# Staff satisfaction and organisational performance: evidence from a longitudinal secondary analysis of the NHS staff survey and outcome data

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## Scientific summary

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## Background

The search for causal links between human resource management (HRM) and organisational performance has dominated both academic and practitioner debates for many years. Despite much research on the HRM performance link, significant debates continue over its nature and strength, with many commentators pointing to conceptual and methodological weaknesses. Moreover, much of the research has been conducted in the USA and in the private sector. There are few studies on public services in general, and health care in particular, with only a handful of studies being conducted in the UK health sector.

The practitioner debate is linked to the 'business case' associated with staff satisfaction and well-being, with links in terms of engagement and sickness absence. The NHS has accepted large elements of the legal, economic/business and ethical cases for staff well-being in many documents over the last 15 years or so. More recently, the importance of staff engagement, and health and well-being has been recognised by its inclusion in the quality, innovation, productivity and prevention programme, the staff pledges in the NHS Constitution, and in the 'post-Francis' debate on culture and values in health care.

## Aims

The main aim of this project was to test the later part of a well-established (outside health care) overall model that hypothesises a positive link between HRM and organisational performance, in the English NHS. Two broad 'chains' exist between human resources (HR) practices (e.g. training and development, appraisal) and staff satisfaction and intermediate outcomes; and between staff satisfaction, intermediate outcomes and final outcomes. This project focuses on the later links in the chain, between intermediate and final outcomes. We use the term 'staff satisfaction' as a broad umbrella term covering the experiences of staff. Intermediate outcomes include staff absenteeism and turnover, and final outcomes include patient satisfaction, patient mortality and infection rates.

The objectives of the study were:

- to examine the links between staff attitudes and behaviours with individual and organisational performance in NHS trusts
- to use this knowledge to develop actionable recommendations for national stakeholders and local managers.

The main research questions were:

(Q1) What are the links between individual staff attitudes (e.g. satisfaction, engagement, turnover intentions) and intermediate staff outcomes (e.g. staff absenteeism, actual turnover)?

(Q2) How do these link with organisational performance (e.g. patient satisfaction, mortality)?

(Q3) Do these measures and relationships differ by occupation demographic groups, trust types and geographical areas, and, if so, what is the relative change for each group?

We used existing, large-scale longitudinal secondary data sets in order to answer these questions in a systematic and thorough way.

## Literature review

Existing literature tends to find a broadly positive association between HRM and performance, but includes optimistic and pessimistic verdicts, and commentators point to theoretical and methodological challenges. We focus on three broad issues. First, for performance/outcome variables, financial measures (e.g. profit) dominated, with measures of employees' experience somewhat rare, making it difficult to judge between the competing views of the 'mutual gains', 'optimistic' or 'win–win' (employers and employees both benefit from HRM) or 'conflicting outcomes', 'pessimistic' or 'sceptical', 'win–lose' or 'lose–lose', or 'counteracting effects' perspectives (HRM pays off in terms of organisational performance but has no, or even a negative, impact on employee well-being). Second, we look at the HRM variables and discuss single compared with integrated and coherent 'bundles' of mutually reinforcing practices, and 'best practice' and 'best fit' or universalistic, configurational, or contingency approaches. The main issue here is whether or not 'one size fits all' in all situations or whether or not best practices vary in different contexts of countries and industries. Finally, in terms of linkage, we discuss the so-called 'black box problem' of theory and method. The most common theory involves the ability, motivation, opportunity (AMO) framework, which focuses on the importance of taking into account variables at the individual level such as employees' skills and competences (A = abilities), their motivation (M = motivation) and their opportunity to participate (opportunity = O). The most significance methodological problem is said to be the dominance of cross-sectional over longitudinal designs, making it difficult to say anything significant about causality. In short, we know little about how, and in what circumstances, HRM may be lead to enhanced performance.

There are also significant debates about defining and measuring terms. For example, one review found more than 50 definitions of work engagement, and the term has been used in the NHS in a number of documents in different ways. The reviews tend to conclude that the HRM–performance link is complex and unclear, and it is generally argued that, while context is important, there are few studies on health care in general and on the NHS in particular.

There are a series of reports by a number of bodies drawing on different, but connected, debates inside and outside the NHS. There is a generic business-case debate on employee health and well-being, and engagement. Similarly, a series of reports from the Department of Health and other organisations have stressed the importance of staff involvement and engagement, and health and well-being over a period of about 15 years. However, a number of untested optimistic assumptions – ignoring costs, transferring evidence from contexts such as the USA and from for-profit industry, causality and 'win–win' – have been largely taken for granted. Moreover, implementation has been rather variable and patchy. It is possible that renewed emphasis may be placed on this case in the 'post-Francis' era.

## Methods

Owing to the complex nature of the study, we did not complete one single literature review, but instead conducted three separate reviews. The first examined the HRM performance literature in general terms, the second was a systematic review of this relationship in health care and the third studied policy literature relating to the topics.

We used secondary data to answer these questions in a number of different ways. Staff satisfaction (experience) data were taken from the national NHS staff surveys of 2009, 2010 and 2011; data from the earlier 2 years were available in full detail, and for 2011 in aggregate format. We used the published 'key findings', representing a wide range of topics relating to employees, to represent staff experiences. Measures of staff absenteeism and turnover from the same three NHS years (2009/10, 2010/11 and 2011/12) were gathered from the NHS Information Centre for all NHS trusts in England. We also gathered organisational performance data for acute trusts in the form of inpatient satisfaction, patient mortality and hospital-acquired infection rates for each of these years.

The research questions themselves broke down into a number of specific objectives, each of which required one or more different analytical methods. In particular we examined longitudinal relationships to attempt to answer questions about causality and direction of effects. The methods used included multilevel regression analysis (which we used to examine experiences that had the largest effect on staff self-reported outcomes, including satisfaction, turnover intentions and well-being), mediated regression analysis (used to test whether or not there was any evidence of indirect effects of staff experience on organisational performance via intermediate outcomes), latent growth curve modelling (used to examine whether or not staff experience could explain differences of level and change in intermediate and final outcomes) and cross-lagged correlation analysis (used to examine whether or not there was any evidence of directional effects between staff experience variables, intermediate and final outcomes).

## Results

As was expected, in general there is a clear pattern that better staff experiences are associated with better health and behavioural outcomes for the employees concerned. The results from the individual (multilevel) analysis were similar to those found in other studies, but with some added illuminations; in particular, the effects of staff believing there were equal opportunities for career progression and promotion on individual outcomes were especially strong, and also the negative effects of aggression (particularly from colleagues) and discrimination were telling.

There was also a very clear pattern of organisational level analysis for the outcomes staff absenteeism and patient satisfaction. In both cases, the latent growth curve analysis determined that better staff experiences, in terms of experienced well-being, engagement, good job design and lack of negative incidents, was strongly associated with good outcomes. For staff absenteeism, this was enhanced by cross-lagged correlations that suggested clear evidence for the direction of the effect between absenteeism and most of the staff survey variables: it is much more likely that good staff experience leads to lower absenteeism than vice versa. These effects are particularly strong for negative experiences such as violence and harassment, but are also very strong for the positive experiences of staff being able to contribute towards improvements at work, and when there is good communication between management and staff. Although there were some results involving patient satisfaction that suggested directional effects, these were less consistent.

However, results involving other outcomes often provided more equivocal results. Although there was some strong latent growth curve analysis results suggesting that improvements in the number of staff having meaningful jobs increased – when there are decreases in aggression from other staff, and when belief in their employer as both a place to work and a place to receive treatment increases, then turnover tends to decrease over subsequent years. Many of the other results – particularly the cross-lagged correlations – gave inconsistent or counterintuitive findings. This has to be placed in the context of major changes in the NHS over the study period, including many large reorganisations of services, necessitating more movement of staff between trusts (and, in some cases, redundancies) than would normally be expected. Likewise, results involving patient mortality did not give many clear and consistent patterns and, although there was undoubtedly some evidence that better staff experiences was associated with lower patient mortality, the longitudinal analysis did not always give a clear direction to these effects. However, cross-lagged correlations did reveal some patterns suggesting directional effects, for example that absenteeism in 1 year is more closely associated with mortality in the subsequent year than vice versa. Few clear results were found involving infection rates as an outcome.

In terms of the mediation, a striking finding was that although staff experiences were associated with absenteeism, and with patient satisfaction, there were not any mediated effects here. That is, the reason for staff experiences affecting absenteeism appears completely separate from the reason they affect patient satisfaction. Given that both are important for trusts for different reasons, this points to an even greater importance of staff attitudes and experience.

One of the major findings for the separation into groups (research question 3) was that, for the most part, there is not a single group of staff (or geographical region) for which staff experiences are the most important. Despite this, there are some patterns that became evident when studying the findings in more detail.

There are the most effects and largest differentials for predictors of absenteeism. Nursing staff generally had the strongest effects of all the occupational groups – unsurprising given that they form the largest group of staff. However, medical/dental staff also had substantial effects for most predictors. The turnover intentions and perceptions of work pressure of allied health professionals were the strongest predictors of actual staff turnover, and all the main clinical groups as well as administrative/clerical staff had large effects as predictors of patient satisfaction. White employees' attitudes and experiences had larger effects as predictors of absenteeism than other groups, mainly because they formed the vast majority of the workforce. There were no other easily explainable differential effects by ethnic group.

In terms of geographic regions, absenteeism was most readily predicted – by most staff survey variables – in the West Midlands, while the health of workers in Yorkshire had the strongest effect on patient satisfaction, and work pressure in the South Central region was a stronger predictor of turnover than in other regions. However, aside from the West Midlands, these may be one-off results with no clear patterns emerging.

Two Action Learning Sets (ALSs) of managers, and patient and public involvement representatives were created to focus on the link between staff attitude and behaviour, the resultant outcomes and organisational performance. These groups met twice in addition to a final workshop. Set members broadly supported the emerging findings of the factors that seemed to be important indicators of staff satisfaction and organisational outcomes: quality of job design, work pressure felt, work–life balance and support from supervisor. Discussion at the final workshop focused on the implications of the findings linked to appraisal, teamworking and differences linked to gender and occupational group.

## Conclusions

Overall, the research confirmed some of the expected results demonstrating links between staff experiences and outcomes, thus providing support for that part of the overall HR model in a health-care setting and in the NHS in particular. However, although there were some clear results regarding direction of causality, particularly involving absenteeism, other longitudinal results were far less pure.

This may be due, in part, to the way the research was conducted. Although it had many strengths, including the use of large-scale data sets, longitudinal data analysis and relatively sophisticated methods, there were also several limitations, in particular regarding the data available. Measurements of organisational level effects measured annually may simply be too blunt to capture some of the more intricate and less major effects, especially when the measurements themselves are sometimes not ideal.

This points to some interesting possible directions for future research. Certainly there is still much scope for detecting exactly how staff experiences and outcomes are linked, particularly when linked to more longitudinal data. The careful evaluation of interventions designed to improve staff experience, with the use of appropriate designs (e.g. randomised control trials or stepped-wedge designs at individual, group or department levels) and the continued use of secondary data sources, such as those used in this report, are used to answer more specific, theoretically driven questions.

Given that there are relatively few empirical studies in the NHS and we have demonstrated that it is not sensible to transfer findings from other contexts or countries, this represents a significant advance on our knowledge about how staff management and attitudes play an important role in health care. ALSs suggested that the emerging findings were broadly supported by a sample of NHS managers, although further validation work would be needed to confirm the findings fully.

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