Review of the validity and reliability of measures of human resource management

(RM03/JH10/MP)

Report for the National Co-ordinating Centre for Research Methodology and the National Co-ordinating Centre for NHS Service Delivery and Organisation R & D (NCCSDO)

August 2007

prepared by

Malcolm Patterson*, Jo Rick*, Stephen Wood*,
Christopher Carroll†, Shashi Balain‡, Andrew Booth†
*Institute of Work Psychology and
†School of Health and Related Research, University of Sheffield
‡Management School, Lancaster University

Address for correspondence

Malcolm Patterson
Senior Research Fellow,
Institute of Work Psychology
Mushroom Lane,
Sheffield S10 2TN
Telephone: +44 (0) 114 222 3244
Fax: +44 (0) 114 272 7206
E-mail: m.patterson@sheffield.ac.uk

Competing interests: none

Executive Summary

The context for this review

The NHS is the largest employer in Europe, involving complex and diverse services and work roles. The NHS continues to undergo substantial organisational change as indicated by increased emphasis on performance targets representing drivers at local, national and clinical level.

Human resource management (HRM) is being seen as a vital element in the successful realization of these change programmes and is being given a greater prominence that it has traditionally. It is therefore timely to assess the evidence we have on what human resource initiatives are most effective.

HRM in the UK

Over the past two decades growing research attention has been given to exploring the links between organisational performance and HRM systems and processes, and especially the much touted modern, high involvement management approach. This has generated a large body of literature, largely cross-sectional in nature, i.e. measures of performance and systems are taken at the same time, so it is not possible to determine cause and effect. Reviews of this literature have given rise to the perception that the significance of HRM in determining organisational performance has largely been proven. Increasingly, however, a number of researchers are questioning whether the claims for evidence of a universal link between HRM and performance are overstated. Whilst they endorse the importance of this line of research, they particularly drew attention to methodological limitations of the studies and the heterogeneity of the measures of HRM used across the studies

This report presents the results from a wide-ranging systematic review of the evidence on HRM and performance. The search covered the general HRM literature, and not simply the health literature. It is distinctive in a number of ways:

- The quality criteria used to select papers for inclusion incorporated a longitudinal study design filter as this may provide evidence about the causal direction of relationships between HRM and relevant outcomes in a way that cross-sectional data cannot.
- The review considers single HRM practices and is not confined to collectivities of them or bundles as they are known in the high performance management literature.
- The review covers issues around the implementation of HRM in practice and the measurement of relevant intermediate outcomes in the HRM-performance chain.
- Within the health specific literature, the review is focused in particular on the impact of HRM on patient outcomes.

How widespread is the use of HRM practices in the UK?

The first part of this review is concerned with evidence on the use of HRM in the UK and the fidelity or accuracy with which HRM practices are implemented. Limited evidence on the use of HRM is available. A review of national survey data identified some evidence on the use of specific HRM practices in ten broad practice categories, although very little was disaggregated to the health sector level. The most commonly cited practices were family-friendly and work organisation ones which were used in 70% of workplaces. The data does not always indicate the precise extent of the use practices within organisations, i.e. whether practices apply to all or some of the workforce.

Little is therefore known about what HRM practices are used within the NHS at the present time. A more detailed picture could be achieved through further analysis of the WERS Survey or through bespoke future surveys.

How well implemented are HRM practices?

A further important consideration in assessing the impact of HRM practices is *implementation fidelity* i.e. the accuracy with which policies are implemented by organisations in practice. Research from social policy, where the concept of implementation fidelity is more established, indicates that the fidelity with which a practice in implemented is related to its efficacy. Within HRM, this review found only a few studies that had collected data on the implementation of a policy and this appeared to be an area which was largely ignored in the HRM literature. The majority of research focuses on policy or intended HRM practices rather than actual or implemented practices. This finding has considerable implications for interpretation of the research and understanding why a study might find a weak, or no, relationship between a practice and it's intended outcome. This review proposes a framework for understanding and explaining processes at work in evaluating and achieving implementation fidelity, within the context of HRM and policy. Appendices C and D present guidance and a checklist for evaluating fidelity based on these findings.

For all new HRM practices, the process of implementation should be clearly stated and adherence to the implementation needs to be evaluated as well as any intended outcomes.

The impact of HRM

The remit for the second part of this review was to consider the evidence for the impact of HRM practices on intermediate outcomes (the intended outcomes of HRM) that may ultimately impact on final outcomes such as organisational performance or patient care. In other words, the focus was on HRM interventions and employee mental, emotional and attitudinal states (and their measurement) that are thought to influence employee behaviours salient to effective organisational performance.

HRM practices and outcomes considered in the review

Broad categories of HRM interventions and intermediate outcomes were generated though the literature. This list was refined over the course of the study to produce ten HRM categories and 12 intermediate outcome categories. Seven patient (final) outcomes were derived from the Healthcare Commission NHS performance indicators (Healthcare Commission, 2005) and the NHS Improvement Plan (NHS, 2005). No final outcomes were specified in the non healthcare literature (ie any longitudinal studies of HRM practices were considered for inclusion):

HRM Practices:

- work design
- staffing
- training and development
- compensation and rewards
- communication
- family friendly
- single status/status harmonisation
- employee representation and participation
- appraisal/performance management
- bundles of practices.

Intermediate Outcomes:

- Motivation
- job satisfaction
- organisational commitment
- occupational commitment
- engagement
- burnout
- job involvement
- turnover intentions
- psychological contract
- organisational justice
- organisational support
- organisational climate.

Final Outcomes:

- patient safety
- patient centred care
- patient waiting times
- patient satisfaction

- health related quality of life
- patient mortality
- patient stay
- readmissions

Overall Findings on Impact

HRM in health and non-health settings

There is an imbalance in the practices covered, so in both health and non-health areas, certain domains of HRM are covered disproportionately more than in others. This highlights areas of HRM which have yet to be researched, including in an NHS context. Additionally, very few replication studies were found, so many of the findings in this report are based on only a small number of studies which precludes the development of generalisable conclusions.

Some HRM practices have been the subject of research in both the health and the non-health sectors. However, the specific practices that have been studied within each HRM category do differ, so there is little evidence to show whether similar HRM practices have the same effects in health and non-health settings. An implication of this finding is that care needs to be taken when adopting HRM practices from out with the NHS – it cannot be assumed that the same practices are appropriate in both settings, nor that the same effects will accrue.

No single HRM practices or bundle of practices were found to be a panacea. However our review does enable us to identify some potentially effective practices for both health and non-health areas.

- In the area of work design, practices which enhance employee autonomy and control are influential in relation to a number of outcomes and there is consistent evidence for the positive impact of increased job control (in various forms) on employee outcomes such as job satisfaction, absence and health.
- In the parallel field of employee participation, the small number of studies reviewed here support the widely advocated principle of involving employees in the design and implementation of changes (e.g. job redesign) that affect their work. Specifically in the health literature, employee involvement through quality improvement teams was found to be effective in terms of improved patient outcomes.
- In the area of training, findings are consistently positive for the impact of training on the specific intended outcomes of the training initiatives.
- Support for the impact of performance management practices is found and particularly the importance of feedback on performance outcomes and the use of participative goal setting.

Such evidence points to the HRM methods that can be used to support and enhance change processes within the NHS. The findings in the work organisation area are particularly promising in the light of considerable changes in methods of service delivery that are on-going in the NHS. Opportunities for job and service re-design within the NHS offer great scope for future exploration. The use of training to support the implementation of change is also highlighted in the good practice around implementation fidelity identified by this review, and therefore is important evidence on the process of HRM policy development and practice.

Relationships between intermediate outcomes

The relationships amongst intermediate outcomes were also examined. Moderate to high correlations were found between all the intermediate outcomes where data is available. The associations although strong, do not suggest construct redundancy, and it is reasonable to conclude that each of the intermediate outcomes identified in this review may contribute uniquely to efforts to understand and manage employee behaviours.

The review also explored the correlations between intermediate outcomes and productivity-enhancing behaviours (eg individual job performance, employee turnover). The relationships between most intermediate outcomes and behaviours were significant and of small to moderate strength. The premise here is that intermediate outcomes are determinants of salient employee behaviours, which in turn enhance organisational performance. This data does not prove a causal link, but does demonstrate associations.

The impact of Intermediate Outcomes on Final Outcomes

This review was unable to identify any longitudinal evidence to assess whether intermediate outcomes, such as job satisfaction or burnout, impact on patient care outcomes. In the non-health field, a small number of longitudinal studies were identified that examined the impact of intermediate outcomes (mostly average employee job satisfaction) on organisational performance. While the studies in this review show associations, the evidence on the casual direction of this relationship is mixed. This relationship is a crucial link for the premise that HRM influences final outcomes partially through its impact on employee outcomes such as job satisfaction, and we clearly need more substantial data sets for surer interpretation.

Measuring intermediate outcomes in the NHS

The report presents information on the reliability of measures in each of the intermediate outcome areas identified for review. Where possible, the specific measures used in the included studies were reported on. Where an intermediate outcome area was not covered by the studies included in this review the subject experts on the research team identified an

appropriate measure for inclusion. Details of the measures, their items and reliabilities are presented in chapter 10.

These measures represent a basic toolkit which could be used or adapted for future NHS based research of the HRM performance link.

Disclaimer

This report presents independent research commissioned by the National Institute for Health Research (NIHR). The views and opinions expressed by authors in this publication are those of the authors and do not necessarily reflect those of the NHS, the NIHR, the NIHR SDO programme or the Department of Health. The views and opinions expressed by the interviewees in this publication are those of the interviewees and do not necessarily reflect those of the authors, those of the NHS, the NIHR, the NIHR SDO programme or the Department of Health

Addendum

This document was published by the National Coordinating Centre for the Service Delivery and Organisation (NCCSDO) research programme, managed by the London School of Hygiene & Tropical Medicine.

The management of the Service Delivery and Organisation (SDO) programme has now transferred to the National Institute for Health Research Evaluations, Trials and Studies Coordinating Centre (NETSCC) based at the University of Southampton. Prior to April 2009, NETSCC had no involvement in the commissioning or production of this document and therefore we may not be able to comment on the background or technical detail of this document. Should you have any queries please contact sdo@southampton.ac.uk.