlled for background factors that might affect the outcomes. For most of the analysis this meant controlling for three main organisational factors: trust type (acute, PCT, mental health or ambulance), trust size (measured as number of employees) and region (measured by the strategic health authority belonged to). For analysis with health and wellbeing variables as the outcomes, however, this was conducted at the individual level – and therefore several individual level control variables were also included: age, sex, ethnic background, disability, occupational group, line manager or not, time spent with organisation, and full/part time status.

4.3 Although in general the outcome data were collected after the explanatory variables, in no case
Causality is it possible to prove that the relationships found are causal. As an example of why this may be, consider the relationship between job satisfaction and absenteeism. Although it is tempting to argue that less satisfied employees may be more prone to absenteeism, it is also possible that

higher absenteeism rates lead to lower satisfaction levels amongst the remaining staff. It is also possible that other factors affect both variables: for example, positive leadership can lead to both more satisfied staff and less discretionary absenteeism.

Therefore it is important that the results presented in the following sections are treated with appropriate caution, and the effects shown are indicative of the current situation: they do not imply that by improving the health and wellbeing of staff by a certain amount, the associated improvement in outcomes will necessarily follow, even if this is supported by the underlying theory.

5. Health and wellbeing linked with patient experiences

5.1 Patient satisfaction

The model revealed that all four health and wellbeing variables from the staff survey were each related to patient satisfaction in acute trusts. Patient satisfaction was measured on a scale from 0 to 100, with trust scores ranging from 65.2 to 91.9. A very high-performing trust – one which has a score on the 90th percentile – would have a patient satisfaction score of 83.0; an average trust would have a score of 77.4; and a very low-performing trust would have a score of 71.0.

- The difference between a trust with high staff injury rates and one with average staff injury rates was associated with a difference of 1.6 points in patient satisfaction.
- The difference between a trust with high staff stress and one with average staff stress was associated with a difference of 2.3 points in patient satisfaction.
- The difference between a trust with low job satisfaction and one with average job satisfaction was associated with a difference of 2.5 points in patient satisfaction.
- The difference between a trust with high staff turnover intentions and one with average staff turnover intentions was associated with a difference of 2.5 points in patient satisfaction.

Taken separately these are relatively modest effects. However, taken together they add up to greater overall effects. The expected scores on the patient satisfaction variable for trusts that are high-performing, moderate and low-performing³ in terms of the four health and wellbeing variables and average otherwise are as follows:

Health and wellbeing status	Expected patient satisfaction
Poor	74.0
Average	77.5
Good	80.6

For the sake of context, a score of 80.6 would be better than 82 per cent of other trusts, where as a score of 74.0 would be better than only 23 per cent of other trusts. The 'poor' and 'good' scores are closer to a very high-performing and very low-performing trust respectively than they are to an average trust.

5.2 Waiting times

The model showed that there were no significant relationships between health and wellbeing variables and the percentage of patients waiting less than 18 weeks for their first appointment.

³ High performing = at least as good as 90 per cent of all other trusts; low-performing = at least as good as 10 per cent of all other trusts

6. Health and wellbeing linked with health-related outcomes

6.1 Infection rates The model revealed that the four health and wellbeing variables from the staff survey were each related to MRSA infection rates in acute trusts. MRSA rates were measured as the number of infections per 10,000 bed days: the overall average for acute trusts was 1.11 infections per 10,000 bed days; this ranged from 0.00 to 2.46 infections, with a very high-performing trust (on the 10th percentile) having 0.44 infections, and a very low-performing trust having 1.81 infections per 10,000 bed days.

It is especially important here to consider that the relationships found do not imply a causal relationship. It is likely that other factors may be affecting both scores, and it is certainly possible that high infection rates will, in turn, affect the health of staff too, not just in terms of their physical health if they become infected, but in terms of extra workload, stress and lower satisfaction.

- The difference between a trust with high staff injury rates and one with average staff injury rates was associated with 0.26 fewer infections per 10,000 bed days.
- The difference between a trust with high staff stress and one with average staff stress was associated with 0.12 fewer infections per 10,000 bed days.
- The difference between a trust with low job satisfaction and one with average job satisfaction was associated with 0.15 fewer infections per 10,000 bed days.
- The difference between a trust with high staff turnover intentions and one with average staff turnover intentions was associated with 0.14 fewer infections per 10,000 bed days.

Taken together, the expected MRSA rates for trusts that are high-performing, moderate and low-performing in terms of the four health and wellbeing variables and average otherwise are as follows:

Health and wellbeing status	Expected MRSA infections per 10,000 bed days
Poor	1.41
Average	1.09
Good	0.82

For the sake of context, a score of 0.82 infections per 10,000 bed days would be better than 68 per cent of other trusts, whereas 1.41 infections per 10,000 bed days would be better than only 27 per cent of other trusts.

6.2 Patient mortality The model showed that there were no significant relationships between health and wellbeing variables and patient mortality.

7. Health and wellbeing linked with annual health check ratings

The annual health check (AHC) conducted by the (former) Healthcare Commission yields two overall ratings: one for quality of services provided and one for use of resources. These were each scored as 'excellent', 'good', 'fair' or 'weak'. For the purposes of this analysis we denote these by the scores 4, 3, 2 and 1 respectively.

The overall average score for quality of services was 2.8: this was 3.5 in mental health trusts, 3.0 in acute trusts, 2.5 in ambulance trusts and 2.3 in PCTs. The overall average score for use of resources was also 2.8, but this broke down as 3.1 in mental health trusts, 3.0 in acute trusts, 2.5 in PCTs and 2.3 in ambulance trusts.

The model revealed that although there was no significant relationship between staff injury rates and quality of services, otherwise the four health and wellbeing variables from the staff survey each were related to both of these ratings:

- The difference between a trust with high staff injury rates and one with average staff injury rates was associated with a difference of 0.4 in the scale for 'use of resources'.
- The difference between a trust with high staff stress and one with average staff stress was associated with a difference of 0.2 in the scale for 'quality of services' and a difference of 0.2 in the scale for 'use of resources'.
- The difference between a trust with low job satisfaction and one with average job satisfaction was associated with a difference of 0.4 in the scale for 'quality of services' and a difference of 0.4 in the scale for 'use of resources'.
- The difference between a trust with high staff turnover intentions and one with average staff turnover intentions was associated with a difference of 0.3 in the scale for 'quality of services' and a difference of 0.4 in the scale for 'use of resources'.

Taken together, these leads to the following expected performance ratings for trusts that are high-performing, moderate and low-performing in terms of the four health and wellbeing variables and average otherwise:

Health and wellbeing status	Expected AHC ratings ⁴	
	Quality of services	Use of resources
Overall		
Poor	2.5 – ‘Good’	2.3 – ‘Fair’
Average	2.8 – ‘Good’	2.8 – ‘Good’
Good	3.1 – ‘Good’	3.3 – ‘Good’
Acute		
Poor	2.7 – ‘Good’	2.5 – ‘Good’
Average	3.0 – ‘Good’	3.0 – ‘Good’
Good	3.3 – ‘Good’	3.4 – ‘Good’
PCT		
Poor	2.0 – ‘Fair’	2.0 – ‘Fair’
Average	2.4 – ‘Fair’	2.5 – ‘Good’
Good	2.7 – ‘Good’	2.9 – ‘Good’
Mental Health		
Poor	3.2 – ‘Good’	2.8 – ‘Good’
Average	3.5 – ‘Excellent’	3.1 – ‘Good’
Good	3.7 – ‘Excellent’	3.5 – ‘Excellent’
Ambulance		
Poor	2.1 – ‘Fair’	1.4 – ‘Weak’
Average	2.6 – ‘Good’	2.3 – ‘Fair’
Good	3.0 – ‘Good’	3.0 – ‘Good’

There are not many changes in the expected ratings, owing to the imprecise nature of the prediction, and the fact that many trusts get a ‘good’ rating on both scores. To illustrate this further therefore, here is the average health and wellbeing status for trusts with ‘weak’/‘weak’, ‘fair’/‘fair’, ‘good’/‘good’ and ‘excellent’/‘excellent’ combinations of ratings:

⁴ 4 = excellent, 3 = good, 2 = fair, 1 = weak

	AHC ratings			
	Weak/Weak	Fair/Fair	Good/Good	Excellent/Excellent
Work-related stress	19%	14%	16%	15%
Work-related injury	34%	33%	32%	31%
Job satisfaction	3.35	3.46	3.45	3.46
Turnover intentions	2.84	2.75	2.69	2.65

(See Appendix 4 for descriptions of how the health and wellbeing variables were calculated.)

8. Health and wellbeing linked with staff absenteeism

The average level of absenteeism across all NHS trusts was 4.48 per cent during the specified period. This was highest in ambulance trusts (5.76 per cent), followed by mental health/learning disability trusts (5.24 per cent), then primary care trusts (4.43 per cent) with the lowest absenteeism rate found in acute trusts (4.17 per cent on average). There was still a fair amount of variation between trusts, however: overall the rate varied from 1.75 per cent to 7.42 per cent.

The model revealed that the four health and wellbeing variables from the staff survey each were related to trust level absenteeism data:

- The difference between a trust with high staff injury rates and one with average staff injury rates was associated with a 0.3 per cent difference in absenteeism (eg from 4.5 per cent to 4.2 per cent).
- The difference between a trust with high staff stress and one with average staff stress was associated with a 0.1 per cent difference in absenteeism (eg from 4.5 per cent to 4.4 per cent).
- The difference between a trust with low job satisfaction and one with average job satisfaction was associated with a 0.3 per cent difference in absenteeism (eg from 4.5 per cent to 4.2 per cent).
- The difference between a trust with high staff turnover intentions and one with average staff turnover intentions was associated with a 0.2 per cent difference in absenteeism (eg from 4.5 per cent to 4.3 per cent).

Although these effects may not look particularly large individually, when considered together they add up to some potentially significant differences. Taken in total, this leads to the following expected absenteeism rates for trusts that are high-performing, moderate and low-performing in terms of the four health and wellbeing variables and average otherwise:

Health and wellbeing status	Expected absenteeism rate
Poor	4.84%
Average	4.45%
Good	4.08%

Health and wellbeing linked with staff absenteeism

Broken down by each trust type separately, this becomes:

Health and wellbeing status	Expected absenteeism rate			
	Acute	PCT	Mental Health	Ambulance
Poor	4.43%	4.67%	5.45%	6.09%
Average	4.15%	4.42%	5.24%	5.62%
Good	3.90%	4.18%	5.02%	5.21%

For an average-sized trust of each type, this is equivalent to the following numbers of staff being absent from work each day. Obviously in larger trusts (and some are up to five times the size of the average), these figures could be considerably larger:

Health and wellbeing status	Expected daily absentee numbers			
	Acute	PCT	Mental Health	Ambulance
Poor	165	60	131	177
Average	155	57	126	163
Good	146	53	120	151

Some of these differences appear relatively small; however, when aggregated across the whole NHS in England they are far bigger. The consequence of a change equivalent to moving from average to good health and wellbeing status across the whole NHS would be an extra 3,652 staff working each and every day, or around 840,000 extra staff days per year.

The financial consequences of such differences are shown in Section 10.2.

9. Health and wellbeing linked with staff turnover

9.1 Overall turnover The average level of staff turnover across all NHS trusts was 13.2 per cent during the specified period. This was highest in PCTs (16.4 per cent), followed by mental health/learning disability trusts (12.4 per cent), then acute trusts (12.0 per cent) with the lowest turnover rate found in ambulance trusts (8.8 per cent on average).

The model revealed that the only health and wellbeing variable from the staff survey significantly related to trust level turnover data was, unsurprisingly, turnover intentions.

- The difference between a trust with high staff turnover intentions and one with average staff turnover intentions was associated with a 1.3 per cent difference in turnover (eg from 13.3 per cent to 12.0 per cent).

Taken in total, the expected turnover rates for trusts that are high-performing, moderate and low-performing in terms of turnover intentions and average otherwise, are:

Health and wellbeing status	Expected turnover rate
Poor	15.1%
Average	13.4%
Good	11.9%

Broken down by each trust type separately, this becomes:

Health and wellbeing status	Expected turnover rate			
	Acute	PCT	Mental Health	Ambulance
Poor	13.5%	18.2%	14.2%	9.5%
Average	11.9%	16.0%	12.8%	6.9%
Good	10.6%	14.6%	11.5%	4.6%

For an average-sized trust of each type, this is equivalent to the following numbers of staff leaving the organisation in a year. Obviously in larger trusts (and some are up to five times the size of the average), these figures could be considerably larger, although the largest differences are apparent in ambulance trusts:

Health and well-being status	Expected annual turnover			
	Acute	PCT	Mental Health	Ambulance
Poor	531	258	339	248
Average	468	227	306	180
Good	415	207	274	121

Estimates of the financial consequences of these differences are shown in Section 10.3.

9.2 Ill health retirement The average level of ill health retirements across the 191 NHS trusts for which data were available was 0.266 per cent, or 2.66 retirements per 1,000 staff. This was highest in mental health trusts (3.24 retirements per 1,000 staff), followed by acute trusts (2.55 per cent). Due to the reconfiguration of ambulance trusts and PCTs at this time, virtually no data are available for these in a format that can be readily analysed.

However, the model did not show any significant relationships between the health and wellbeing of staff as measured in the NHS staff survey and the rate of ill health retirements. This may be in part due to the ill health retirement rates being very small: typically a trust may have only had a handful of ill health retirements in the given year (and some would have had none), meaning that the rates are more greatly affected by a few isolated individual circumstances.

10. Health and wellbeing linked with financial outcomes

10.1 Health and wellbeing linked with agency spend

Due to the wide variety in sizes of NHS trusts, the amount spent on staffing via agencies is best measured as a proportion of the total wage bill for each organisation. The average level of agency spend across all NHS trusts was 3.85 per cent during this period. This was highest in PCTs (5.25 per cent), followed by mental health/learning disability trusts (4.13 per cent), then acute trusts (2.61 per cent) with the lowest rate found in ambulance trusts (1.88 per cent on average). Agency spend is closely linked to both absenteeism and turnover, as agency staff are often used to cover gaps caused by both; however, agency staff may also be used for other reasons, and there will be many other costs associated with absenteeism and turnover.

The model revealed that the only health and wellbeing variable from the staff survey significantly related to agency spend was turnover intentions.

- The difference between a trust with high staff turnover intentions and one with average staff turnover intentions was associated with a 0.63 per cent difference in the proportion of total costs spent on agency staff (eg from 4.63 per cent to 4.00 per cent).

The expected proportion of staff costs that are spend on agency spend for trusts that are with high, average and low turnover intentions are:

Health and wellbeing status	Expected proportional agency spend
Poor	4.49%
Average	3.86%
Good	3.33%

Broken down by each trust type separately, this becomes:

Health and wellbeing status	Expected proportional agency spend			
	Acute	PCT	Mental Health	Ambulance
Poor	3.21%	6.21%	4.66%	2.88%
Average	2.61%	5.20%	4.14%	1.91%
Good	2.11%	4.67%	3.65%	1.07%

Although these differences may look small in terms of percentages, they actually represent relatively large financial amounts – an average NHS trust’s staff costs in 2008-9 was over £96 million. For trust with an average wage bill for their type, this equates to the following differences in agency costs between average trusts and those that are high- or low-performing. (Note that this is not necessarily an indication of a total saving, as some agency costs are offset by savings in employing substantive staff).

Trust type	Potential saving	
	Low-performing > average	Average > high-performing
Overall	£609,372	£511,235
Acute	£864,760	£717,561
PCT	£356,355	£231,531
Mental Health	£457,947	£442,709
Ambulance	£989,203	£839,500

10.2
Cost of
absenteeism

Based on an estimate of the costs of absenteeism at £1,681 per employee per year⁵ across the whole NHS, and equivalent estimates for each trust type, the results in Section 8 lead to the following approximate differences in costs of absenteeism between trusts that are average on health and wellbeing and those which are high- or low-performing:

Trust type	Potential saving (absenteeism)	
	Low-performing > average	Average > high-performing
Overall	£356,643	£350,590
Acute	£383,167	£355,739
PCT	£106,580	£107,226
Mental Health	£172,140	£184,519
Ambulance	£448,112	£426,892

Across the whole NHS, the consequence of a change equivalent to moving from average to good health and well-being status across the whole NHS would be a saving of around £137 million in staff costs per year.

⁵ Total NHS staff costs in England 2008-9 = £37,554,407,000 = £37,531 per FTE employee; based on average absenteeism of 4.48 per cent this equates to £1,681 per FTE employee per year. Similar calculations result in estimates of £1,628 for acute trusts, £1,537 for PCTs, £1,846 for mental health trusts and £2,005 for ambulance trusts. N.B. These calculations do not take account of any additional costs caused by absenteeism

Although there are many complicating factors here, such as the differing costs of absenteeism for different occupations and in different parts of the country, and it is impossible to state there is a direct causal link, this does give some indication of the financial consequences of poor health and wellbeing of NHS employees.

It should also be noted that a 'low-performing' trust here is defined as one which is low performing on all four health and wellbeing variables. Although there is a high correlation between these variables, it is often the case that a trust can be worse-performing on one than the others; the same applies in reverse for 'high-performing' trusts. This applies for all subsequent such estimates too.

10.3 Cost of turnover Based on the CIPD estimate of the costs of turnover at £5,800 per employee lost, the results in Section 9.1 lead to the following approximate differences in costs of turnover between trusts that are average on health and wellbeing and those which are high- or low-performing. Note, however, that these costs would probably be very different in some parts of the NHS, and therefore these are indicative cost differences only:

Trust type	Potential saving (turnover)	
	Low-performing > average	Average > high-performing
Overall	£267,187	£224,158
Acute	£367,921	£305,293
PCT	£179,114	£116,374
Mental Health	£191,371	£185,003
Ambulance	£399,515	£339,054

Taken together with the absenteeism costs illustrated previously, the following table gives an estimate of the differences in absenteeism and turnover costs together. This is not necessarily a fair reflection of the true costs, but gives some indication of the possible total differences:

Trust type	Potential saving (absenteeism and turnover combined)	
	Low-performing > average	Average > high-performing
Overall	£623,830	£574,748
Acute	£751,088	£661,032
PCT	£285,694	£223,600
Mental Health	£363,511	£369,522
Ambulance	£847,627	£765,946

11. Management practices linked with the health and wellbeing of NHS staff

This section describes how NHS trust management practices, as measured by the NHS staff survey, are linked to the health and wellbeing of NHS staff. As this used data from all 155,922 respondents to the 2007 staff survey, statistical significance was not sufficient in determining what factors are important. Therefore we select the four most important predictors of the health and wellbeing variables in each case: these typically account for the majority of the effect found.

11.1 Work-related injury

Management practices accounted for a modest but significant amount of the variation in staff work-related injury (3.3 per cent after control variables were taken into account). The main HR predictors of staff injury were:

- Low levels of well-structured team working;
- Poor incident reporting procedures;
- Work pressure;
- Shift working.

A change from 'average' to 'high-performing' status in each of these variables is associated with the following decrease in injury rates:

- 4 per cent (team working);
- 3 per cent (incident reporting procedures);
- 2 per cent (work pressure);
- 2 per cent (shift working).

A 4 per cent decrease in injury rates would represent around 100 fewer staff injured in an average-sized trust per year.

11.2 Work-related stress

Management practices accounted for a much greater amount of the variation in staff work-related stress (14.0 per cent after control variables were taken into account). The main HR predictors of stress were:

- Work pressure;
- Poor job design;
- Low support for work-life balance;
- Working unpaid extra hours.

A change from 'average' to 'high-performing' status in each of these variables is associated with the following decrease in stress:

- 13 per cent (work pressure);
- 8 per cent (job design);
- 6 per cent (support for work-life balance);
- 3 per cent (working extra unpaid hours).

A 13 per cent decrease in injury rates would represent around 330 fewer staff suffering from work-related stress in an average-sized trust per year.

11.3 Management practices accounted for a massive 60.8 per cent of the variation in staff job
Job satisfaction (after control variables were taken into account). The main HR predictors of
satisfaction satisfaction were:

- Good job design;
- Good support for work-life balance;
- Lower work pressure;
- Well-structured appraisals.

These four variables accounted for most of this large effect. A change from ‘average’ to ‘high-performing’ status⁶ in each of these variables is associated with the following increase in job satisfaction score:

- 0.39 (job design);
- 0.18 (support for work-life balance);
- 0.07 (work pressure);
- 0.11 (well-structured appraisals).

For the sake of context, job satisfaction was measured on a scale from 1 to 5, with higher scores representing more satisfied staff. The average job satisfaction score was 3.44 with a standard deviation of 0.71. For a trust which was average-performing in terms of job satisfaction an improvement of 0.39 would see it move to be one of the very best trusts in the country; an improvement of 0.07, meanwhile, would mean it was then better than around 75 per cent of all other trusts.

11.4 Management practices accounted for 29.5 per cent of the variation in staff turnover intentions
Turnover (after control variables were taken into account). The main HR predictors of satisfaction were
intentions almost identical to those for job satisfaction:

- Good job design;
- Lower work pressure;
- Good support for work-life balance;
- Well-structured appraisals.

⁶ This is the change associated with the difference between the average and one standard deviation below the average, except for the well-structured appraisal variable, where it is the difference between having a well-structured appraisal and not having one

These four variables accounted for most of this large effect. A change from 'average' to 'high-performing' status in each of these variables is associated with the following decrease in turnover intentions score:

- 0.32 (job design);
- 0.18 (work pressure);
- 0.17 (support for work-life balance);
- 0.14 (well-structured appraisals).

For the sake of context, turnover intentions were measured on a scale from 1 to 5, with higher scores representing organisations with more staff considering leaving their jobs. The average turnover intentions score was 2.72 with a standard deviation of 1.06. For a trust which was average-performing in terms of turnover intentions, an improvement of 0.32 would see it move to be one of the very best trusts in the country; an improvement of 0.14, meanwhile, would mean it was then better than around 87 per cent of all other trusts.

12. Examples of well-performing and poorly-performing trusts

To illustrate the effects described over the previous sections, it is perhaps useful to consider examples of trusts with very good or very poor health and wellbeing status. The following table shows the outcome measures⁷ for four non-specialist acute trusts: trusts A and B have good scores on all the health and wellbeing variables, whereas trusts C and D have poor scores on these.

Trust	A	B	C	D
Absenteeism	4.21%	4.04%	4.58%	4.70%
Turnover	10.50%	9.79%	11.65%	17.02%
Agency spend	1.70%	2.96%	1.71%	4.57%
Patient satisfaction	78.9	76.4	77.4	67.5
MRSA cases per 10,000 bed days	0.65	0.88	1.56	0.95
Standardised patient mortality rate	87.5	100.2	110.0	100.2
AHC: Quality of services	Excellent	Excellent	Weak	Fair
AHC: Use of resources	Excellent	Excellent	Weak	Weak

Obviously it is not always the case that those trusts with better health and wellbeing of staff will perform better on all outcomes – so, for example, trust C was slightly better than trust B on the patient satisfaction outcome. However, in general there are clear differences between the trusts, in particular with regard to annual health check outcomes.

⁷ Those that have been shown to be significantly linked to health and wellbeing

13. Conclusions

The model described earlier in this report is largely supported by the data, with management practices significantly linked to NHS employee health and wellbeing, and the same health and wellbeing variables linked to multiple outcomes, including staff absenteeism, turnover, agency spend, patient satisfaction, infection rates and annual health check performance ratings. The associated financial costs with some of these outcomes can be considerable.

However, it should be noted that the conclusions to be drawn from these findings are more limited than it might appear. Due to the nature of the analysis, it cannot be concluded that there are causal links even when implied by the model. Moreover, the implied financial costs shown are based on broad estimates of the financial costs of absenteeism and turnover, and may be quite different for many organisations.

Nevertheless, the consistency and the strength of the results do demonstrate the likely implications of maintaining or improving the health and wellbeing of NHS staff, and taken together with the theoretical model suggest that great benefits – both financial and in terms of patient experience – can be gained by doing so.

Appendix 1: Background literature 1: Human capital models

In the current knowledge economy human capital is an essential intangible resource used to provide a sustainable competitive advantage over technology and finance, which once used to prevail (Wright et al., 2001). However managing human capital (unlike other resources such as technology) will not be accompanied by a user manual; instead it is the theories, practices, and models of human resource management (HRM) that provide guidance on how to effectively manage people within organisations.

Human capital is defined as 'the knowledge, skills, and abilities (KSAs) employees possess that bring economic value to firms' (Youndt, Subramaniam & Snell, 2004: 345). Only those attributes that satisfy customer demands and can produce economic value to the firm quantify as the firm's human capital (Becker, 1993). Individual employee productive capacities are aggregated to form a firm's *human capital pool*, which goes beyond KSAs, to include the interaction of human capital with organisational strategy, processes, and culture (Storey, 1995).

Human capital models recognise employees as essential value adding assets (Storey, 1995; Chen & Lin, 2003). Therefore any investment in the productive capabilities of individual employees potentially accrues valuable human capital, which ultimately improves organisational performance. However expenditure is regarded as an investment as opposed to an expense only when it leads to an economic return, eg labour productivity, economic growth and competitive advantage (Becker, 1993; Asefa & Huang, 1994). Anything above the market wage is regarded as investment and thus investment may take various forms, including investment in personal productive capacity through education, training, development, and general health; or even psychological investment to enhance attitudinal dimensions, such as work motivation, commitment and efficacy (Becker, 1962; Mincer, 1993).

The following sections will review human capital theory and specifically consider the implications for the healthcare sector, which is highly labour intensive.

Origins of human capital theory

The term human capital has an economic origin but is now heavily incorporated in management literature. The concept was first popularised by Schultz (1961) who emphasised the importance of *deliberate investment* in human productivity to increase national output and economic growth. Becker (1964) developed human capital theory by suggesting that organisations should make specific choices regarding the investment in human capital, which would depend on a rational analysis of the costs versus benefits. For instance, investment in training is advocated as it is reimbursed via upgraded employee skills, and higher productivity, which is subsequently rewarded through higher earnings for the employee and lower turnover for the organisation (Schultz, 1961; Becker, 1964).

Traditional human capital models suggest that employees ‘pay’ for training by receiving a lower wage or fewer fringe benefits (Becker, 1964). However, Veum (1995) utilised a longitudinal survey to investigate investments in human capital and identified that firms rather than employees pay for general costs. Training was actually found to have a positive impact on wage growth independent of tenure. Moreover, off-the-job training which develops non-firm specific skills, was found to be particularly effective in enhancing employee wages. However, according to human capital theory, organisations should protect their investment by investing in firm-specific training (Becker, 1964). Thus it is the employees’ responsibility themselves to maintain transferable skills.

Performance and human capital theory

All organisations have a concern for increasing performance and effectiveness; this is of particular concern for healthcare organisations (Michie & West, 2004; Harris, Cortvriend & Hyde, 2007). Numerous theoretical and empirical studies confirm that a competent stock of human capital enables both public and private sector organisation to act and function adequately.

Skaggs & Youndth (2004) identified that human capital alongside strategic positioning improves performance in service organisations. Carmeli (2003) conducted research within local government authorities in Israel and identified that strategic human capital has a positive impact on financial performance. Strategic human capital in this case was defined as those organisations possessing a valuable, unique and inimitable, job-educated, experienced and a competent workforce. Furthermore, Carmeli & Tishler (2004) identified human capital as one of six intangible elements that significantly explained organisational performance in 99 Israeli local authorities.

These studies suggest a link between human capital and performance. However the studies are cross-sectional, sector-specific, and there are also conceptual difficulties in terms of defining human capital. Some researchers have used proxies, including education, hours of training, and tenure, as substitutes for actual level of employee KSAs. Such approaches are criticised for oversimplification (Chan, 2000; Delery & Shaw, 2001). More comprehensive measures of *intellectual capital* could be utilised which capture multiple facets of a firm’s human capital, but these go beyond the definition of human capital (see Sveiby, 1997; Stewart, 2001).

There is little research which has looked at human capital and performance specifically in the healthcare sector. The emphasis on human capital and organisational fit means that the composition and impact of a firm’s human capital pool on performance differs across industries and individual firms; thus the results of the above studies will not necessarily translate into healthcare.

HRM and human capital theory

The HRM function directly influences the composition, characteristics, and behaviours of a workforce by providing the tools for acquiring, managing, and maintaining the human capital pool. Traditional human capital theories focus upon the supply side of the labour market but failed to recognise the demand side of the market by considering the role of HR (Strober, 1990). In the 1990s the importance of HR in supporting the development of human capital was explicitly recognised. Accordingly various researchers have examined the relationship between the investment in HRM practices and policies, the impact on the human capital pool and the resulting performance gains (Harris et al., 2007).

According to the resource-based view (RBV) organisations are encouraged to acquire, develop, deploy and manage long-term human resources and capabilities in a way that enhances strategic competitiveness (Wright et al., 2001). In order to do this the focus is specifically on those resources that are unique, imperfectly imitable, non-substitutable and valuable (Barney, 1991). Employee know-how is an essential part of human capital and is perceived as one of the most valuable resources associated with firm success (Hall, 1992, 1993). Accordingly, the RBV has had a powerful influence on the evolution of SHRM, as strategically managed human resources can provide a source of competitive advantage, especially when they are firm specific and of strategic importance.

Wright et al. (2001) developed a framework which suggests a mechanism through which organisations can build sustainable core competencies. The framework suggests investing in a stock of skills and strategically relevant behaviour, and then supporting these components with HR or people management systems, but also emphasise ensuring change and renewal for a long-term competitive advantage, which they refer to as *dynamic capabilities*. This framework suggests that investment in human capital is supported via people management practices, which will lead to a return in terms of performance gains and a long-term competitive advantage.

Complexities arise as the current literature on the HRM-performance link is vastly varied. Researchers have utilised inconsistent measures in terms the specific HR practises investigated and also the performance outcomes of interest vary. This 'highlights the confusing picture in the HRM performance literature regarding which practices, policies and or systems are linked to performance' (Harris et al., 2007: 449). Furthermore there is little research which is specifically conducted in the healthcare sector and those studies that do look at this sector are criticised for being cross-sectional, using inadequate measures and assuming causality (Harris et al., 2007).

Combs et al. (2006) looked at the strength of the relationship between HRM and performance, utilising a meta-analysis, which reduces the effect of sampling and measurement error. They identified that organisations can increase their performance by 0.20 of a standardised unit for each unit increase in high performance work practices (HPWPs) used. These HPWPs impact organisational performance through knowledge, skills and abilities, empowerment, motivation and social structure, and such performance can lead to further investment in HPWPs (Combs et al., 2006). This meta-analysis suggests that systems or bundles of HR practices, as opposed to individual HR practices, will yield the greatest return. However Conway & Monks (2008) suggest that the sophisticated HR practices associated with HPWPs are not always applicable or even valued by employees in the healthcare sector; instead more attention needs to be given to the basics of the employment relationship. Furthermore Combs et al. (2006) also identified that the relationship is stronger for manufacturing as opposed to the service sector organisations because of the routine, standardised nature of the work in manufacturing.

'Health sector work has similar characteristics to the service sector... This coupled with other unique characteristics of the health sector such as types of HR practices used, performance measured and process by which HRM is implemented in organisations may mean that the most effective HRM systems are those that are tailored to specific health settings.' (Harris et al., 2007: 452). Nonetheless, healthcare organisations should recognise HRM systems as mechanisms for increasing the productive capabilities of employees. The overall HRM system that an organisation adopts sends out messages to workers regarding the expectations of the employment relationship and therefore helps to form the implicit psychological contract (Rousseau, 2001). Mental models develop over time and guide individual behaviours, and therefore understanding workers mental models of the HRM system that they experience in relation to their own psychological contract with their employers is an important step in understanding how HRM is linked to performance (Harris et al., 2007: 457)

**Research
in the
healthcare
sector**

Franco, Bennett & Kanfer (2002) suggest that a sufficient human capital pool in itself will not ensure desired performance, as individual employee performance is dependent on the employee's motivation. Motivation is of essential importance in the healthcare sector where service quality, efficiency and equity are all directly affected by workers' willingness to apply themselves. However complexities arise in the health sector as numerous layers influence health worker motivation, including the internal individual-level, organisational level, and broader societal determinants.

Worker motivation and goal congruence will be affected not only by specific incentive schemes, but also by the whole range of health sector reforms (Franco et al., 2002). By drawing attention to this broad range of influences, health policy makers should view worker motivation in a more holistic manner as this will enable them to structure reform programs to more effectively promote worker motivation, and hence improve health system performance. Specifically, Franco et al. (2002) conclude by suggesting that health sector policy makers can better worker motivation by addressing multiple channels for worker motivation, recognising the importance of communication and leadership for reforms, identifying organisational and cultural values that might facilitate or impede implementation of reforms, and understanding that reforms may have differential impacts on various cadres of health workers.

Michie & West (2004) developed a framework linking various organisational influences to organisational performance with a focus on the healthcare sector. The framework supports the notion of investing in effective people management practices, as these will subsequently result in positive psychological and behavioural consequences for the employee, which ultimately enhances task performance. These processes are supported by an appropriate organisations context, ie the resources, organisational culture and the physical environment.

There are two studies which specifically identified that HR practices and systems are associated with patient outcomes in a healthcare setting. West et al. (2002) conducted the first study which established relationships between HRM practices and performance in acute hospital trusts in the NHS. Specifically they identified that sophistication of appraisal had a strongest negative relationship with patient mortality, but the percentage of staff working in teams and sophistication of training also had significant negative relationships with patient mortality.

A further study by West et al. (2006) confirmed that a complementary set of HRM policies and practices had a statistically significant relationship with quality care provision and patient mortality, even when controlling for prior levels of mortality. They suggest that in order to contribute to high quality healthcare the focus should be on developing *high-involvement* HR management systems, including training and development by achieving investor in people (IiP) status, sophisticated performance management and employment security. Although significant there are several limitations of these studies including individually rated measures of HRM, no consideration of mediators and a small sample size.

Appendix 1: Background literature 1: Human capital models

Gowen et al. (2006: 818) also identified that hospital errors can be successfully addressed with appropriate quality management practices and strategic HRM. Furthermore, the impact on sustainable competitive advantage is greatest for strategic HRM, which includes employee teams, training, information sharing, rewards, recognition and promotion opportunity. Their research suggests that hospitals should exploit strategic HRM practices as they offer unique opportunities for reducing errors, providing results and creating competitive advantage. However organisations should recognise that when introducing new HRM policies and practices the success will be impacted by the implementation process (Purcell et al., 2003).

Guest & Conway (2004) conducted a survey with British workers across a range of sectors including the NHS (8 per cent). They identified a cluster of practices associated with the concept of the 'good employer' (progressive HR practices, flexible family-friendly practices, effective supervisory leadership and the delivery of promises leading to perceptions of fair treatment and high levels of trust) strongly associated with positive outcomes (higher levels of worker satisfaction, commitment, excitement, motivation and lower intention to leave). Although they had a limited sample of NHS staff, they determined that the NHS has a unique set of working characteristics. NHS respondents were more likely to report higher levels flexibility, their employer's also made more promises and commitments to them than other sectors, and they reported higher levels of commitment, work satisfaction, loyalty to clients and stress.

Preuss (2003) identified that HPWS promote effective information processing and decision making and ultimately superior healthcare. In hospitals, work systems must support employee capacity to interpret equivocal information as part of ongoing decision making and by implementing HPWPs can improve information quality by granting responsibility over information interpretation to employees who have critical knowledge, and making the information available for ongoing process improvement.

Berkery et al. (2009) issued a postal questionnaire to the HR managers in 93 intellectual disability care (IDC) centres in Ireland, with the objective of determining the managerial perceptions of HPWPs at an organisational level. The areas of HPWS in which the centres achieved the highest score were service user focus and teamwork, whilst communication between management and employees scored least favourably. It is proposed through the efficient use of employees the quality of care provided will be maximised and increased through the use of HPWS. The researchers recognise the limitations of the study, including sample size and sample bias.

Despite the limitations these studies recognise a link between investment in HRM in the healthcare sector and positive performance outcomes. Overall, Harris et al. (2007: 455) suggest that *'in order to advance our understanding of the links between HRM practices and important outcomes in the health sector, additional research aimed at understanding the psychological processes through which HRM can effect individual performance may help to illustrate how HR practices translate through the individual to lead to the patient and other performance outcomes'*.

**HR
architecture –
A human
capital model**

Investment in staff training in the healthcare sector is vital to meet the high standards of care. However, according to a CIPD report, the median training spend per employee in the UK is £220 (down from £300), while the budget per employee of organisations specially in the public sector has fallen to £127 per employee compared with £222 in 2008 (CIPD Learning and Development Survey Report, 2009). This fall is likely to have been influenced by the economic downturn.

Not all employees are of strategic importance and therefore organisations can make informed decisions regarding the investment (training, HR support etc) depending upon the employee group in consideration. This is particularly true in the healthcare sector where the workforce is large, diverse and comprises of many occupational groups; including cleaners, doctors, managers, nurses, volunteers, clerical workers etc. An employee's psychological contract will differ according to occupational norms and ideologies (Rousseau, 2001) and the specific job will determine the employment relationship (Tsui, Pearce, Porter and Hite, 1995).

Lepak & Snell's (1999) developed the *HR architecture model* which proposes four categories for managing human resources. The model draws upon the theoretical background of transaction cost economics, human capital theory and the RBV. It suggests that the most appropriate type of investment in human capital will vary in line with a strategic and cost/benefit consideration. The strategic value of the human capital is contrasted relative to costs incurred in human capital investment, and the extent to which the human capital in question is unique to the firm. Investment is considered in terms of 'make' versus 'buy' and then accordingly an appropriate HR configuration is deployed. The model suggests four different *employment modes* can exist within one organisation (see Figures 1 and 2 on the next page):

Appendix 1: Background literature 1: Human capital models

1. *Internal development*: Only when human capital is both high in uniqueness and in value-creating potential, should an organisation-focused employment relationship be deployed, which is characterised by long-term mutual investment and a commitment maximising HR system. In this case the organisation develops human resources internally as the investment in employee skills is justifiable in terms of potential return.

>For example experienced doctors, nurses, and other front-line service delivery staff.

2. *Acquisitions*: Human capital that is high in value but low in uniqueness is acquired from the external market rather than developed internally. The low idiosyncratic nature of the human capital means that it can be easily employed by competitors. Thus firms would not gain returns on investments in training and development should the employees leave to work for competitors.

>For example general managers, recent graduates or trainees.

3. *Contracting*: For human capital that is low in both value-creating potential and uniqueness should be contracted-in, for example by deploying agencies to recruit temporary staff. The employment relationship is transactional in nature and job focused, and thus the HR systems are designed to simply ensure compliance.

>For example voluntary or temporary staff, including cleaners, cooks and admin staff.

4. *Alliances*: Finally the alliance mode is utilised for highly unique human capital with low value-creating potential. In this case HR should be configured to ensure collaboration, which will support the partnership focused employment relationship mode.

Lepak & Snell (1999) suggest that effective implementation of this model will have an internal synergistic effect in terms of maximising a firm's human capital and ultimately result in a competitive advantage. The model helps organisations to focus upon increasing the efficiency and effectiveness of the most strategic human capital within an organisation, and allows for the effective exploitation of market opportunities, and could potentially reduce the impact of external threats. Although the model is logical there is little evidence of its successful implementation. Furthermore, complexity is likely to arise in terms of maintaining the various HR configurations of staffing, training, appraisal, and reward practices. Additionally treating employee groups differently may lead to motivational issue, especially with regard to perceptions of equity (Adams, 1965).

Summary

Employee know-how is an essential part of human capital and is perceived as one of the most valuable resources associated with firm success (Hall, 1992, 1993). Organisations should aim to create strategic human capital that is specific to the organisation but also aim to best serve the wider context in which the firm operates. However organisations, and in particular those in the healthcare sector, have a diverse range of employees. According to human capital theory such organisations should make an informed decision regarding the investment in different employee groups, depending upon the strategic value and uniqueness.

Appendix 2: Background literature 2: New developments in healthcare models

Michie & West (2004) carried out an empirically based literature review, and in doing so proposed a model exploring human resource management (HRM) within the public healthcare sector. The model looks to describe the relationship between people and the management of their performance in respect to the resultant organisational effectiveness in the healthcare setting. The authors suggest that the model is representative; however they state that the application of the model will be contingent on 'future empirical research using appropriate research designs, sufficient study power and measures that are reliable and valid.' (Michie & West, 2004; pp. 91). Furthermore, the model has been formed from a thorough but not exhaustive literature search, incorporating diverse findings from international contexts which goes some way to ensuring that the predictions incorporated in the model may be generalised.

Michie & West (2004) draw on five linking factors which previous research has exposed in order to form their model. The five proposed constructs are outlined below:

1. *Context.* The major contextual features of an organisation have been identified as its culture, climate and inter-group relations. More recently, empirical evidence has highlighted the importance of climate strength (Dawson, Gonzalez-Roma, Davies & West, 2008) and organisational structure (Toh, Morgeson, & Campion, 2008) as additional contextual factors.
2. *People management.* Specific management practices which directly impact on those who work within the organisation fall under the definition of people management. Some key practices include the management of culture, job design, the encouragement of teamwork and employee involvement as well as leadership and support. The specific domain of human resource management (HRM) identifies a further set of important performance management practices such as recruitment, selection, induction, training, appraisal and the implementation of reward systems. These practices all aim to exert a positive influence on employee performance and consequently enhance the performance of the organisation. HRM also involves the formation of people management strategies that are aligned with broader organisational strategies with the aim of enabling the organisation to better achieve its goals.
3. *Psychological consequences for employees.* Three psychological consequences which result from people management practice have been identified to be knowledge, skills and motivation. Additionally, the impact of work demands and support available has been proven to affect the physical and emotional health of employees (Williams et al., 1998).

4. *Employee behaviour.* Research has distinguished between task and contextual performance related behaviours (Borman & Motowidlo, 1993). While task performance behaviours focus on the core skills and competencies needed for good job performance; contextual performance behaviours are involved with building an effective community and thus effort exerted contribute towards organisational performance. Key behaviours identified by Michie & West (2004) include 'absenteeism and rate of turnover, [and] errors and near misses' (pp. 94).
5. *Organisational performance.* In the healthcare setting, organisational performance is directed towards the key values of the organisations. These comprise of indicators of efficient and effective job performance such as quality of patient care.

Michie & West (2004) base each of these constructs in evidentiary links provided from their literature search. The links uncovered by Michie & West will now be summarised, and following a literature search of more recent empirical evidence related to the constructs, will be updated.

Links between organisational culture and performance

Organisational culture and performance

Evidence in the healthcare literature appears to support the notion that organisational culture and performance are inextricably linked. The exact nature of the two constructs has been widely theorised. It is generally accepted that organisational culture includes the values, attitudes and beliefs that are shared among organisational members (Schein 1985). Researchers have tended to assess organisational culture using the Competing Values Framework (CVF) which specifies four organisational cultural types according to two main dimensions, namely the ways in which processes are carried out within the organisation and the direction of focus of the organisation to the outside world.

By contrast, a wide variety of measures have been used as criteria of organisational performance, especially within healthcare settings. Some of the more widely used measures in the literature include NHS trust star ratings, Clinical Governance Review ratings as well as health and financial outcomes. The vast range of criteria used makes it somewhat difficult to conclude with confidence (a) whether a relationship between organisational culture and performance exists and (b) the direction of such relationships. Nonetheless, recent evidence in the literature has begun to shed light on these two issues.

A study by Davies et al. (2007) examined the relationships between senior management team culture and organisational performance in 197 UK hospitals. Organisational culture was assessed using the CVF measure which classified hospitals according to four cultural types whilst performance was measured across multiple indicators. Results revealed a contingent relationship between culture and organisational performance in that the aspects of performance which are valued most within a particular culture are also the aspects of performance in which the organisation is most successful. For example, hospitals with a dominant clan culture scored highly on measures of staff morale and treating patients with respect and dignity which corresponds to their dominant values, including a strong emphasis on internal organisational integrity and the importance of interpersonal relations. In accordance with the contingent perspective, hospitals with clan cultures also scored poorly on external measures of success such as star ratings, arguably because of their high internal focus. These findings therefore offer support for the existence of a relationship between organisational culture and performance. However, it must be noted that due to the cross-sectional design of the study it is not possible to determine causality and so we cannot assume that it is culture which affects performance; performance could plausibly shape organisational culture also. Consequently, longitudinal research is needed to ascertain the direction of the linkage between culture and performance.

Organisational climate and performance

A closely related construct to organisational culture is organisational climate. Organisational climate does not look to describe the 'deeper' elements associated with organisational culture, such as norms and espoused values and rituals, but reflects a shared perception among employees about certain facets of organisational functioning. A recent study linking the contextual factor of organisational climate with hospital performance comes from Shipton et al. (2008). The researchers were primarily interested in the impact of leadership on hospital performance and the mediating role of climate; however their analyses did produce evidence of direct relationships between climate and performance. This study was concerned with 'care quality' climate which can be understood as the general perception within the organisation that the needs of the patient come before any other operational demands. Results indicated that care quality climate does indeed impact on performance and showed a positive relationship with star ratings and a negative relationship with patient complaints. The researchers suggest that care quality climate may enhance hospital performance through staff responding more sensitively to patient concerns and consequently resolving medical issues more quickly as well as through instilling a sense of wellbeing in patients which encourages their recovery.

The literature on organisational climate has recently begun to consider a new concept, that is, climate strength. This refers to the extent of agreement between individuals about organisational climate. A study by Dawson et al. (2008) examined the role played by climate strength in the relationship between climate and organisational performance in 56 UK hospitals. Climate was assessed across three dimensions, including wellbeing, quality and integration and a range of performance indicators were used based on the clinical governance review. Results reported direct positive relationships between the climate dimensions wellbeing and quality with performance. Therefore, climates which are characterised by high concern for employee wellbeing and quality patient care are associated with higher performance ratings. Findings for the climate dimension integration revealed a curvilinear effect of climate strength on performance. This relationship showed that for the climate dimension integration (the extent to which teams work together to achieve goals) climate strength exerted a positive influence on performance up to a point, beyond which performance deteriorated. The researchers argue that this is conceivable in a hospital setting. They point out that while some employees will be required to interact with others when performing tasks, this is not the case for everyone. Therefore, very high climate strength which reflects strong agreement about high levels of integration may be beneficial for the performance of those employees who do work within teams but detrimental for the performance of those employees who have less collaborative roles. Likewise, very little climate strength which reflects little agreement about levels of integration may result in poor performance due to lack of direction and purpose across teams or individuals. In other words, there is an optimum climate strength for certain climate dimensions, such as integration. Despite the methodological limitations noted by the researchers, these recent developments in the literature have expanded our understanding of the impact of climate on organisational performance by highlighting the influential role of climate strength.

Links between organisational context and people management

In addition to its impact on organisational performance, organisational context also has a significant influence on the people management practices adopted by an organisation. Recent evidence from Toh, Morgeson & Campion (2008) examined how organisational context, which they defined in terms of cultural values and organisational structure, influences the HRM practices employed by an organisation. The researchers considered three kinds of cultural values emphasised by organisations, including the values of people orientation, stability and innovation. Organisational structure referred to how mechanistic the organisation was, for example, the existence of a strong hierarchy and standardised work flow procedures. The researchers identified two extremes of the kind of HR practices used in organisations, namely HR practices that aim to enhance employee commitment and those that aim to minimise costs.

Results indicated that the kind of HR approach adopted by an organisation was associated with the context in which that organisation was embedded. Specifically, organisations employing a 'commitment maximising' HR approach were more likely to have people oriented and innovative cultural values and a mechanistic structure while organisations employing a 'cost minimising' HR approach were less likely to emphasize these cultural values nor operate under a mechanistic structure. Consequently, this study offers support for the argument that organisational context can have a significant impact on people management within an organisation. It must be noted however that this study considered only two contextual variables and the researchers recognise the importance of considering broader contextual factors. They highlight research from Johns (2006) who demonstrated the influence of contextual factors on organisational behaviour which could in turn influence decisions made about performance management systems.

Inter-group and interdepartmental relations in organisations

A further important concept to consider within the context of an organisation is the existence of groups and teams. This has implications for inter-group relations which need to be managed effectively in order for groups to work cooperatively and productively. It is well established in the social psychological literature that identification with a group can lead to inter-group discrimination and conflict. Groups are a key feature of the organisational framework in hospitals; however problems can arise when these groups are required to collaborate in order to provide the range of services needed to meet patient needs. Consequently, managers need to be knowledgeable of the means through which to promote harmonious inter-group relations. Research by Richter et al. (2006) examined the relationship between work group identification of group boundary spanners and effective inter-group relations across five healthcare organisations. They defined group boundary spanners as those group members (usually leaders) who engage in transactions with out-group members. They reported two significant findings. Firstly, a positive relationship was found between boundary spanners group identification and effective inter-group relations when boundary spanners showed high levels of organisational identification. Therefore, boundary spanners who identify strongly with both their sub-group and the wider organisation are associated with positive inter-group outcomes. Secondly, a positive relationship was found between boundary spanner's group identification and inter-group productivity when out-group contact was frequent rather than infrequent. These findings therefore offer an insight into the factors that promote effective intergroup relations in healthcare organisations. Interventions which aim to increase organisational as well as group identification and high levels of inter-group contact are likely to increase harmonious and productive inter-group relations. Hospitals which create organisational contexts that endorse

these approaches are arguably more likely to see positive effects on psychological employee consequences and employee behaviour.

**Links between
people
management
and
performance**

The literature reported by Michie & West (2004) regarding people management practices and organisational performance provides evidence for the model which their review proposes. In particular the use of high performance work systems (HPWS) is well-linked with improved organisational performance. This improvement in performance has been found in the financial outcome for an organisation in shareholder equity as well as in profits (Huselid, 1995). Michie & West (2004) report that the formation of HR practices in alignment with the corporate strategy of an organisation will give rise to a number of improvements in areas such as task performance, implementation of strategy and organisational performance. Indeed, HR 'bundles' and organisational performance have been consistently linked in much of the strategic human resource management (SHRM) literature (Rogers & Wright, 1998). Furthermore, Tsui et al., (1992) propose that the use of progressive HR practices improve employee job satisfaction and as a result; organisational citizenship behaviour increases, and organisational performance (both productivity and profitability) improve (Vandenberg, Richardson & Eastman, 1999). In terms of the healthcare sector, organisational performance improvements can be viewed through indicators other than profitability. Outcomes of practices employed by HR management, particularly those practices promoting appraisal, training and teamwork, have been linked to lower patient mortality (West et al., 2002).

Training

Michie & West (2004) found 26 studies which report the link between employee training and overall organisational effectiveness. Indeed organisational performance was found to be inextricably linked to training across a large proportion of the literature. In the longitudinal studies, these relationships were all positive, indicating that the effects of training were long-lasting (Bartel, 1994). Across the 26 studies, training was found to have diverse positive effects on learning and development of employees as well as work behaviour and performance. Yet these were dependent on the relevance of the training and also the opportunities and support available to employees (Tharenou & Burke, 2002). Tharenou & Burke (2002) report that training has a positive impact on HR outcomes. Arthur et al. (2003) found a high correlation between the support for training made available by the organisation for employees and the resultant performance. Further to this, Vandenberg et al. (1999) found that the availability of training to employees was related to a reduction in organisational turnover.

More recent research conducted in this literature review provides further compounding evidence for the impact of training on organisational performance. Lignon et al., (2007) conducted research which demonstrated the improvements in the effectiveness and skill base of managers, as well as in job behaviours and performance, that training can generate. Yeh (2006) has suggested that higher investment in HR will accrue a higher human capital, leaving the organisation enabled and functioning well. Mayo (2001) discussed the 'major contribution to performance' (p. 143) that the culture, knowledge and people in an organisation can make. In a recent speech for the CIPD (2009) Mayo argued that each organisation (whether public or private sector) should create and maintain a talent database for training and development, and that this is crucial in ensuring that they are able to continually improve and renew skills in line with their strategic initiatives. Bontis & Serenko (2009) reinforce this idea and propose that knowledge management strategies over time are key for achieving optimum outputs in a long-term healthcare setting.

Job Design

Michie & West (2004) outline the five core characteristics central to the job characteristics model (Hackman & Oldman, 1975) and the impact that they have on the psychological states of employees when increased. Focussing on increasing these five areas, ie carrying out job enrichment, is associated with higher motivation, satisfaction and as a result, better performance. This increased performance was found to be a quick response to enrichment (Campion & McClelland, 1993; Locke & Henne, 1986). Additionally, Michie & West (2004) also found extensive evidence in their literature review that job enrichment linked to the management of organisation and individual work factors. The use of job enrichment and skill enhancement, that is employee empowerment, was found to predict organisational productivity and that the extent to which employee empowerment is occurring in an organisation would bolster improvements in organisational performance (Patterson et al., 2002).

Recent research has further verified the practical application of JCM (Hackman & Oldman, 1975), which was found to be useful in the healthcare sector in a study conducted in Turkey (Öztürk et al., 2006). In this study the satisfaction among nurses was particularly low (20 per cent of those surveyed reported being dissatisfied in their employment), with the JCM found to be critical in lower levels of dissatisfaction. Bjork et al. (2007) reported that the 'clinical ladder' programme lead to decreased intentions to leave, and increased competence and learning as nurses progressed in the ladder. Employee engagement in this programme was extremely low, with only those with high levels of intrinsic motivation holding it in esteem. However, Yeh (2006)

suggests that the ability for employees to perform work-related tasks was dependent on their psychological and physical health. Little research exists on the physical health of employees, however; this is an important point for HR practitioners to consider when reviewing the area of job design and enrichment.

Team Work

In terms of the effect team work has on organisational performance, Michie & West (2004) report some interesting and definitive findings. They report that employees who play a part in teams receive better peer support, have better mental health and greater clarity in their role, as well as being buffered from negative influences of conflict and the organisational climate. Macy & Izumi (1993) conducted a meta-analysis which revealed that interventions focussing on team-work had the most profound effects on organisational performance in terms of financial outcomes. Furthermore, two elements of organisational performance; efficiency and quality, were found to be related to team work (Applebaum & Batt, 1994). The quality of team work in a healthcare setting was found to be strongly related to the effectiveness of organisational performance and innovations within that performance (Michie & West, 2004).

More recently, and more specifically for the purposes of this review, research has focussed on team work in the healthcare sector. Improvements in patient care and also the effectiveness of organisation were found to be accounted for by team processes, namely decision-making (Lemieux-Charles & McGuire, 2006). Team effectiveness and staff satisfaction were found to be influenced by key team-related processes including communication, collaboration, conflict resolution, cohesion, leadership, coordination, decision-making and participation (Lemieux-Charles & McGuire, 2006; pp. 267). Weiner et al. (2006) conducted research into hospital level quality indicators which was shown to be associated with quality improvement. Participation in quality improvement teams related to higher values in level quality indicators. Berkery et al. (2009) state that the implementation of HPWS is associated with team work, and as previously discussed HPWS usage has been found to increase organisational performance (Huselid, 1995). Finally, Wilson et al. (2005) uncovered evidence which indicated that team effectiveness in complex environments was decreased. They go on to suggest that the healthcare sector would benefit from becoming a high reliability organisation, where effectiveness and safety in teams are balanced and are not buffeted by environmental intricacies. They then propose strategies and outlines for the healthcare sector regarding the achievement of high reliability status.

Employee Involvement

The basic premise of employee involvement is that employees possess large volumes of knowledge that is extremely useful to the organisation (Jones, Kalmi & Kauhanen, 2006). Managers must ensure that employees are able to involve themselves in important decisions, and that the appropriate skills and incentives are available for them to do so (Applebaum et al., 2000). Michie & West (2004) discuss the result of these three managerial contributions in terms of increased job satisfaction and productivity, as employees will increase the effort input into their job role (Applebaum, 2000). Further to this, Michie & West (2004) found through their literature review that this participation is most effective when employees possess the appropriate capability, motivation and prospect to involve themselves in decision making (Cotton, 1996; Heller et al., 1998).

Cotton (1996) suggests that moving to use employee involvement as a people management policy should give employees the opportunity to use initiative and drive themselves towards repeated advances, as well as increase the degree of control they possess. However, Michie & West (2004) find that the research around this area is often unclear and results require complex interpretation. However, they do propose that in contemporary research elements of the requirement of mutual trust has begun to materialise. In more recent research, Berkery et al. (2009) state that the implementation of HPWS is associated with focus on customers. The relationship between increased job performance and participation in the budgetary process in managers has been shown to enhance self-reported job related knowledge and also self-efficacy (Heath & Brown, 2007). Participatory management and feedback during performance appraisal have been shown to predict a healthy working environment (Arnetz & Blomkrist, 2007).

Leadership

The performance of leaders within an organisation has a significant impact on its overall performance. Michie & West (2004) explain that while there is a wealth of research surrounding leadership and performance, there is little consensus on the characteristics of good leadership due to the subjectivity of the assessments. A good relationship between leaders and their subordinates is characterised by mutual trust and respect, especially in the case of performance management, and will result in improved performance (Yukl, 1998). While there is little consensus with regards to features of good leadership and more research is required in order to clarify these features, there are some broad themes which emerge from the literature (Michie & West, 2004). Additionally, there is some evidence linking leadership and its processes with

performance outcomes. Borrill et al. (2002) report that in the healthcare sector, poor patient care outcomes are resultant of a range of factors associated with poor leadership, including; lack of support, leadership related conflict, low satisfaction and commitment, psychological distress and ineffective teams. Top-down management styles are associated with high performance in hospital trusts (Mannion et al., 2003), while poor performance was characterised by elements such as lack of acknowledgement of HR policy, confusion, and a lacking of the necessary transactional or leadership skills.

Recently, Fisher (2007) proposed that promoting the most suitable employees is fundamental to the success and performance of an organisation. Effective people management is vital to organisational performance, and in particular better patient care (Redman et al., 2007). Emotional intelligence in the leadership style of nurse managers has been shown to be irrelevant in empowering subordinates if span of control is more substantial.

**Links between
people
management
and
psychological
consequences
for employees**

A wealth of literature has consistently demonstrated the relationship between work characteristics and their psychological impact on employees (Williams et al, 1998; Stansfeld et al, 1999; Michie & Williams, 2003; Michie & West; 2004). The work characteristics most commonly reported in the literature that impact upon the psychological ill-health of employees are 'work demands (long hours, workload and pressure), lack of control over work and poor support from managers' (Michie & Williams, 2003; p.7). This relationship will create apprehension among HR professionals within the NHS because their staff survey (2008) reported that 47 per cent of staff in the NHS are overwhelmed in work and 46 per cent of staff do not have enough time to do the job properly. However, the survey also reported that the number of staff suffering from work-related stress (28 per cent) has decreased from the previous year findings (33 per cent). Despite this reduction in work-related stress among NHS employees, over a quarter of NHS staff are still reporting cases of work-related stress and thus, attention must be given to improving the work demands and support given to employees.

There a number of approaches organisations could adopt to improve the psychological wellbeing of employees. It is fundamental that organisations focus their attention on preventative interventions. McVicar (2003; p.640) has indicated that this 'requires more research into identifying the most effective way of detecting when individuals are experiencing early difficulties'. Bennett et al. (2001) detected within a study of nurses that a majority of the participants working morning shifts felt stressed because of child-care arrangements. The study made two recommendations to relieve this problem. Firstly, the shift patterns could be changed

with the intention that nurses start their shift half an hour later. Secondly, a degree of flexibility could be provided so that if nurses are late, they can easily obtain the information needed for their shift without having to disrupt another nurse's duties. Bennett et al. (2001; p.62) indicated that 'this simple, responsive, process made a significant contribution to the effectiveness of the ward staff and the stress they experienced'. A further study has also confirmed that the introduction of work hour limits amongst medical resident employees has an impact on reducing their levels of burnout (Martini et al., 2006). Alternatively, organisations could place importance on teaching staff the ability to control their work. Michie & Williams (2003) indicated this to be an effective stress management intervention in reducing stress hormone levels amongst employees. This mechanism of teaching staff the ability to manage the stressors that affect them has been developed into a policy by the East of England Ambulance Service NHS Trust ('Managing Stress and Enhancing Psychological Wellbeing Policy', 2009).

The effectiveness of these interventions is consistent with the demand-control model of job strain (Karasek, 1979). They have highlighted that organisations should implement preventative interventions to enable employees to deal with high job demands in the workplace. The job strain model highlights that employees with high job demands and low decision latitude (lack of control over skill use, time allocation and organisational decision) cannot moderate any stress caused (Kuper & Marmot, 2003). West (2001) has highlighted the importance of moderating decision latitude through decentralised decision-making making, and employee participation and involvement. Tomer (2001) has highlighted that organisations which implement these high-performance work systems will experience the rewards of enhanced employee motivation. However, a further study has affirmed the importance of HPWS in terms of increasing positive psychological outcomes for employees (Conway & Monks, 2008). Therefore, organisations must adopt a range of interventions that address both aspects of the job strain model (high job demands and low decision attitude) to ensure that psychological consequences of employees are well managed.

Links between psychological consequences and employee behaviour

Michie & West (2004) highlighted that there are three main factors which mediate and/or moderate the association between work factors and employee outcomes of work performance and absenteeism/turnover:-

- Health and stress;
- Satisfaction and commitment; and
- Knowledge, skills and motivation.

Health and Stress

It has been demonstrated above that work factors are related to psychological consequences for employees (Williams et al., 1998; Stansfeld et al., 1999; Michie & Williams, 2003; Michie & West, 2004). A study of UK hospital trusts indicated lower rates of psychological ill-health in hospitals characterised by smaller size, greater co-operation, better communication, more performance monitoring, a stronger emphasis on training and allowing employees to have more and flexibility in their work (Wall et al., 1997). It is fundamental that organisations implement initiatives like those outlined above to decrease the levels of psychological ill-health suffered by employees.

This is argued on the basis that empirical studies have highlighted the relationship between psychological ill-health with absenteeism and turnover. Hannigan et al. (2004) highlighted the impact of stress on burnout, ill-health, high workforce turnover and absenteeism. In terms of the relationship between psychological ill-health and absenteeism, a study of workers at eight aluminium plants in Norway indicated that musculoskeletal disorders accounted for 45 per cent of all working days lost (Morken et al., 2003). The study demonstrated that widespread and low back pain experienced by employees in 1998 predicted short-term and long-term sickness absence in 2000. A further study indicated the relationship between sickness absence with work that is characterised by extreme bending, repetitive monotonous work, low skill discretion, low decision authority and current and former smoking (Labriola et al., 2006). A number of studies have also highlighted the association between high absenteeism with higher intention to leave and subsequent resigning (Firth and Britton, 1989; Hackett, 1989; Price and Mueller, 1986). The importance of addressing the problems of psychological ill-health in employees is also justified in terms of improving individual job performance. Parker & Kulik (1995) demonstrated the impact of stress and burnout within a sample of nurses on supervisor-rated job performance. A further study has highlighted the relationship between nurse burnout and patient satisfaction (Vahey et al., 2004). The findings indicated that nurses that worked within departments with adequate staff and good administrative support reported significantly lower levels of burnout. The results highlighted through these empirical studies have reinforced the importance organisations must place on improving the position of psychological ill-health amongst employees.

Satisfaction and Commitment

Murrells et al. (2008; p.1) has emphasised the importance of job satisfaction amongst nurses in terms of its 'impact on patient safety, staff morale, productivity and performance, quality of care, and retention and turnover'. A literature review exploring job satisfaction among nurses

highlighted the close relationship between job satisfaction with job stress, role conflict and ambiguity (Lu et al, 2005). The authors contended that job satisfaction is not only contingent upon the nature of the job but also on employee expectations in terms of their achievement and support. Therefore, it can be argued that fulfilling the needs of employee psychological contracts is a crucial component in maintaining job satisfaction. A qualitative study of 130 nurses and midwives in four London hospitals highlighted that the two main sources of job dissatisfaction were staff shortages and poor management (Newman, 2002). In terms of the relationship between job satisfaction and performance, a meta-analysis demonstrated a mean true correlation of 0.30 (Judge et al, 2001). Commentators have recommended approaches organisations can adopt to improve job satisfaction among nurses to include improving intra-professional team work and inter-professional team work with medical colleagues (Adams & Bond, 2000).

A study exploring the impact of psychological ill-health on absenteeism amongst health-service staff in the UK highlighted that higher levels of psychological distress amongst employees predicted a greater number of days and number of times absent (Hardy et al., 2003). A review of three meta-analyses of the relationship between job satisfaction and absence frequency and duration indicated correlations to be -0.21 and -0.23 respectively (Hackett, 1989). In terms of the relationship between job satisfaction and turnover, Hom & Griffeth (1995) discovered a correlation of -0.19. More recent studies have also confirmed this relationship within a sample of nurses (Adams & Bond, 2000; Hayes et al., 2006).

Michie & West (2004) confirmed this relationship. They reported an interesting finding of a study by Rusbult & Farrell (1983) where job satisfaction was found to be a powerful indicator of employees' decision to stay or leave in a longitudinal study of nurses. A further study confirmed the organisational commitment has a direct influence on turnover intention in a study of nurses (Lum et al., 1998). These findings have confirmed the value of ensuring job satisfaction and organisational commitment within the healthcare sector.

Knowledge, skills and motivation

There are a number of studies which provide support for the relationship between knowledge and skills and employee behaviour, however evidence for the impact of motivation on employee behaviour is lacking. With regards to the former relationship, West (2002) highlighted the importance of annual appraisals of doctors for their continuing professional development. Specifically, feedback on their individual job performance is associated with improvements in

performance and reductions in error rates. Additional evidence from Firth-Cozens (2001) found that improvements in patient care result primarily from organisational and individual learning. Furthermore, team work was shown to be a powerful force for bringing about the management of patient safety and better quality of care. These studies demonstrate the impact of knowledge and skills on employee behaviours that are important for overall effective performance.

Firth-Cozens et al. (2003) offer further support by exploring the issue of whistle-blowing in the healthcare sector. A quarter of the participants in the study had reported errors in healthcare; however the results should be used tentatively because participants were only from one organisation. The authors recommend that improved clarity is needed into the areas which must be reported and clear systems should be introduced for doing so. Safety should also be assured for those that have the courage to report. Reporting errors is crucial in the healthcare sector because it is the learning from these errors that will improve patient care over time. Ultimately the development of knowledge and skills leads to enhanced employee performance.

The studies discussed focus specifically on the effects of knowledge and skills on task performance. However, the literature still needs to explore the effects of these two variables on contextual performance in order to provide a fuller understanding of the criterion of employee behaviour. Furthermore, evidence is needed to elucidate the effects of motivation on employee behaviour in a healthcare setting.

Appendix 3: Background literature 3: Financial consequences of HR outcomes

This appendix explores the relationship between human resources (HR) management practices and the outcomes impacting on both the organisation and the employee. Huang (2001) has identified a number of HR outcomes to include staff morale, organisational climate, organisational commitment and job satisfaction. The direct relationship between the HR outcomes of organisational commitment and job satisfaction with absenteeism and turnover has long been demonstrated in empirical research (Somers, 1995). It has also been proposed that an interaction between employee involvement and organisational commitment can have consequences for turnover and absenteeism (Blau & Boal, 1987). Furthermore, elements of organisational commitment have been found to better predict turnover in psychiatric health employees than outcomes such as job satisfaction (Porter et al., 1974). The implementation and tailoring of HR policies are key techniques which have been found to affect performance outcomes such as motivation, commitment and satisfaction (Harris, Corvriend & Hyde, 2007). For example, training has been proven to have a positive effect on HR outcomes (Tharenou & Burke, 2002); however, the authors of this study reinforced that this was contingent upon the content of the training and the employees' ability to apply this training in the work environment.

West et al. (2006) suggested that the healthcare sector is 'concerned with maximizing effectiveness through the adoption of appropriate management policies and practices' (p. 983). HR practitioners within the NHS will use the NHS constitution as a framework for the development and implementation of NHS HR policies. The NHS constitution (published 2009) has been formed following surveys of patients and the public as well as staff, such as the NHS national staff survey and the Department of Health 'What Matters to Staff' survey (2007). HR practitioners operating within the healthcare sector must be aware when formulating HR policies of the impact they can have on HR outcomes. It is vital when considering the approach that HR will take, that an appropriate method of people management is selected. The approach will have an impact on organisational performance as well as the four outcomes outlined by Huang (2001). An effective HR approach to people management is that of high performance work systems (HPWS) which have been found to increase performance in hospitals (eg Berkery, Tiernan & Armstrong, 2009; see Appendices 1 and 2 for further evidence).

As specified above, two main outcomes for HR professionals are absenteeism and turnover rates, both of which cause significant costs in time and money lost to organisations including the NHS. This review explores the figures behind these end results of HR practices and looks to establish some essential approaches which can reduce the impact of these two outcomes.

Absenteeism

Fundamentally, absenteeism is problematic to organisations in that the days of work lost can impact on organisational performance, while the money lost can have serious financial implications. The CIPD Annual Survey of Absence Management (2008) has reported that levels of absenteeism in the public sector are higher than in the private sector (average 9.8 days per employee, per year, compared with 7.2 days). In the healthcare sector this was reported to be 11.7 days, indicating a major challenge which the NHS must face.

Mercer (2008) identifies three areas of 'financial impact' on organisations, namely the direct costs (the pay or benefit provided to an employee for time not worked), the indirect costs (the cost of replacement workers and lost productivity due to replacement workers) and the administrative costs (the costs for internal staff, software, office space and equipment to administer absence pay and record absence data). The CIPD Annual Survey of Absence Management (2008) has reported that the average cost of absence to be £666 (per employee, per year) which increased slightly from the figure reported for the previous year (£659). More than eight out of ten respondents also reported that absence is a significant or very significant cost to their organisation. Additionally, the survey reports that the average annual cost of absenteeism (per employee, per year) within the public healthcare sector is £1,153. Elements included in this cost of absence were found to be administration, overtime costs, the costs of reduced performance, replacement labour costs and sick pay (occupational or statutory). This survey also found that 85 per cent of healthcare respondents had created targets aimed at reducing absenteeism.

While these statistics seem to compound the evidence that absenteeism is a key challenge that HR practitioners are facing, Sian Thomas (the Joint Director of NHS employers) stated that absenteeism rates within the NHS are at their lowest (www.civilservice.net, March 2009⁸). Grime (2004; pp. 1) has suggested that 'a substantial proportion of working days lost annually may be in some way stress-related' (Cooper & Cartwright, 1994). When considering this alongside the CIPD Survey (2008) which has found a reduction in the proportion of staff reporting work-related stress in the last year (28 per cent) compared with 2006 and 2007 (33 per cent), it is clear that this problem has been focussed on by HR Managers within the NHS.

Increased employee engagement was found to give rise to a key benefit of decreased absenteeism within NHS employees (Cohen, 1993; Barber, Hayday & Bevan, 1999). Engaged employees have been found to take fewer days absence by CIPD research. This research also found that progressive HR practices (including flexible working, good quality line management,

⁸ <http://www.civilservicenetwork.com/latest-news/news-article/newsarticle/nhs-absenteeism-highlighted/>

opportunity for employee voice and training and development) give rise to higher levels of commitment and employee motivation, and significantly reducing levels of stress. There are a number of approaches that organisations can adopt in order to tackle the problematic issue of absenteeism.

Graveling et al. (2008) conducted a review which explored two interventions that could be utilised within the working environment; organisational and stress management. Graveling et al., (2008) investigated how effective these techniques were in enhancing the mental wellbeing of employees. Mental wellbeing is defined as 'a state of wellbeing in which the individual realises his or her own abilities, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to his or her community' (Boyd, Hunt & Ortiz, 2007; p. 1). As previously discussed, stress and thus mental wellbeing is strongly related to levels of absenteeism (Cooper & Cartwright, 1994). Metroeconomica (2008) conducted an analysis to evaluate the cost-effectiveness of various workplace interventions aimed at employee mental wellbeing. The findings indicated that the interventions included in the analysis were able to 'reduce absence costs by between £145 and £1,295 per affected employee per year' (pp. 3). The method for calculating the effectiveness of interventions on the HR outcome of absenteeism is outlined in Box 1:

Box 1: Methodology for estimating the effect on absenteeism of work-site interventions that promote mental wellbeing in the workplace

(Source: Metroeconomica, 2008; pp.8-10)

Baseline:

Step 1 Collect data on the number of days (full-day equivalents) lost on average per worker per year due to self-reported stress, depression or anxiety caused or made worse by the current or most recent job. Source: the most recent year for which this data is available is 2004-05 (Jones et al, 2006). Mean, lower and upper 95 CI absence rates are obtained, disaggregated by occupational major group and broad industrial sector. (**Output:** work days lost per worker per year.)

Step 2 Estimate the mean, lower and upper 95 CI number of full-time equivalents lost by a cohort of 1,000 workers *in each* occupational major group and broad industrial sector. (**Output:** work days lost per 1,000 workers per year).

Step 3 Estimate the daily cost to an employer of an unplanned sickness absence, by occupational major group and broad industrial sector.

Cont.

Cont.

To estimate the cost of an unplanned sickness absence several approaches are used in order to capture the full range of possible employer responses:

- For the **central case**, the conventional human capital model is used, where the cost to an employer of an unplanned sickness absence is assumed equivalent to the total cost of employing the absent worker (Cooper and Rice, 1976).
 - As a sensitivity test, the approach of Koopmanschap et al. (1995) is used to define a lower bound estimate.
 - As a sensitivity test, the approach of Nicholson et al. (2006) is used to define an upper bound estimate.
- a. Collect data on gross hourly pay. Source: the most recent year for which this data is available is the Annual Survey of Hours and Earnings (ASHE) for 2007 (ONS, 2007). Median gross hourly wage rates are obtained, disaggregated by occupational major group and broad industrial sector. Due to the skewed distribution of earnings data, median values are preferred to mean values, since they are influenced less by the extreme values. (**Output:** pay (£) per hour.)
 - b. Collect data on 'non-labour' costs not captured by the gross hourly pay data (eg employers' social contributions; vocational training costs, other expenditures). Source: Eurostat. (**Output:** non-labour costs as a percentage of total labour costs).
 - c. Use data obtained in Steps 3a and 3b to estimate total (median) labour costs per hour, disaggregated by occupational major group and broad industrial sector. (**Output:** total labour costs (£) per hour).
 - d. Collect data on paid hours worked per week. Source: the most recent year for which this data is available is the ASHE for 2007 (ONS, 2007). Median paid hours worked per week are obtained, disaggregated by occupational major group and broad industrial sector. (**Output:** paid hours worked per week).
 - e. Estimate the total labour costs per work day, disaggregated by occupational major group and broad industrial sector. (**Output:** total labour cost (£) per work day *equals* paid hours worked per week *divided by five times* total labour costs (£) per hour).

Step 4 Compute the annual cost to the employer from absenteeism in a cohort of 1,000 workers in each occupational major group and broad industrial sector. (**Output:** total annual cost (£) of unplanned sickness absence due to work-related stress, depression or anxiety, equals total labour cost (£) per work day times work days lost per 1,000 workers per year).

Note: the central case combines the mean estimate of average days lost per worker due to self-reported stress, depression or anxiety caused or made worse by current or most recent job with the median gross hourly wage rate and the median number of paid hours worked per week.

Cont.

Cont.

Intervention:

Step 5 Search the effectiveness review evidence for information on the effect of interventions to promote the mental wellbeing of employees on absenteeism.

The available evidence from the effectiveness review suggests that work-site interventions can reduce the rate of absenteeism due to work-related stress, depression or anxiety by between 5 per cent and 46 per cent at follow-up. These values represent the relative change between the intervention and control groups, derived by applying the percentage change in the control group to the observed baseline level of absenteeism in the intervention group, and then contrasting this with the observed value for the intervention group at follow-up. (**Output:** percentage change in baseline rate of absenteeism by intervention).

Step 6 Re-calculate the number of days (full-time equivalents) lost on average per worker per year due to self-reported stress, depression or anxiety caused or made worse by the current or most recent job: post-intervention rate of absenteeism equals the baseline rate of absenteeism *times* (1 *minus* the effectiveness percentage) (**Output:** work days lost per worker per year post-intervention).

Note: the calculations are not performed with respect to any specific interventions, but rather with respect to a 'hypothetical' work-site intervention, covering the full range of effectiveness values – that is: a 5 per cent and 45 per cent reduction in baseline absenteeism due to work-related stress, depression or anxiety (as well as intermediary reductions of 15 per cent, 25 per cent and 35 per cent). This is done so that a plausible range of possible reductions in absenteeism can be included in the cost-utility analysis in Section 3.

Step 7 Repeat Steps 2, 3 and 4 using the post-intervention rates of absenteeism, by occupational major group and broad industrial sector. (**Output:** post-intervention total annual cost (£) of unplanned sickness absence due to work-related stress, depression or anxiety).

Note: it is assumed that the hypothetical intervention is equally effective across all occupations and industrial sections.

Step 8 Determine the employer benefits of reduced absenteeism from the hypothetical intervention in a cohort of 1,000 workers in each occupational major group and broad industrial sector. (**Output:** reduction in total annual cost (£) of unplanned sickness absence due to work-related stress, depression or anxiety equals output from Step 4 minus output from Step 3).

Note: the results are calculated for a 1-year period only. The impact of the hypothetical intervention on work-related stress, depression or anxiety is thus essentially an annual benefit, and specifically, the annual benefit to employers once the full incremental effect of the intervention is realised, assuming that the full incremental effect is maintained for a full year.

In terms of organisational interventions, Graveling et al. (2008) discuss a study (Totterdell, 1992) which demonstrated that the implementation of the 35 day Ottawa system thus changing the shift pattern and structure, lead to better mental wellbeing in employees. Barton et al. (1993) conducted an empirical study into the tolerance of shift work among nurses and midwives. The research indicated that the participants had greater tolerance to a flexible shift pattern over which they could exercise some degree of control. Therefore, when introducing a new shift pattern it is important to minimise disruption in order to avoid a more negative impact on disruption (Newey & Hood, 2004). Further to this, Graveling et al., (2008) discuss the impact of psychosocial intervention training (PSI) on improving perceptions of personal accomplishment (Ewers et al., 2002). Ewers et al. (2002) were not able to replicate their findings with regards to the effects on exhaustion or depersonalisation. Graveling et al. (2008) propose that a longitudinal design, which does not solely measure the impact of the intervention once it has been implemented, would have better explored this research question.

With regard to stress management interventions, the evaluation of their effectiveness poses significant challenges due to their nature. Stress management interventions are a composite of many interlinked and independent factors, and as yet these factors have not been separated out in order to examine the contribution and impact of each one individually. The effectiveness of computerised behavioural therapy (CBT) was explored in a sample of NHS and local authority employees (Grime et al., 2004). The impact of CBT was found to be positive, improving short-term mental wellbeing in employees accruing over ten days of stress, anxiety or depression-related absence over the six month period prior to the intervention. Shi (1993) conducted a study in the US, in which four groups of participants were exposed to different intervention combinations. The group of participants that received:

1. Health risk assessment at beginning and end of study.
2. Bi-monthly health newsletter.
3. Health resource centre.
4. A self-care book – instructions on how to maintain a healthy lifestyle.
5. Behaviour change classes and workshops – focus on ways to improve health through exercise, smoking cessation, nutrition and alcohol use.
6. Volunteers who were advocates for health promotion met regularly to exchange experiences and monitor one another's progress.

were found to accumulate this high return on investment (Boyd et al., 2007; pp. 17). The highest return on investment was (of 307 per cent) was accumulated for these medium intensity programmes of intervention.

Turnover

A meta-analysis of the relationship between turnover and job performance confirmed that reducing the HR outcome of turnover should be prioritised by HR professionals (McEvoy & Cascio, 1987). The CIPD Recruitment, Retention and Turnover Annual Survey 2008 reported that 70 per cent of respondents believed that an employees' departure from the organisation has a negative effect on business performance. The survey highlighted that 15 per cent of these respondents believed this to have a serious negative effect. However, the survey highlighted that only 54 per cent of employers reported to be aiming to reduce their levels of turnover.

The CIPD survey (2008) also highlighted that labour turnover rates have decreased from 18.1 per cent (2007) to 17.3 per cent (2008). The survey reported the highest levels of turnover rates within the private sector of 20.4 per cent, which can be distinguished from the public services rate of 13.5 per cent. Within this the health sector figure is 13.2 per cent which is reported as relatively low compared to other public service organisations. It is key to point out that in the current state of the economy this reduction in overall turnover from 2007 is to be expected, no matter which sector is being surveyed. This reduction in labour turnover levels has also been demonstrated within the NHS. The National NHS Staff Survey 2008 reported that overall the intention of employees to leave the NHS (31 per cent) was lower than the previous year (36 per cent). A concerning finding within this survey was that 15 per cent of surveyed employees stated that they would leave as soon as they found another job (compared with 18 per cent in 2007). The survey reported that the most common reasons for leaving were the same as in 2007; not being valued, need for career development and dissatisfaction with the level of pay. An interesting finding was that 22 per cent of NHS employees in ambulance trusts reported that they 'did not feel valued by their employer' compared with 16 per cent average across all other NHS staff.

It is fundamental that organisations are aware of their levels of turnover because of the heavy costs associated. Gray et al. (1996; p.188) contend that 'turnover generates administrative costs involving the location, selection and training of new workers'. The CIPD Survey (2008) reported that the average cost to organisations of filling in a vacancy per employee is £4,667, increasing to £5,800 when organisations are also calculating the associated labour turnover costs. Vandenberg et al. (1999) reported that the opportunities and access to training provided for employees within an organisation correlated negatively with turnover rates.

Other outcomes The Steer and Rhodes model (1978) has demonstrated the link between attendance (which they argue is influenced by job satisfaction, pressures to attend, incentive/reward systems, work group norms and personal work ethic) and organisational commitment. West et al. (2006) found that improvement of quality care provision and reduction in patient deaths were both resultant of improvements in practices and policies related to training and communication.

In summary, the CIPD Annual Absence Management Survey (2008) highlighted the highest levels of absenteeism accumulating in the public healthcare sector. The literature has indicated the significant costs of absenteeism, and as such interventions and HR policy targeting the reduction in levels of absenteeism should be a salient issue within the realm of people management. However, the literature has indicated that turnover should not be as prominent in the HR agenda as absenteeism, particularly in the current economic environment.

Appendix 4: Description of NHS staff survey variables used

The analysis used a range of variables from the NHS staff survey. These were mostly the ‘key scores’ as reported by the Healthcare Commission (now the Care Quality Commission), but included a few extra variables also. These are described in this appendix; question numbers shown refer to the 2008 acute trust version of the questionnaire.⁹

A4.1 Work-related stress

Health and wellbeing variables

This is the percentage of staff who said that, in the last 12 months, they had been injured or felt unwell as a result of work related stress. (Q30e)

Work-related injury

This is the percentage of staff who, in the previous year, had been injured or felt unwell as a result of one of the following problems: moving and handling; needlestick and sharps injuries; slips, trips or falls; or exposure to dangerous substances. (Q30a-d)

Job satisfaction

This scale measures staff satisfaction in the following areas: recognition for good work; support from immediate managers and colleagues; freedom to choose methods of working; amount of responsibility; opportunities to use skills; and the extent to which the trust is seen to value the work of staff. Possible scores range from one to five, with one representing very unsatisfied staff, and five representing very satisfied staff. (Q13a-g)

Turnover intentions

This is a measure of the extent to which staff are considering leaving their organisation, and looking for a new job either within or outside of the NHS. Possible scores range from one to five, with one representing staff who have no intention of leaving their jobs, and five representing staff who are very keen to leave their jobs. (Q12a-c)

A4.2 Appraisal

Management practices

Percentage of staff receiving an appraisal in the previous 12 months

This is the percentage of staff who answered ‘yes’ to having a ‘KSF development review’ and / or ‘Other type of appraisal, performance development review or ARCP’ in the last 12 months. (Q8a)

Percentage of staff receiving a well-structured appraisal in the previous 12 months

This is the percentage of staff who had a ‘KSF development review’ and/or ‘Other type of

⁹ Available to download at http://www.nhsstaffsurveys.com/cms/uploads/core08quest_acute.pdf

Appendix 4: Description of NHS staff survey variables used

appraisal, performance review or ARCP' in the previous 12 months and also answered 'yes' to each of the following three questions: 'Did the appraisal/review.... help you to improve how you do your job?', '...help you agree clear objectives for your work?' and ...'leave you feeling that your work is valued by your Trust?' (Q8a-d)

Percentage of staff receiving an appraisal with personal development plan in the previous 12 months

This is the percentage of staff who answered 'yes' to having a 'KSF development review' and/or 'Other type of appraisal, performance development review or ARCP' and also answered 'yes' to having agreed a personal development plan as part of that review. (Q8a, Q9a)

Training, learning and development

Percentage of staff receiving any training, learning and development in the previous 12 months

This is the percentage of staff that in the past 12 months received any form of training, learning or development from their employer. (Q4, Q5)

Percentage of staff receiving job-relevant training, learning and development in the previous 12 months

This is the percentage of staff that in the past 12 months received any form of training, learning or development from their employer, and also agreed or strongly agreed with at least one of the following statements: 'My training, learning and development has helped me to do my job better', 'It has helped me stay up-to-date with my job', and 'It has helped me stay up-to-date with professional requirements'. (Q4-6)

Percentage of staff receiving health and safety training

This is the percentage of staff who had received health and safety training paid for or provided by their trust, in the last 12 months. (Q5b)

Percentage of staff receiving training in how to handle violence and aggression

This is the percentage of staff who had received training in how to handle violence and aggression, paid for or provided by their trust, in the last 12 months. (Q5d)

Percentage of staff receiving training in infection control

This is the percentage of staff who had received training in infection control, paid for or provided by their trust, in the last 12 months. (Q5e)

Work-life balance

Support for work-life balance

The quality of work life balance score relates to staff perception of the level of commitment shown by the trust and immediate manager in helping them to achieve a balance between work and home life. It assesses the extent to which there is practical commitment to helping staff find a good work life balance. Possible scores range from one to five, with one representing virtually no commitment from the trust, and five representing excellent commitment from the trust to helping staff achieve a good balance. (Q2a-c)

Use of flexible working options

This is the percentage of staff who said they used at least one of the following flexible working options: flexi time; working reduced hours; working from home in normal working hours; working to annualised hours; working during school term-time only; teams making their own decisions about rotas; or job sharing. (Q3a-g)

Shift working

This is the percentage of staff who said they occasionally or regularly worked either rotating shifts, or between the hours of 7pm and 7am. (Q1d-e)

Working additional paid hours

This is a scale describing how many additional paid hours employees worked in an average week, over and above their contracted hours. Possible scores ranged from one to four, with one representing no-one working any additional hours, and four representing everyone working over 10 additional paid hours per week. (Q1b)

Working additional unpaid hours

This is a scale describing how many additional unpaid hours employees worked in an average week, over and above their contracted hours. Possible scores ranged from one to four, with one representing no-one working any additional hours, and four representing everyone working over 10 additional unpaid hours per week. (Q1c)

Staff shortages

Work pressure (proxy variable)

The work pressure score assesses the extent to which staff have a workload that is larger than they can cope with, including the extent to which staff feel there is a lack of time or resources

to do their job well. Possible scores range from one to five, with one representing virtually no pressure felt by staff, and five representing extremely high feelings of work pressure. (Q11d-f, Q14c)

Team working

Percentage of staff working in well-structured teams

This is the percentage of people who answered 'yes' to all the following questions: 'do you work in a team?'; 'does your team have clear objectives?'; 'do you have to work closely with other team members to achieve the team's objectives?'; and 'does the team meet regularly and discuss its effectiveness and how it could be improved?'. This score is based on those with 15 or fewer people in their team.

This is potentially a far more useful measure than the percentage of staff who said they work in a team, because the vast majority of NHS staff say they work in a team. However, many of these are loosely structured work groups, which do not display all of the characteristics of a team, and do not therefore benefit from the advantages of true team work. (Q10a-e)

Job design

Quality of job design

This scale assesses the extent to which staff are performing jobs that are well designed and rich in content. This includes having clear goals, providing clear feedback on performance, and giving staff the opportunity to participate in decision making. Possible scores range from one to five, with one representing jobs that are poor in design, and five representing jobs that are very well designed. (Q11a-c, Q14a-b, Q14d)

Dealing with errors and incidents

Fairness and effectiveness of incident reporting procedures

Overall, this scale assesses the climate and culture of incident reporting in trusts. The scale measures the extent to which staff are aware of the procedures for reporting errors, near misses and incidents. It also gauges whether staff feel that colleagues who are involved in such incidents are treated fairly by their trusts, and whether trusts are seen to encourage staff to report such incidents and whether they treat reports of such incidents confidentially. The scale also assesses the extent to which employers blame or punish people who are involved in errors and take action to ensure that they don't happen again. Possible scores range from one to five, with one representing a poor culture of incident reporting, and five representing an excellent culture of incident reporting. (Q26a-g)

Appendix 5: Results of regression analysis

This appendix gives the full results of the regression analysis underlying the results shown in Sections 5 to 11 of the report. The results representing the regression equations are shown here: these equations were then used directly to estimate the values of the outcomes by imputing high, medium or low values of the explanatory variables as appropriate.

To enable the tables to fit into this document and be read easily, the following abbreviations are used for some of the variables:

stress	Work-related stress
injury	Work-related injury
jobsat	Job satisfaction
intleave	Turnover intentions
apprais	Percentage of staff receiving an appraisal in the previous 12 months
qualapp	Percentage of staff receiving a well-structured appraisal in the previous 12 months
pdp	Percentage of staff receiving an appraisal with personal development plan in the previous 12 months
train	Percentage of staff receiving any training, learning and development in the previous 12 months
qtrain	Percentage of staff receiving job-relevant training, learning and development in the previous 12 months
Health and safety	Percentage of staff receiving health and safety training
Handle violence	Percentage of staff receiving training in how to handle violence and aggression
Infection control	Percentage of staff receiving training in infection control
balance	Support for work-life balance
flexwork	Use of flexible working options
shift	Shift working
additional paid hours	Working additional paid hours
additional unpaid hours	Working additional unpaid hours
incident	Fairness and effectiveness of incident reporting procedures
work pressure	Work pressure
team	Percentage of staff working in well-structured teams
jobdes	Quality of job design

Key:

*** p < .001

** p < .01

* p < .05

+ p < .10

Appendix 5: Results of regression analysis

A5.1 Health and wellbeing predicting patient satisfaction

	Standardised coefficients (Unstandardised coefficients)	95% C.I.
1. Trust size	-.089 (.000)	.000 to .000
2. Region		
- London	.127 (2.740)	-.915 to 6.394
- East Midlands	.131 (2.058)	-.746 to 4.861
- East of England	.240** (5.480)	1.721 to 9.239
- North East	.403*** (5.281)	2.809 to 7.754
- North West	.177* (3.645)	.216 to 7.075
- South Central	.105 (1.917)	-1.198 to 5.032
- South East Coast	.308** (4.860)	2.058 to 7.661
- South West	.203* (3.200)	.400 to 6.000
- West Midland	.224* (4.098)	.891 to 7.288
- Yorkshire and the Humber		
R ²	.143	
Predictors:		
1. Injury	-.076 (-13.020)	-40.576 to 14.537
2. Stress	-.162 (-19.737)	-44.101 to 4.627
3. Jobsat	.121 (7.785)	-8.616 to 24.185
4. Intleave	-.184 (-6.348)	-15.026 to 2.330
Change of R ²	.176	
Overall model F	4.977***	

A5.2 Health and wellbeing predicting waiting times

	Standardised coefficients (Unstandardised coefficients)	95% C.I.
1. Trust size	-.070 (.000)	.000 to .000
2. Region		
- London	.258** (.029)	.008 to .045
- East Midlands	.014 (.004)	-.013 to .015
- East of England	.130 (.018)	-.005 to .033
- North East	.335*** (.022)	.009 to .032
- North West	.134 (.016)	-.003 to .029
- South Central	.005 (.004)	-.015 to .016
- South East Coast	.288** (.025)	.007 to .036
- South West	.216* (.018)	.002 to .029
- West Midland	.244* (.022)	.005 to .036
- Yorkshire and the Humber		
R ²	.170	
Predictors:		
1. Injury	.086 (.065)	-.067 to .197
2. Stress	-.114 (-.065)	-.186 to .057
3. Jobsat	.005 (.002)	-.082 to .086
4. Intleave	-.034 (-.005)	-.050 to .039
Change of R ²	.015	
Overall model F	2.476**	

A5.3 Health and wellbeing predicting MRSA rates

	Standardised coefficients (Unstandardised coefficients)	95% C.I.	
1. Trust size	.323*** (.000)	.000	to .000
2. Region			
- London	-.251** (-.596)	-.991	to -.201
- East Midlands	-.165+ (-.285)	-.583	to .012
- East of England	-.047 (-.119)	-.522	to .285
- North East	-.173+ (-.245)	-.506	to .016
- South Central	-.204* (-.461)	-.828	to -.094
- South East Coast	.076 (.153)	-.179	to .484
- South West	-.099 (-.171)	-.470	to .128
- West Midland	-.173+ (-.292)	-.586	to .001
- Yorkshire and the Humber	-.167+ (-.323)	-.657	to .012
R ²	.168		
Predictors:			
1. Injury	.354*** (6.230)	3.370	to 9.089
2. Stress	-.069 (-.912)	-3.535	to 1.711
3. Jobsat	-.051 (-.355)	-2.170	to 1.459
4. Intleave	.102 (.383)	-.575	to 1.341
Change of R ²	.132		
Overall model F	4.675***		

A5.4 Health and wellbeing predicting patient mortality

	Standardised coefficients (Unstandardised coefficients)	95% C.I.	
1. Trust size	-.088 (.000)	-.002	to .001
2. Region			
- London	.186* (16.888)	2.012	to 31.764
- East Midlands	.108 (6.378)	-4.000	to 16.757
- East of England	.052 (4.464)	-9.619	to 18.547
- North East	.100 (4.802)	-4.253	to 13.857
- South East	.158* (8.371)	-1.290	to 18.031
- South West	.056 (3.350)	-7.254	to 13.953
- West Midland	.341*** (19.129)	9.080	to 29.179
- Yorkshire and the Humber	.084 (5.335)	-5.959	to 16.630
R ²	.106		
Predictors:			
1. Injury	.005 (3.040)	-104.662	to 110.742
2. Stress	.051 (26.236)	-80.554	to 133.026
3. Jobsat	-.088 (-22.137)	-81.075	to 36.801
4. Intleave	-.126 (-17.156)	-50.368	to 16.056
Change of R ²	.008		
Overall model F	1.532		

Appendix 5: Results of regression analysis

A5.5 Health and wellbeing predicting AHC (Quality of services)

	Standardised coefficients (Unstandardised coefficients)	95% C.I.
Controls:		
1. Trust type		
- Acute	-.421*** (-.757)	-.960 to -.554
- PCTs	.170** (.419)	.180 to .657
- Mental health		
- Ambulance	-.102* (-.533)	-.998 to -.068
2. Trust size	-.042 (.000)	.000 to .000
3. Region		
- London	.083 (.301)	-.059 to .661
- East Midlands	.007 (.020)	-.274 to .313
- East of England		
- North East	.221*** (.832)	.467 to 1.197
- North West	.163** (.393)	.132 to .655
- South Central	.064 (.234)	-.124 to .593
- South East Coast	-.047 (-.162)	-.504 to .179
- South West	.069 (.200)	-.098 to .497
- West Midland	.085 (.235)	-.053 to .523
- Yorkshire and the Humber	.079 (.244)	-.073 to .560
R ²	.292	
Predictors:		
1. Injury	.022 (.322)	-2.672 to 3.315
2. Stress	-.027 (-.591)	-3.107 to 1.925
3. Jobsat	.120 (.941)	-.711 to 2.594
4. Intleave	-.183* (-1.133)	-2.083 to -.184
Change of R ²	.067	
Overall model F	11.928***	

A5.6 Health and wellbeing predicting AHC (Use of resources)

	Standardised coefficients (Unstandardised coefficients)	95% C.I.
Controls:		
1. Trust type		
- Acute	-.276*** (-.491)	-.714 to -.268
- PCTs	.069 (.169)	-.093 to .431
- Mental health	-.138** (-.718)	-1.229 to -.207
- Ambulance		
2. Trust size	.001 (.000)	.000 to .000
3. Region		
- London	.056 (.200)	-.195 to .596
- East Midlands	.006 (.016)	-.307 to .338
- East of England	.111* (.414)	.013 to .814
- North East	.114+ (.272)	-.015 to .559
- North West	.005 (.017)	-.376 to .410
- South Central	-.037 (-.127)	-.502 to .248
- South East Coast	.066 (.190)	-.136 to .516
- South West	-.029 (-.079)	-.395 to .237
- West Midland	-.013 (-.039)	-.387 to .308
- Yorkshire and the Humber		
R ²	.130	
Predictors:		
1. Injury	-.240* (-3.541)	-6.776 to -.307
2. Stress	.037 (.813)	-1.906 to 3.531
3. Jobsat	-.009 (-.068)	-1.853 to 1.718
4. Intleave	-.333*** (-2.046)	-3.072 to -1.021
Change of R ²	.107	
Overall model F	6.644***	

A5.7 Health and wellbeing predicting absenteeism

	Standardised coefficients (Unstandardised coefficients)	95% C.I.
Controls:		
1. Trust type		
- Acute	.191*** (.338)	.167 to .509
- PCTs	.470*** (1.127)	.930 to 1.325
- Mental health	.285*** (1.547)	1.138 to 1.956
- Ambulance		
2. Trust size	.089 (.000)	.000 to .000
3. Region		
- London	.226*** (.822)	.514 to 1.129
- East Midlands	.172*** (.486)	.240 to .733
- East of England	.321*** (1.193)	.887 to 1.499
- North East	.479*** (1.118)	.902 to 1.334
- North West	.035 (.127)	-.173 to .427
- South Central	.058 (.200)	-.086 to .486
- South East Coast	.233*** (.660)	.413 to .907
- South West	.313*** (.857)	.616 to 1.098
- West Midland	.302*** (.919)	.654 to 1.184
- Yorkshire and the Humber		
R ²	.484	
Predictors:		
1. Injury	.122 (1.800)	-.759 to 4.359
2. Stress	-.091* (-1.998)	-4.072 to .076
3. Jobsat	-.341*** (-2.662)	-4.040 to -1.285
4. Intleave	.021 (.126)	-.661 to .912
Change of R ²	.053	
Overall model F	25.051***	

A5.8 Health and wellbeing predicting turnover

	Standardised coefficients (Unstandardised coefficients)	95% C.I.	
Controls:			
1. Trust type			
- Acute	-.336*** (-4.119)	-6.035	-2.203
- PCTs		to	
- Mental health	-.227** (-3.648)	-5.754	-1.543
- Ambulance	-.118* (-8.860)	-16.913	-8.807
2. Trust size	-.005 (-.000)	.000	.000
3. Region			
- London			
- East Midlands	-.071 (-2.061)	-5.387	1.266
- East of England	-.049 (-1.077)	-3.691	1.537
- North East	-.100* (-2.567)	-5.525	.391
- North West	-.242*** (-4.001)	-6.081	-1.922
- South East	.005 (.103)	-2.274	2.480
- South West	-.092 (-1.870)	-4.312	.571
- West Midland	-.007 (-.138)	-2.492	2.216
- Yorkshire and the Humber	-.192** (-4.177)	-6.782	-1.571
R ²	.173		
Predictors:			
1. Injury	.174 (19.628)	-6.544	45.801
2. Stress	-.023 (-3.422)	-24.636	17.791
3. Jobsat	.215* (12.036)	-1.581	25.653
4. Intleave	.216* (9.101)	1.614	16.588
Change of R ²	.021		
Overall model F	4.314***		

A5.9 Health and wellbeing predicting ill health retirement

	Standardised coefficients (Unstandardised coefficients)	95% C.I.
Controls:		
1. Trust type		
- Acute	-.008 (-.106)	-1.912 to 1.700
- PCTs	.180* (.648)	.125 to 1.171
- Mental health		
2. Trust size	.022 (.000)	.000 to .000
3. Region		
- London	-.356*** (-1.296)	-1.930 to -.662
- East Midlands	-.129* (-.732)	-1.604 to .140
- East of England	-.264** (-1.120)	-1.812 to -.429
- North East	.012 (.082)	-.906 to 1.069
- North West		
- South East	-.276** (-1.034)	-1.670 to -.399
- South West	-.135 (-.552)	-1.229 to .125
- West Midland	-.099 (-.421)	-1.114 to .273
- Yorkshire and the Humber	-.103 (-.492)	-1.257 to .273
R ²	.163	
Predictors:		
1. Injury	-.123 (-3.673)	-11.237 to 3.891
2. Stress	.054 (1.911)	-4.941 to 8.762
3. Jobsat	.032 (.484)	-3.428 to 4.397
4. Intleave	.073 (.714)	-1.497 to 2.925
Change of R ²	.009	
Overall model F	2.424**	

A5.10 Health and wellbeing predicting agency spend

	Standardised coefficients (Unstandardised coefficients)	95% C.I.
Controls:		
1. Trust type		
- Acute	-.690*** (-3.477)	-4.095 to -2.859
- PCTs		
- Mental health	-.245*** (-1.609)	-2.287 to -.930
- Ambulance	-.136** (-4.214)	-6.818 to -1.610
2. Trust size	.023 (.000)	.000 to .000
3. Region		
- London	-.172*** (-2.053)	-3.128 to -.978
- East Midlands	-.194*** (-1.739)	-2.584 to -.893
- East of England	-.279*** (-2.964)	-3.920 to -2.007
- North East	-.212*** (-1.445)	-2.117 to -.772
- North West	-.099* (-.785)	-1.546 to -.023
- South East	-.133** (-1.119)	-1.908 to -.329
- South West	-.218*** (-1.734)	-2.488 to -.980
- West Midland	-.233*** (-2.093)	-2.935 to -1.250
- Yorkshire and the Humber		
R ²	.487	
Predictors:		
1. Injury	.019 (.881)	-7.401 to 9.163
2. Stress	.040 (2.468)	-4.285 to 9.221
3. Jobsat	.159 ⁺ (3.669)	-.673 to 8.010
4. Intleave	.198** (3.443)	1.043 to 5.842
Change of R ²	.020	
Overall model F	18.546***	

Appendix 5: Results of regression analysis

A5.11 Management practices predicting work-related injury

	Standardised coefficients	95% C.I.
Q1a Full or part time	.031***	.020 to .031
Q33a Gender	.015***	.008 to .020
Q33b Age	-.032***	-.014 to -.009
Q34 Ethnic Group		
- White	.009**	.012 to .055
- Mixed	.011**	.008 to .028
- Asian/Asian British	-.003	-.019 to .006
- Black/Black British	.006	-.001 to .057
- Chinese	.008**	.010 to .064
- Other		
Q35a Disability	-.091***	-.110 to -.097
Q5 Manage staff or not	.039***	.025 to .035
Q37 Years of your work	.008*	.000 to .004
Q38 Occupation group		
- Allied health professionals/scientific & technical	-.024***	-.027 to -.015
- Ambulance	.111***	.231 to .302
- Medical/dental	-.031***	-.055 to -.035
- Nursing & midwifery		
- Admin & clerical/NHS infrastructure	-.083***	-.080 to -.068
- Nursing assistants	.047***	.058 to .077
- General managers	-.042***	-.123 to -.091
- Other	-.013***	-.025 to -.008
Trust type		
- Acute		
- PCTs	-.072***	-.059 to -.048
- Mental health	-.089***	-.099 to -.085
- Ambulance	-.013	-.061 to .003
Trust size	.008*	.000 to .000
Region		
- London		
- Outside London	-.001	-.007 to .006
Overall R ²	.049	
Appraisal		
• apprais	.002	-.008 to .010
• qualapp	.001	-.005 to .007
• pdp	-.002	-.010 to .007
Training		
- training	-.004	-.020 to .004
- qtrain	-.004	-.009 to .002
- Health and safety	.010**	.005 to .022
- Handle violence	-.003	-.007 to .003
- Infection control	.032***	.020 to .031
Work-life balance		
- balance	-.051***	-.024 to -.018
- flexwork	-.001	-.007 to .004
- additional paid hours	.038***	.014 to .020
- additional unpaid hours	-.016***	-.011 to -.005
- shift	.074***	.057 to .070
- incident	-.049***	-.038 to -.029
- work pressure	.081***	.033 to .039
Team working		
- team	-.016***	-.016 to -.007
Job design		
- jobdes	-.041***	-.026 to -.017
Change of R ²	.033	
Overall model F	224.765***	

A5.12 Management practices predicting work-related stress

	Standardised coefficients	95% C.I.
Q1a Full or part time	.087***	.086 to .100
Q33a Gender	.040***	.039 to .055
Q33b Age	-.018***	-.011 to -.005
Q34 Ethnic Group		
- White	.015***	.041 to .097
- Mixed	-.011***	-.037 to -.010
- Asian/Asian British	-.009**	-.040 to -.007
- Black/Black British	.004	-.013 to .063
- Chinese	-.001	-.043 to .027
- Other		
Q35a Disability	-.108***	-.170 to -.152
Q5 Manage staff or not	-.048***	-.055 to -.042
Q37 Years of your work	.075***	.021 to .025
Q38 Occupation group		
- Allied health professionals/scientific & technical	.023***	.017 to .035
- Ambulance	.008	-.020 to .072
- Medical/dental	-.008*	-.028 to -.002
- Nursing & midwifery	.058***	.050 to .066
- Admin & clerical/NHS infrastructure	-.004	-.020 to .005
- Nursing assistants	.000	-.020 to .022
- General managers	-.005	-.020 to .003
- Other		
Trust type		
- Acute	-.022***	-.028 to -.013
- PCTs		
- Mental health	-.002	-.012 to .006
- Ambulance	-.003	-.049 to .035
Trust size	.002	.000 to .000
Region		
• London		
• Outside London	-.008*	-.018 to -.002
Overall R ²	.036	
Appraisal		
- apprais	.003	-.008 to .014
- qualapp	-.021***	-.030 to -.015
- pdp	.006	-.005 to .016
Training		
- training	.008**	.005 to .034
- qtrain	.001	-.006 to .008
- Health and safety	-.003	-.015 to .006
- Handle violence	.017***	.010 to .022
- Infection control	-.008*	-.015 to -.001
Work-life balance		
- balance	-.094***	-.053 to -.046
- flexwork	.034***	.030 to .043
- additional paid hours	.000	-.003 to .004
- additional unpaid hours	.058***	.032 to .040
- shift	-.001	-.009 to .006
- incident	-.031***	-.033 to -.022
- work pressure	.222***	.125 to .133
Team working		
- team	-.009**	-.014 to -.002
Job design		
- jobdes	-.136***	-.096 to -.086
Change of R ²	.140	
Overall model F	545.276***	

Appendix 5: Results of regression analysis

A5.13 Management practices predicting job satisfaction

	Standardised coefficients	95% C.I.
Q1a Full or part time	-.030***	-.058 to -.037
Q33a Gender	.020***	.024 to .048
Q33b Age	.045***	.026 to .035
Q34 Ethnic Group		
- White		
- Mixed	-.008**	-.100 to -.016
- Asian/Asian British	.008*	.005 to .045
- Black/Black British	-.012***	-.071 to -.022
- Chinese	-.009**	-.139 to -.025
- Other	.001	-.040 to .065
Q35a Disability	.066***	.134 to .161
Q5 Manage staff or not	-.081***	-.131 to -.112
Q37 Years of your work	-.060***	-.030 to -.024
Q38 Occupation group		
- Allied health professionals/scientific & technical	.052***	.078 to .102
- Ambulance	-.026***	-.193 to -.055
- Medical/dental	.038***	.087 to .125
- Nursing & midwifery		
- Admin & clerical/NHS infrastructure	.058***	.088 to .113
- Nursing assistants	.010**	.009 to .045
- General managers	.053***	.235 to .298
- Other	.030***	.059 to .093
Trust type		
- Acute		
- PCTs	.063***	.080 to .102
- Mental health	.056***	.099 to .126
- Ambulance	-.019*	-.146 to -.020
Trust size	-.019***	.000 to .000
Region		
- London		
- Outside London	-.004	-.019 to .005
Overall R ²	.034	
Appraisal		
- apprais	-.016***	-.034 to -.013
- qualapp	.071***	.109 to .124
- pdp	-.010**	-.025 to -.004
Training		
- training	.005*	.003 to .032
- qtrain	.047***	.070 to .084
- Health and safety	-.001	-.012 to .009
- Handle violence	-.006**	-.014 to -.002
- Infection control	-.003	-.012 to .002
Work-life balance		
- balance	.235***	.183 to .191
- flexwork	.008***	.007 to .020
- additional paid hours	-.016***	-.017 to -.010
- additional unpaid hours	.030***	.024 to .032
- shift	-.022***	-.044 to -.029
- incident	.076***	.096 to .107
- work pressure	-.108***	-.097 to -.090
Team working		
- team	.029***	.036 to .048
Job design		
- jobdes	.513***	.511 to .521
Change of R ²	.608	
Overall model F	4563.585***	

A5.14 Management practices predicting turnover intentions

	Standardised coefficients	95% C.I.
Q1a Full or part time	.043***	.088 to .119
Q33a Gender	-.039***	-.120 to -.085
Q33b Age	-.134***	-.145 to -.130
Q34 Ethnic Group		
- White	.010**	.040 to .167
- Mixed	-.016***	-.107 to -.047
- Asian/Asian British	.003	-.018 to .057
- Black/Black British	.002	-.051 to .121
- Chinese	-.003	-.118 to .040
- Other		
Q35a Disability	-.050***	-.187 to -.146
Q5 Manage staff or not	.021***	.033 to .063
Q37 Years of your work	.043***	.025 to .034
Q38 Occupation group		
- Allied health professionals/scientific & technical	-.042***	-.129 to -.092
- Ambulance	-.034***	-.346 to -.136
- Medical/dental	-.084***	-.387 to -.329
- Nursing & midwifery	.004	-.007 to .030
- Admin & clerical/NHS infrastructure	-.031***	-.158 to -.103
- Nursing assistants	-.007*	-.099 to -.004
- General managers	-.023***	-.112 to -.062
- Other		
Trust type		
- Acute	.016***	.018 to .053
- PCTs	-.003	-.030 to .011
- Mental health	-.002	-.109 to .082
- Ambulance		
Trust size	.008*	.000 to .000
Region		
- London		
- Outside London	-.037***	-.127 to -.090
Overall R ²	.029	
Appraisal		
- apprais	.030***	.043 to .087
- qualapp	-.063***	-.171 to -.141
- pdp	.018***	.018 to .061
Training		
- training	.004	-.007 to .053
- qtrain	-.062***	-.169 to -.140
- Health and safety	-.010**	-.060 to -.017
- Handle violence	.004	-.004 to .020
- Infection control	-.019***	-.058 to -.030
Work-life balance		
- balance	-.171***	-.212 to -.197
- flexwork	.011***	.014 to .040
- additional paid hours	-.015***	-.027 to -.012
- additional unpaid hours	.010**	.005 to .022
- shift	-.004	-.025 to .007
- incident	-.081***	-.176 to -.152
- work pressure	.164***	.207 to .223
Team working		
- team	.000	-.012 to .011
Job design		
- jobdes	-.272***	-.423 to -.402
Change of R ²	.295	
Overall model F	1213.333***	

Appendix 6: References

- Adams & Hicks (2000). *Pay and Non-pay Incentives, Performance and Motivation*. Global Health Workforce Strategy Group, Geneva, 126-145
- Adams, A. & Bond, S. (2000). Hospital nurses' job satisfaction, individual & organisational characteristics. *Journal of Advanced Nursing*, 32(3), 536-543
- Adams, J. (1965). Injustice in Social Exchange; IN: L. Berkowitz (Ed). *Advances in experimental psychology*, New York: Academic Press
- Applebaum, E. & Batt, R. (1994). *The new American workplace*. Ithaca, NY: ILR Press
- Applebaum, E., Bailey, T., Berg, P. & Kalleberg, A. L. (2000). *Manufacturing advantage. Why high-performance work systems pay off*. Ithaca, NY: ILR Press
- Arnetz, B. & Blomkrist, V. (2007) Leadership mental health and organisational efficacy in health care organisations. *Psychotherapy and psychosomatics*, 76(4), 242-248
- Arthur, W. Jr., Bennett, W. Jr., Edens, P. S. & Bell, S. T. (2003). Effectiveness of training in organisations: a meta-analysis of design and evaluation features. *Journal of Applied Psychology*, 88, 234-245
- Asefa, S. & Huang, W.-C. (Eds.) (1994). Human capital and economic development. Michigan: W.E. Upjohn Institute for Employment Research
- Barber, L., Hayday, S. & Bevan, S. (1999). From people to profits. *I. E. S. Report*, 355
- Barney, J. (1991). Firm resources and sustained competitive advantage. *Journal of Management*, 17 (1): 99-120
- Bartel, A. P. (1994). Productivity gains from the implementation of employee training programs. *Industrial Relations*, 33, 411-425
- Barton, J., Smith, L., Totterdell, P., Spelten, E. & Folkard, S. (1993). Does individual choice determine shift system acceptability? *Ergonomics*, 36(1-3): pp. 93-99
- Becker, B. E. & Gerhart, B. (1996). The impact of human resource management on organisational performance: Progress and prospects. *Academy of Management Journal*, 39 (4): 779-801
- Becker, G. S. (1964). Human Capital. New York: National Bureau of Economic Research
- Becker, G. S. (1993). Human capital: a theoretical and empirical analysis, with special reference to education (3rd ed.). Chicago/London: The University of Chicago Press with The National Bureau of Economic Research
- Bennett, P., Lowe, R., Matthews, V., Dourali, M. & Tattersall, A. (2001) Stress in nurses: coping, managerial support and work demand. *Stress and Health*, 17, 55-63
- Berkery, E. C., Tiernan, S. D. & Armstrong, C. (2009) High Performance Work Systems in the Intellectual Disability Care Sector in Ireland: an Exploratory Study at Organisational Level. *International Business Research*, 2(2), 16-28
- Bjork et al. (2007) Evaluation of clinical ladder participation. *Norway Journal of Nursing Scholarship*, 39(1), 88-94
- Blau, G. J. & Boal, K. B. (1987). Conceptualising how job involvement and organisational commitment affect turnover and absenteeism. *Academy of Management Review*, 12(2): pp. 288-300

- Bontis, N. & Serenko, A. (2009). Longitudinal knowledge management strategising in a long-term healthcare organisation. *International Journal of Technology Management*, 47(1-3): pp. 250-271
- Borrill, C., West, M. A., Dawson, J. F. & Shapiro, D. (2002). Leadership in multidisciplinary teams. Paper presented a Society for Industrial and Organisational Psychology, Toronto, 13 April
- Boyd, R., Hunt, A. & Ortiz, R., 'A Review of cost-effectiveness literature on: public health interventions that promote mental wellbeing in the workplace' (December 2007) Strategic Consulting Report: Institute of Occupational Medicine
- Calnan, M., Wainwright, D., Forsythe, M., Wall, B. & Almond, S. (2001) Mental health and stress in the workplace: the case of general practice in the UK. *Social Science and Medicine*, 52, 499-507
- Campion, M. A. & McClelland, C. L. (1993). Follow-up and extension of the inter-disciplinary costs and benefits of enlarged jobs. *Journal of Applied Psychology*, 78, 339-351
- Carmeli, A. & Tishler, A. (2004). The relationship between organisational intangible elements and organisational performance. *Strategic Management Journal*, 25 (13): 1257-1278
- Carmeli, A. (2003). Strategic human capital and the performance of public sector organizations. *Scandinavian Journal of Management*, 20: 375-392
- Chan, D. (2000). Understanding adaptation to changes in the work environment: Integrating individual difference and learning perspectives. *Research in Personnel and Human Resource Management*, 18: 1-42
- Chen, H. M. & Lin, K. J. (2003). The measurement of human capital and its effects on the analysis of financial statements. *International Journal of Managements*, 20 (4): 480-478.
- CIPD (2009) *Stress is down but management and leadership still score badly*. People Management (Published 25 March 2009)
- Cohen, A. (1993). Age and tenure in relation to organisational commitment: a meta-analysis. *Basic and Applied Social Psychology*, 14, pp. 143-159
- Combs, J., Liu, Y., Hall, A. & Ketchen, D. (2006). How much do high performance work practices matter? A meta-analysis of their effects on organizational performance. *Personnel Psychology*, 59: 501-28
- Conway, E. & Monks, K. (2008). Human resource practices and commitment to change: an employee-level analysis. *Human Resource Management*, 18(1), 72-89
- Cooper, C. L. & Cartwright, S. (1994). Stress management interventions in the workplace: stress counselling and stress audits. *British Journal of Guidance Counsel*, 22: 65-73.
- Cotton, J. L. (1996). Employee involvement. In Cooper, C. L. & Robertson, I. T. (eds.), *International Review of Industrial and Organisational Psychology*, Vol. 11. Chichester: John Wiley
- Davies, H. T. O., Mannion, R., Jacobs, R., Powell, A. E. & Marshall, M. N. (2007). Exploring the relationship between senior management team culture and hospital performance. *Medical Care Research and Review*, 64 (1), 46-65

Appendix 6: References

- Dawson, J. F., Gonzalez-Roma, V., Davies, A. & West, M. A. (2008). Organisational climate and climate strength in UK hospitals. *European Journal of Work and Organisational Psychology*, 17 (1), 89-111
- Delery, J. E. & Doty, D. H. (1996). Modes of theorising in strategic human resource management: Tests of universalistic, contingency, and configurational performance predictions. *Academy of Management Journal*, 39 (4): 802-835
- Delery, J. E. & Shaw, J. D. (2001). The strategic management of people in work organisations: review, synthesis, and extension. *Research in Personnel and Human Resources Management*, 20: 165-197
- East of England Ambulance Service NHS Trust (2009). *Managing Stress and Enhancing Psychological Wellbeing Policy*
- Edmondson, A. C., Roloff, K. S. *Overcoming barriers to collaboration: psychological safety and learning in diverse teams*. In: Salas, E., Goodwin, G. F. & Burkes, C. S. (2008). *Team effectiveness in complex organisations: cross-disciplinary perspectives and approaches*. CRC Press
- Elovainio, M., Kivimäki, M. & Vahtera, J. (2002) Organisational Justice: Evidence of a New Psychosocial Predictor of Health. *American Journal of Public Health*, 92(1), 105-108
- Firth, H. & Britton, P. (1989) 'Burnout', absence and turnover amongst British nursing employees. *Journal of Occupational Psychology*, 62, 55-59
- Firth-Cozens, J. (2001) Cultures for Improving Patient Safety through learning: the role of teamwork. *Quality of Health Care*, 10, 26-31
- Firth-Cozens, J., Firth, R. & Booth. S. (2003) Attitudes to and experiences of reporting poor care. *Clinical Governance: An International Journal*, 8(4), 331-336
- Fisher, R. J. (2007) Gender & Emotions at Work: A re-conceptualisation of work commitment. Available at <http://www.gu.edu.au>
- Franco, L. M., Bennett, S. & Kanfer, K. (2002) Health sector reform and public sector health worker motivation: a conceptual framework. *Social Science a Medicine* 54: 1255–1266
- George, J. M. & Jones, G. R. (1996). The experience of work and turnover intentions: Interactive effects of value attainment, job satisfaction, and positive mood. *Journal of Applied Psychology*, 81, 318–325
- Gowen, C. R., McFadden, K. L. & Tallon, W. J. (2006). On the centrality of strategic human resource management for healthcare quality results and competitive advantage. *Journal of Management Development*, 25(8), 806-826
- Graveling, R. A., Crawford, J. O., Cowie, H., Amati, C., Vohra, S., 'A Review of Workplace Interventions that promote Mental Wellbeing in the Workplace' (13 February 2008) Draft Report: Institute of Occupational Medicine
- Gray, A. M., Phillips, V. L. & Normand, C. (1996) The costs of nursing turnover: evidence from the British National Health Service. *Health Policy*, 38, 117-128
- Grime, P. R. (2004). Computerized cognitive behavioural therapy at work: a randomised controlled trial in employees with recent stress-related absenteeism. *Occupational Medicine*, 54: pp. 353-359

- Guest, D. E. & Conway, N. (2004). *Employee Well-Being and the Psychological Contract*, CIPD, London
- Hackett, R. D. (1989) Work Attitudes and employee absenteeism: a synthesis of the literature. *Journal of Occupational Psychology*, 62, 235-248
- Hall, R. (1992). The strategic analysis of intangible resources. *Strategic Management Journal*, 13, 135–144, as cited in Carmeli, A. (2003). Strategic human capital and the performance of public sector organizations. *Scandinavian Journal of Management*, 20: 375-392
- Hall, R. (1993). A framework linking intangible resources and capabilities to sustainable competitive advantage. *Strategic Management Journal*, 14, 607–618
- Hannigan, B., Edwards, D. & Burnard, P. (2004) Stress and stress management in clinical psychology: findings from a systematic review. *School of Nursing and Midwifery Studies*, 13(3), 235-245
- Hardy, G. E., Woods, D. & Wall, T. D. (2003) The impact of psychological distress on absence from work. *The Journal of Applied Psychology*, 88(2), 306-14
- Harris, C., Cortvriend, P. & Hyde, P. (2007). Human resource management and performance in healthcare organisations. *Journal of Health Organization and Management*. 21 (4/5): 448-459
- Harris, C., Cortvriend, P., & Hyde, P. (2007) Human resource management and performance in health care organisations. *Journal of Health Organisation and Management*, 21 (4/5): pp. 448-459.
- Hayes, L., O'Brien-Pallas., Duffield, C., Shamian, J., Buchan, J., Hughes, F., Lasching, H., North, N. & Stone, P. (2006) Nurse turnover: a literature review. *International Journal of Nursing studies*, 43(2), 237-263
- Health Care Commission – National NHS Staff Survey 2008: Summary of Key Findings
- Heath, R. S. & Brown, J. F. (2007). A re-examination of the effect of Job Relevant Information on the Budgetary Participation – Job Performance Relation during an age of employee empowerment. *Journal of Applied Business Research*, 23(1), 111-124
- Heller, F., Pusic, E., Strauss, G. & Wilpert, B. (1998). *Organisational Participation: Myth and Reality*. Oxford: Oxford University Press
- Hitt, M. A., Bierman, L., Shimizu, K. & Kochhar, R. (2001). Direct and moderating effects of human capital on strategy and performance in professional service firms: A resource-based perspective. *Academy of Management Journal*, 44 (1): 13-28
- Horn, P. W. & Griffeth, R. W. (1995) *Employee Turnover*. Cincinnati, OH: South-Western
- Huang, T-C. (2001) Succession management systems and human resource outcomes. *International Journal of Manpower*, 22 (8): pp 736-747.
- Huselid, M. A. (1995). The impact of human resource management practices on turnover, productivity, and corporate financial performance. *Academy of Management Journal*, 38: 635-672
- Janssen, P. P. M., de Jonge, J. & Bakker, A. B. (1999). Specific determinants of intrinsic work motivation, burnout and turnover intentions: A study among nurses. *Journal of Advanced Nursing*, 29, 1360–1369

Appendix 6: References

- Johns, G. (2006). The essential impact of context on organisational behaviour. *Academy of Management Review*, 31: 396-408
- Jones, D. C., Kalmi, P. & Kauhanen, A. (2006). How does employee involvement stack up? The effects of human resource management policies on performance in a retail firm. *Working Paper*, Cornell University ILR School Collection
- Judge, T. A., Thoresen, C. J., Bono, J. E. & Patton, G.K. (2001) The job satisfaction-job performance relationship: a qualitative and quantitative review. *Psychological Bulletin*, 127, 376-407
- Kahneman, D. Krueger, A. B. (2006) Developments in the measurement of subjective well-being. *Journal of Economic Perspectives* 20: 3–24
- Karasek, R. (1979) Job demands, job decision latitude and mental strain: implications for job redesign. *Administrative Science Quarterly*, 24, 71-78
- Kuper, H. & Marmot, M. (2003) Job strain, job demands, decision latitude, and risk of coronary heart disease within the Whitehall II study. *Journal of Epidemiol Community Health*, 57, 147-153
- Labriola, M., Lund, T. & Burr, H. (2006) Prospective study of physical and psychosocial risk factors for sickness absence. *Occupational Medicine*, 56(7), 469-474
- Lado, A. A., & Wilson, M. C. (1994). Human resource systems and sustained competitive advantage: a competency-based perspective. *Academy of Management Review*, 19(4), 699–727
- Lemieux-Charles, L. & McGuire, W.L. (2006) What do we know about Health Care Team Effectiveness? A Review of the Literature. *Medical Care Research Review*, 63, 263-300
- Lepak, D. P. & Snell, S. A. (1999). The Human Resource Architecture: Toward a theory of human capital allocation and development, *Academy of Management Review*, 24(1): 31-48
- Levine, D. J. & D'Andrea-Tyson, L. D-A. (1990). Participation and productivity and the firm's environment. In Blinder, A.S. (ed.), *Paying for Productivity: A look at the evidence*. Washington, DC: The Brookings Institution
- Lignon, J., Abdullah, A. B. M. & Talukder, M. (2007) The Role of Formal Education, Technical and Management Training on Information Systems (IS) Managers' Managerial Effectiveness as perceived by their subordinates. *Performance Improvement Quarterly*, 20(1), 23-36
- Locke, E. A. & Henne, D. (1986). Work motivation theories. In Cooper, C. L. & Robertson, I. T. (eds.), *International Review of Industrial and Organisational Psychology*, Vol.2. New York: Wiley, pp. 1-25
- Lu, H., While, A. & Bamball, C. (2005) Job satisfaction among nurses: A literature review. *International Journal of Nursing Studies*, 42(2), 211-227
- Lucas, V., Spence Laschinger, H. K. & Wong, C. A. (2008) The impact of emotional intelligent leadership on staff nurse empowerment: the moderating effect of span of control. *Journal of Nursing Management*, 16(8), 964-973
- Lum, L., Kervin, J., Clark, K., Reid, F. & Sirola, W. (1998) Explaining nurse turnover intent: job satisfaction, pay satisfaction, or organisational commitment? *Journal of Organisational Behaviour*, 19, 305-320

- Macy, B. A. & Izumi, H. (1993). *Organisational change, design and work innovation: a meta-analysis of 131 North American Field Studies – 1961-1991. Research in Organisational Change and Development*, Vol.7. Greenwich, C.T.: JAJ Press, pp. 235-313
- Mannion, R., Davies, H. T. O. & Marshall, M. D. (2003). *Cultures for performance in health care: Evidence of the relationship between organisational culture and organisational performance in the NHS*. York: York Centre for Health Economics
- Martini, S., Arfken, C., Balon, R. (2006) Comparison of Burnout among Medical Residents before and after the implementation of work hour limits. *Academic Psychiatry*, 30, 352-355
- Mauno, S., Kinnunen, U., Mäkikangas, A., Natti, J. (2005) Psychological consequences of fixed-term employment and perceived job insecurity among health care staff. *European Journal of Work and Organisational Psychology*, 14(3), 209-237
- Mayo, A. (2001). *The human value of enterprise: valuing people as assets: monitoring, measuring, managing*. Naperville, IL: Nicholas Brealey Publishing
- Mayo, A. (2009) *Managing Talent in Difficult Times*. CIPD Conference Birmingham Business School, March 2009
- McEvoy, G. M. & Cascio, W. F. (1987) Do Good or Poor Performers Leave? A meta-analysis of the relationship between performance and turnover. *Academy of Management Journal*, 30(4), 744-762
- Mcvicar, A. (2003) Workplace stress in nursing: a literature review. *Journal of Advanced Nursing*, 44(6), 633-642
- Mercer (2008). *The total material impact of employee absences survey highlights*. London: Mercer Limited
- Metroeconomica, (2008) 'An economic analysis of workplace interventions that promote mental wellbeing in the workplace' Institute of Occupational Medicine
- Michie, S. & West, M. A. (2004) Managing people and performance: an evidence based framework applied to health services organisations. *International Journal of Management Review*, 5/6 (2): 91-111
- Michie, S. & Williams, S. (2003). Reducing work related psychological ill health and sickness absence: a systematic literature review. *Occupational and Environmental Medicine*, 60, 3-9
- Mincer, J. (1993). *Studies in Human Capital: Collected essays of Jacob Mincer*, Volume 1, Hants, England: Edward Elgar Publishing Ltd
- Morken, T., Riise, T., Moen, B., Hauge, S. H. V., Holien, S., Langedrag, A., Pedersen, S., Saue, I. L. L., Seljebo, G. M. & Thoppil, V. (2003) Low back pain and widespread pain predict sickness absence among industrial workers. *BMC Musculoskeletal Disorders*, 4(21), 1-8
- Murrells, T., Robinson, S. & Griffiths, P. (2008) Job satisfaction trends during nurses' early career. *Bio Medical Central Nursing*, 7(7), 1-13
- Netemeyer, R. G., Boles, J. S. & McMurrian, R. (1996). Development and validation of work-family conflict and family-work conflict scales. *Journal of Applied Psychology*, 81, 400-410

Appendix 6: References

- Newey, C. A. & Hood, B. M. (2004). Determinants of shift-work adjustment for nursing staff: The critical experience of partners. *Journal of Professional Nursing*, **20**(3): pp. 187-195
- Newman, K. (2002). The nurse satisfaction, service quality & nurse retention chain: Implications for management of recruitment and retention. *Journal of Management in Medicine*, **16**(4), 271-291
- NHS Institute for Innovation and Improvement. Human Resource Management (HRM), Organisational Development (OD) and Workforce Development in the NHS: An interim review of recent research. (www.employment-studies.co.uk)
- Noblet, A. (2003). Building health promoting work settings: identifying the relationship between work characteristics and occupational stress in Australia. *Health Promotion International*, **18**(4), 351-359
- Öztürk, H., Bahcecik, N. Baumann, S. L. (2006) Nursing Satisfaction and Job Enrichment in Turkey. *Nursing Science Quarterly*, **19**(4), 360-365
- Parker, P. A. & Kulik, J. A. (1995) Burnout, self-and supervisor-rated job performance, and absenteeism among nurses. *Journal of Behavioural Medicine*, **18**, 581-599
- Patterson, M. P., West, M. A. & Wall, T. D. (2004). Integrated manufacturing, empowerment and company performance. *Journal of Organisational Behaviour*, **5**(5).
- Pennings, J. M., Lee, K. & Van Whittleloostuijn, A. (1998) Human capital, social capital, and firm dissolution. *Academy of Management Journal*, **41** (4): 425-440
- Pfeffer, J. (1994). *Competitive advantage through people*. Boston, MA: Harvard Business School Press
- Pfeffer, J. (1998). *The human equation: Building profits by putting people first*. Boston, MA: Harvard Business School Press
- Porter, L. W., Steers, R. M., Mowday, R. T. & Boulian, P. V. (1974). Organisational commitment, job satisfaction, and turnover among psychiatric technicians. *Journal of Applied Psychology*, **59**(5): pp. 603-609
- Preuss, G. A. (2003). High Performance Work Systems and Organisational Outcomes: The Mediating Role of Information Quality. *Industrial and Labour Review*, **56**(4), 590-605
- Price, J. L. & Mueller, C. W. (1986) *Handbook of Organisational Measurement*. Marshfield, MA: Pitman
- Purcell, J., Kinnie, N., Hutchinson, S., Rayton, B. & Swart, J. (2003), *Understanding the People and Performance Link: Unlocking the Black Box*, CIPD, London
- Redman, T., Snape, E., Wass, J. & Hamilton, P. (2007) Evaluating the Human Resource Shared Services Model: Evidence from the NHS. *International Journal of Human Resource Management*, **18**(8), 1486-1506
- Richter, A. W., West, M. A., Van Dick, R. & Dawson, J.F. (2006). Boundary spanners' identification, intergroup contact and effective intergroup relations. *Academy of Management Journal*, **49** (6), 1252-1269
- Rogers, E. W. & Wright, P. (1998). Measuring organisational performance in strategic human resource management: problems, prospects and performance information markets. *Human Resource Management Review*, **8**, 311-331

- Rousseau, D. M. (2001). Schema, promise and mutuality: The building blocks of the psychological contract. *Journal of Occupational and Organisational Psychology*, 74: 511-541
- Rusbult, C. E. & Farrell, D. (1983) A longitudinal test of the investment model: the impact on job satisfaction, job commitment, and turnover of variations of rewards, costs, alternatives, and investments. *Journal of Applied Psychology*, 68, 429-438
- Schein, E.H. (1985). *Organisational Culture and Leadership: A Dynamic View*. San Francisco: Jossey-Bass
- Schuler, R. S. & Jackson, S. E. (2007) *Strategic Human Resource Management*, 2nd Edition, Malden, MA: Blackwell Publishing
- Schultz, T. (1961). Investment in Human Capital. *American Economic Review*, 1-17
- Shipton, H., Armstrong, C., West, M. A. & Dawson, J. F. (2008). The impact of leadership and quality climate on hospital performance. *International Journal for Quality in Health Care*, 20 (6), 439-445
- Skaggs, B. C. & Youndt, M. (2002). Strategic positioning, human capital, and performance in service organisations: a customer interaction approach. *Strategic Management Journal*, 25 (1): 85-99
- Somers, M. J. (1995). Organisational commitment, turnover & absenteeism: an examination of direct and interaction effects. *Journal of Organisational Behaviour*, 16(1): pp. 49-58
- Stansfeld, S. A., Fuhrer, R., Shipley, M. J. & Marmot, M. G. (1999) Work Characteristics predict psychiatric disorder: prospective results from the Whitehall II study. *Occupational and Environmental Medicine*, 56, 302-307
- Steers, R. M. & Rhodes, S. R. (1978). Major influences on employee attendance: a process model. *Journal of Applied Psychology*, 63 (4): pp 391-403
- Stewart, T. A. (2001). *The Wealth of Knowledge: Intellectual Capital and the Twenty-first Century Organisation*. New York, NY: Doubleday, Random House, Inc.
- Storey, J. (1995) HRM: still marching on, or marching out? In J. Storey (Ed.), *Human Resource Management: A Critical Text*, pp. 3-32. London: Routledge
- Strober, M. H. (1990). Human Capital Theory: Implications for HR Managers, *Industrial Relations*, 29 (2): 214-239
- Sveiby, K. E. (1997). *The New Organisational Wealth: Managing & Measuring Knowledge-based Assets*. San Francisco, CA: Berrett-Koehler Publishers, Inc.
- Tharenou, P. & Burke, E. (2002). Training and organisational effectiveness. In Robertson, I., Callinan, M., & Bartram, D. (eds.), *Organisational Effectiveness: The Role of Psychology*. Chichester: John Wiley. Pp. 115-133
- Tharenou, P. & Burke, E. (2002). Training and organisational effectiveness. In Robertson, I., Callinan, M., & Bartram, D. (eds.), *Organisational Effectiveness: The Role of Psychology*. Chichester: John Wiley. Pp. 115-133
- Toh, S. M., Morgeson, F. P. & Campion, M. A. (2008). Human Resource Configurations: Investigating fit with the organisational context. *Journal of Applied Psychology*, 93 (4), 864-882

Appendix 6: References

- Tomer, J. F. (2001) Understanding high-performance work systems: the joint contributions of economics and human resource management. *Journal of Socio-Economics*, 30, 63-73
- Tsui A. S., Pearce, J. L., Porter, L. W. & Hite, J. (1995). Choice of employee-organization relationship: Influence of external and internal organizational factors.' In G.R..Ferris (Ed.), *Research in Personnel and Human Resource Management*, 13, 117-151, London: JAI Press
- Tsui, A. S., Peirce, J. L., Porter, L. W. & Tripoli, A. M. (1992). Alternative approaches to the employee organisation relationship: does investment in employees pay off? *Academy of Management Journal*, 40, 1089-1121
- Vahey, D. C., Aiken, L. H., Sloane, D. M., Clarke, S. P. & Vargas, D. (2004) Nurse Burnout and Patient Satisfaction. *Medical Care*, 42(2), 57-66
- Vandenberg, R. J., Richardson, H. A. & Eastman, L. J. (1999). The impact of high involvement work processes on organisational effectiveness: a second-order latent variable approach. *Group and Organisation Management*, 24, 300-339
- Veum, J. R. (1995). Training, Wages, and the Human Capital Model, Working Paper no. 262. Washington: US Department of Labour, Bureau of Labour Statistics
- Wall, T. D., Bolden, R. I., Borrill, C. S., Carter, A. J., Golya, D. A., Hardy, G. E., Haynes, C. E., Rick, J. E., Shapiro, D. A. & West, M. A. (1997) Minor psychiatric disorder in NHS Trust employees: occupational and gender differences. *British Journal of Psychiatry*, 171, 519-523
- Warr,P., Cook, J. & Wall,T. (1979) Scales for the measurement of some work attitudes and aspects of psychological well-being. *Journal of Occupational Psychology*, 52, 129 -148
- Weiner, B. J., Alexander, J. A., Shortell, S. M., Baker, L. C., Becker, M. & Geppert, J. J. (2006). Quality Improvement Implementation and Hospital Performance on Quality Indicators. *Health Services Research*, 41(2), 307-334
- West, E. (2001) Management matters: the link between hospital organisation and quality of patient care. *Quality in Health Care*, 10, 40-48
- West, M. (2002). How can good performance among doctors be maintained? Department of Health's proposals are wise but need to be implemented with care. *British Medical Journal*, 325, 669-670
- West, M. A., Borrill, C. S., Dawson, J. F., Scully, J., Carter, M., Anelay, S., Patterson, M. & Waring. (2002). The link between the management of employees and patient mortality in acute hospitals. *International Journal of Human Resource Management*, 13, 1299-1310
- West, M. A., Guthrie, J. P., Dawson, J. F., Borrill, C. S. & Carter, M. (2006). Reducing patient mortality in hospitals: The role of human resource management. *Journal of Organizational Behaviour*, 27: 983–1002
- Williams, S., Michie, S. & Pattani, S. (1998). *Improving the health of the NHS workforce*. London: The Nuffield Trust
- Wilson, K. A., Burke, C. S., Priest, H. A. & Salas, E. (2005) Promoting health care safety through training high reliability teams. *Quality and Safety in Health Care*, 14, 303-309

- Wright, P. M., Dunford, B. B. & Snell, S. A. (2001). Human resources and the resource based view of the firm. *Journal of Management*, 27: 701-721
- Yeh, C. (2006) A study of HR investment, human capital and firm performance. Available at <http://www.nsysu.edu.tw>
- Youndt, M. A., Subramaniam, M. & Snell, S. A. (2004). Intellectual Capital Profiles: An Examination of Investments and Returns. *The Journal of Management Studies*, 41(2): 335-361
- Yukl, G. (1998). *Leadership in organisations*. (4th ed.) London: Prentice Hall

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording and/or otherwise without the prior written permission of the publishers. This publication may not be lent, resold, hired out or otherwise disposed of by way of trade in any form, binding or cover other than that in which it is published, without the prior consent of the publishers.

We provide:

Research
Advisory Consulting
Policy and Voice
Partnership

The Work Foundation is the leading independent authority on work and its future. It aims to improve the quality of working life and the effectiveness of organisations by equipping leaders, policymakers and opinion-formers with evidence, advice, new thinking and networks.

© The Work Foundation

Registered as a charity no: 290003

First published: August 2009

The Work Foundation
21 Palmer Street
London
SW1H 0AD

Telephone: 020 7976 3500

Website: www.theworkfoundation.com