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Does organisational culture influence health care performance? A review of the evidence

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Objective: To review the evidence for a relationship between organisational culture and health care performance.

Methods: Qualitative comprehensive review: all empirical studies exploring a relationship between organisational culture (broadly defined) and health care performance (broadly defined) were identified by a comprehensive search of the literature. Study methods and results were analysed qualitatively to provide a narrative review with integrative discussion.

Results: Ten studies met the inclusion criteria. There was considerable variation in the design, study setting, quality of reporting and aspects of culture/performance considered. Four of the ten studies reviewed in detail claimed to have uncovered supportive evidence for the hypothesis that culture and performance are linked. All the other studies failed to find a link, though none provided strong evidence against the hypothesis.

Conclusions: There is some evidence to suggest that organisational culture may be a relevant factor in health care performance, yet articulating the nature of that relationship proves difficult. Simple relationships such as 'strong culture leads to good performance' are not supported by this review. Instead, the evidence suggests a more contingent relationship, in that those aspects of performance valued within different cultures may be enhanced within organisations that exhibit those cultural traits. A striking finding is the difficulty in defining and operationalising both 'culture' and 'performance' as variables that are conceptually and practically distinct. Considerably greater methodological ingenuity will be required to unravel the relationship(s) between organisational culture(s) and performance(s). Current policy prescriptions, which seek service improvements through cultural transformation, are in need of a more secure evidential base.

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Introduction

The past two decades have seen unprecedented levels of structural health care reforms in pursuit of efficiency, effectiveness and wider access, in most developed nations.¹ Structural change, for example, has been particularly heavily promoted by central government policy in the UK National Health Service (NHS).²

It is increasingly recognised, however, that structural change alone will not secure sufficient gains in health care performance. Policies over the past five years have also begun to emphasise the importance of developing cultural changes alongside structural reform. This concern with culture is evident in discussions of clinical

governance, and figured prominently in the influential Kennedy Report.³ The need for cultural change was also highlighted in recent strategic policy documents for the NHS.⁴

The attention being paid to culture by UK policy-makers is complemented by some of the activities occurring within health care delivery organisations internationally. There now exists a growing literature devoted to ideas of changing or transforming culture as a means of improving quality, efficiency, patient focus and/or broader organisational performance.⁵ Much of this health care guidance draws on a generic, international and heterogeneous management literature ranging from serious conceptual and empirical studies to normative guides.

The notion that organisational culture can affect health care performance rests upon certain assumptions: that health care organisations, units or work groups have identifiable cultures; that culture is related to performance; that a culture can be altered to impact on performance; that the intervention will provide a worthwhile return on investment; and that it will outweigh any dysfunctional consequences. Thus, a link between culture-based interventions and improved organisational

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Box 1 Conceptions of organisational culture

Focus	Description
Exchange regulation	A form of control used to shape shared views with a view to reducing transaction costs
Compass	A shared value system that provides guidance and direction
Social glue	The shared values, beliefs, understandings and norms that bind an organisation's members into collective endeavour
Sacred cow	Ideals and values internalised and held sacred by an organisation's members
Management control	The manipulation of beliefs and values as a means of meeting strategic objectives
Affect regulation	The control and management of the affective and expressive elements of organisation
Non-order	The inherent ambiguity, uncertainty, contradiction and confusion of organisational life
Blinders	The deep aspects that provide an unconscious guide to behaviour
World closure	A shared view on life
Dramaturgical domination	The manipulation of symbols and their dramatic attributes in a political context

Abstracted from Alvesson.¹⁰

performance is contingent on a chain of assumptions of uncertain strength or validity. In view of the wide-spread activity and investment in this area, we wanted to know if any reliable evidence could be found to suggest that aspects of health care organisations' cultures are related in significant ways to aspects of their performance.

Defining organisational culture

In order to interpret evidence of a link between organisational culture and organisational performance, we need an appropriate theoretical framework. Organisational culture is an anthropological metaphor, one of many used to inform research and consultancy in organisations. It is related to – but conceptually distinct from – organisational climate (a meteorological metaphor). Although culture and climate have much in common, and are often used with unclear delineation,⁶ culture attempts to address deeper values and assumptions rather than the surface perceptions that are the focus of climate studies.^{6,7} Organisational culture also emphasises that which is shared by group members rather than the diversity of individual perceptions that can make up climate.⁸

The key methodological principle in studies of organisational culture is to investigate organisations as mini-societies.⁹ These aim to illuminate participants' interpretations, evaluations and expressions of their roles within the social, political and technical life-world of an organisation. A plethora of definitions of organisational culture can be found in the literature (Box 1).¹⁰ Most of these definitions implicitly recognise the socially constructed nature of the phenomenon, locate its generation in pervasive, normative beliefs and values, and see its expression in terms of patterns of behaviour. However, arguably what distinguishes one culture from another is the vast pool of tacit knowledge, which natives

understand, but are not conscious of knowing. Culture, therefore, is not merely the observable in social life; it is also the shared cognitive and symbolic context within which a society can be understood. One cannot safely interpret any aspect of a foreign culture abstracted from that tacit knowledge, which is, therefore, the heart of the matter. For that reason we follow Schein's definition of organisational culture as:

The pattern of shared basic assumptions – invented, discovered or developed by a given group as it learns to cope with its problems of external adaptation and internal integration – that has worked well enough to be considered valid and, therefore, to be taught to new members as the correct way to perceive, think, and feel in relation to those problems.¹¹

Many commentators also agree on the layered nature of organisational culture, and Schein's identification of three levels of ascending importance also provides one of the most useful and widely acknowledged frameworks for analysis (Box 2).¹¹

Box 2 Levels of organisational culture¹¹

Level 1: *artefacts* – the most visible manifestations of culture, including dress codes, rituals, rewards and ceremonies; especially concerned with the observable patterns of behaviour within organisations

Level 2: *beliefs and values* – espoused beliefs and values; may be used to justify particular behaviour patterns, and for choosing between alternative courses of action (e.g. a belief in evidence; assertions about patient autonomy)

Level 3: *assumptions* – the unspoken, largely unconscious beliefs, values and expectations (e.g. biomedical versus biopsychosocial understanding of health and illness); these may be signalled by artefacts that belie espoused beliefs and values

Defining performance

Defining performance presents further problems, as there exists, for any organisation, a range of possible measures. This is true especially of health care, with measures of clinical process, health outcomes, access, efficiency, productivity and employee variables all offering some potential. In addition, different channels of communication may convey different performance information; for example, the apparently 'hard' information contained in league tables may differ from the 'softer' intelligence circulating around informal networks.¹²

The essential ambiguity of performance arises from three main senses of the nature of 'performance': performance as *enacted behaviour*, relating to socio-technical processes of care; performance measured in terms of *end-points or outcomes*; and performance as a *dramatic event*. Each of these meanings tends to invoke the other two, as befits the nature of signification in general. A surgical procedure, for instance, implies both a technical performance and a desired outcome, as well as entailing aspects of dramatic production and presentation (e.g. from who's perspective is success or failure determined?). A consultant's ward round is a ceremonial vehicle for demonstrating important social and technical competencies, including diagnostic skill, communication, therapeutic knowledge and learning. Finally, performance data – whether relating to waiting times, medical errors, or comparative data on mortality – of necessity imply a series of socio-technical processes behind the bald statistics. The use of such data calls for skills in the timing and presentation to target audiences, often with the aim of persuading or otherwise influencing behaviour. Armed with this understanding of the complexity of 'performance', we approached the empirical literature with open minds, prepared to classify specific definitions of performance or revise the framework as necessary.

Relating culture and performance

Much work outside health care has attempted to make linkages between organisational (or 'corporate') culture and subsequent organisational performance. Several populist texts of the 1980s expounded these links. For example, Peters and Waterman claimed to have uncovered the corporate cultural characteristics leading to 'excellence';¹³ Ouchi and Wilkins sought to explain links between culture and productivity;¹⁴ and various authors argued for the importance of 'strong cultures' as a way of ensuring high corporate performance.^{15,16} This 'excellence' literature has, however, not been without its critics.^{16,17} These have called attention to the unsubstantiated assumption of a unitary culture that underlies such work, the lack of an operational definition of cultural 'strength' and the weak methodologies employed in the original empirical work. A review of more recent studies came to somewhat more cautious conclusions about any culture–performance relationships.¹⁸

Wilderom et al reviewed ten major quantitative studies (seemingly the major empirical/quantitative culture–performance studies to date) in an attempt to substantiate the culture–performance link.¹⁸ Nine of these ten studies, carried out in diverse US and European industries, purported to find associations between cultural characteristics and both short- and long-term performance. Yet in collating the evidence, the review's authors draw attention to the diverse methodological difficulties that preclude the drawing of strong conclusions supporting such a link as causal (not least of which are the issues noted above about the ambiguity surrounding both culture and performance). Indeed, given the cross-sectional nature of the studies, they note that the data are equally consistent with the hypothesis that performance determines cultural traits rather than vice versa. In addition, they raise concerns over publication bias, noting that quantitative studies that find no linkages between culture and performance are less likely to reach major journals. In sum then, the reading of the evidence outside health care highlights some of the difficulties in linking culture to performance and does not reveal a strong empirical base in support of the relationship.

Organisational culture change may also have broader effects than those intended. Unintended, unforeseen (and often unwanted) results could be predicted to occur as culture changes. These may be minor and inconsequential or major and dysfunctional.^{19,20} While a range of unintended consequences may be expected to arise from *any* management intervention, those occurring specifically in train from organisational culture change strategies have been surprisingly little studied. Nonetheless, two significant publications that explored this issue empirically in a series of case studies^{21,22} did uncover a range of unintended effects. These included the ritualisation and dilution of change, the erosion or selective re-invention of culture by front-line workers and the appropriation of culture change processes for other purposes. These findings suggest that any examination of culture and performance should broaden its scope, looking beyond positive predicted effects and encompassing an examination of unintended and dysfunctional outcomes.

Thus the evidence base to date linking culture and performance in non-health care organisations is suggestive but far from definitive. However, these ideas have now percolated into health care, forming major strands of both policy stipulations and managerial action. This begs critical review. This paper therefore retrieves and reviews the major empirical evidence linking organisational culture and performance specifically within health care organisations. The aim was to use an examination of published work to advance knowledge in a number of areas. First, we wanted to understand further the nature of organisational culture and its expression within health care organisations. Second, we wished to examine, in all its diversity, the current state of evidence in the health care arena linking cultural aspects to aspects of performance. Third, we were interested in

extracting the methodological lessons for those interested in developing further empirical work.

Methods

We employed a comprehensive electronic search to uncover all the major pieces of empirical work examining a culture–performance link in health care organisations, the initial search strategy being designed with the help of information professionals at the NHS Centre for Reviews and Dissemination. We began by searching the following databases for articles on organisational culture: Medline, Cinahl, King's Fund, Helms and Dhdata. These combine coverage of all the major English-language management journals with an emphasis on health services research. The initial key search term was simply 'culture', but this was later refined to 'organisational culture' (and variants) to remove a large number of false hits referring to microbiological cultures. A cross-check on a 20% sample of records retrieved confirmed that all relevant studies located using the inclusive term were also located using the more restrictive term. The search did not specify 'performance' as it was designed to also locate articles addressing culture theory and culture assessment techniques, which are reported elsewhere.^{5,23,24}

The resulting records were assessed for relevance by two of the authors (TS, RM), and full articles apparently dealing with culture and performance in an empirical manner were retrieved. Bibliographies of these articles were also searched, and the authors of articles and culture measurement tools²⁴ were contacted wherever possible. Additional contacts with around 30 subject area specialists at two seminars in London (UK) and Berkeley (USA) allowed us to be reasonably confident that we had uncovered all the major empirical studies examining links between organisational culture and health care performance.

From over 1700 bibliographic records initially uncovered and assessed, 69 full articles were retrieved. Of these, 19 reported empirical studies of relationships between organisational culture and performance, nine of which had been conducted in non-health organisations and ten in health care organisations. This article reviews only the ten health care studies: one covered hospitals in the UK, Canada and the USA; one was UK based; and the remaining eight were based in US health care organisations.

Synthesis

Quantitative aggregation of effects is impractical and inappropriate when reviewing the linkage between such diverse and contested concepts as 'culture' and 'performance' as there is insufficient conceptual or methodological common ground. Instead, this paper presents a narrative on each study followed by some integrating discussion. The narrative is informed by a number of critical questions: How were both culture and performance conceptualised? To what extent were the culture

and performance variables distinct? Was it clear which of these was the dependent and which the independent variable? And, finally, if performance *was* reported as being related to culture, what was the nature of any such relationship?

Results

The studies differed in terms of the types of health care organisations studied, participants included, levels of culture assessed, set of performance measures included and methodologies applied (Table 1). The performance indicators used included indices of service quality in hospitals,²⁵ hospital employee loyalty and commitment,²⁶ and risk-adjusted clinical outcomes for cardiac surgery patients.²⁷ Assessment of culture also varied greatly, including both quantitative and qualitative assessments of norms^{25–27} and employee attitude and beliefs.^{27,28} One notable feature was the failure of any of the studies to go deeper than observed artefacts (level 1) or explicit statements of attitudes/beliefs (level 2) to explore deeper assumptions (level 3).¹¹

The studies also varied methodologically, from idiographic (i.e. concerned with the individual, pertaining to unique facts and processes) non-participant observation and depth interviews²⁹ to large-scale nomothetic (i.e. concerned with the discovery of general laws) statistical analysis.^{27,28} Only two studies used mixed methodological approaches.^{30,31} Of the ten studies, four found some plausible evidence for a link between culture and performance,^{25,26,29,32} four found little evidence for such a link,^{27,28,30,31} and two provided unclear findings due to significant methodological issues.^{33,34} Brief accounts of each of these studies are now provided.

Culture and paediatric outpatient non-attendance in the UK

The only study conducted solely in the UK²⁹ was also the only one to adopt an entirely idiographic approach to examining the relationship between culture and performance. (Two other studies which supplemented their nomothetic stance with some idiographic data collection are discussed later.^{30,31})

Non-participant observations of a hospital paediatric outpatient department were used to view the processes and attitudes of patients and staff during a typical outpatient session.²⁹ Such observations were supplemented with a telephone survey of patients/parents of patients who did not attend for their hospital appointment. This telephone survey also included interviews with a similar number of matched controls. The author asserted that her findings suggested that a relationship between the outpatient department's culture and patients' attendance did exist – but that the precise nature of this relationship was unclear.

The first key issue highlighted by this study was the potential interplay between the organisation's culture and patient behaviour. For example, if reception staff

do not attend promptly to patients, this is likely to affect patients' attitudes and may influence subsequent decisions to default on attendance. High levels of non-attendance may, in turn, influence staff attitudes and behaviour towards patients. Recognition of this interplay suggests that examinations of culture in health care may need to be broadened to capture such recursive relationships.

Second, while the design of this study prevents any conclusions from being drawn on our central question, it does serve to highlight a serious conceptual/methodological problem alluded to above – that of distinguishing between culture and performance. What the investigator actually observes in the study are two aspects of process performance (how staff enact their roles and patients enact theirs) together with a performance outcome (the did-not-attend rate). Yet the behaviour of both staff and patients, and the high default rate in turn, could all be construed as artefacts of the organisation's culture. Such ambiguity complicates the search for a link between culture and performance, as such a link is premised on the belief that these concepts are formally and substantively distinguishable from one another.

Cultural norms and unit effectiveness in US hospital emergency units

The relationship between cultural norms and unit effectiveness was tested in 44 hospital emergency units in the USA.²⁵ Two dimensions of culture were analysed: *normative complementarity* (the amount of agreement between professional groups about the norms governing their relationships)³⁵ and *normative consensus* (the amount of agreement existing within a group about their norms). Organisational effectiveness measures included three dimensions: promptness of care; quality of nursing care; and quality of medical care.

Regression analysis showed that normative complementarity and normative consensus explained a significant amount of variance in each of the effectiveness indicators. As normative complementarity and/or normative consensus increased, the promptness and quality of care also increased. The effect sizes were larger and statistically significant for the measures of between-group agreement (complementarity), but smaller and not significant for the within-group measures (consensus).

This study therefore suggests that *agreement about norms between groups* is positively and significantly associated with the effectiveness of emergency units, whereas the relationship between performance and normative agreement *within* professional groups is weaker and less clear. Such findings tend to agree with earlier work,³⁶ which found that organisations with strong between-group ties were more effective than organisations with strong within-group ties in crisis situations. As crises are everyday occurrences in emergency units, and, therefore, not crises in the usual sense, these findings indicate that a similar relation between inter-group normative agreement and performance may also exist in non-critical situations.

This study suggests that groups sharing a high common understanding of emergency situations work together better than do groups with a lower common understanding of those situations. Yet, in similar situations, the level of agreement between individuals within the groups does not make any significant difference. This is a potentially important finding, as it suggests that there may be something about the primary–secondary group relationship that differs from the individual–primary group relationship. It also supports the view that groups and individuals are different units of analysis, with consequent methodological implications for culture and/or performance assessment.

Top management culture and hospital performance in the UK, USA and Canada

Gerowitz et al²⁶ examined the role of top management team culture in 265 hospitals located in Canada (45 hospitals), the UK (100 hospitals) and the USA (120 hospitals). The competing values framework^{37–39} was used to identify clan, open, hierarchical and rational cultures (see Box 3 for a summary of these culture types). Five measures of performance were used: (1) employee loyalty, (2) external stakeholder satisfaction, (3) internal consistency, (4) external resource acquisition, and (5) overall adaptability.

Three empirical questions were then addressed:

1. Whether hospital management teams in the USA, Canada and the UK have different management cultures given the differences in their political economies.
2. Whether management culture was associated with differences in performance.
3. Whether using culture types derived from the competing values framework was a fruitful research avenue in seeking to explore variations in performance.

The paper concluded that the empirical findings supported each of these propositions.

First, there was evidence that the political economy influenced the distribution of culture types: hospital management teams in the UK were more frequently clan and hierarchical cultures; hospital teams in the USA were more frequently rational and open cultures; and hospital management teams in Canada were more frequently clan and rational cultures.

Second, the data provided significant support to the overall hypothesis that culture is linked to performance. A key finding was that the dominant culture of the hospital management team was positively and significantly related to organisational performance in the case of clan, open and rational cultures, *but only in the performance domain valued by that culture*. For example, hospitals with dominant clan cultures performed significantly above average on measures of employee loyalty and commitment; those with dominant open cultures performed better on measures of external stakeholder satisfaction; and those with dominant hierarchical

Table 1 Studies relating organisational culture and performance

Study	Study design	Participants	Context	Culture levels	Culture assessment	Performance indicators	Summary of findings
Jackson (1997) ²⁹ UK	Ideographic	Patients and staff of UK hospital outpatient department	Study of the effect of outpatient culture on non-attendance rates	Level 1: behaviour patterns Level 2: attitudes, values and beliefs	Non-participant observation and telephone survey	Number of patients who did not attend appointments	A link between culture and performance (non-attendance rates) is supported
Argote (1989) ²⁵ USA	Nomothetic	Physicians (463) and nurses (278) working in 30 emergency units in US hospitals	Comparative study on relationships between norms and work-unit effectiveness	Level 1: behavioural norms	Normative complementarity (agreement between groups) Normative consensus (agreement within groups)	Work-unit effectiveness, including: promptness of care; quality of nursing care; quality of medical care	The results tend to support a linkage between culture and performance
Gerowitz et al (1996) ²⁶ USA, UK and Canada	Nomothetic	Top management teams of 265 hospitals: 120 in the USA, 100 in the UK, and 45 in Canada	Comparative study of top management culture and hospital performance	Level 2: values	Competing Values Framework ³⁷	Employee loyalty and commitment; external stakeholder satisfaction; internal consistency; resource acquisition; and overall adaptability	As hypothesised, the dominant culture of the hospital management team was positively and significantly related to aspects of organisational performance valued in that culture. A link between culture and performance is supported
Gerowitz (1998) ³² USA	Nomothetic	Top management teams of 120 hospitals in the USA ($n = 271$)	Study assessing the impact of TQM/CQI on culture and performance of top management	Level 2: values	Competing Values Framework ³⁷	Adaptability and global performance measured subjectively by managers	A link between culture and performance is partially supported: culture focus and culture orientation both accounted for significant variations in performance differences
Nystrom (1993) ³³ USA	Nomothetic	Senior managers ($n = 41$) and executives ($n = 36$) in 13 US health care organisations	Study of the impact of culture on organisational commitment, job satisfaction and performance; and examination of the relationship between culture and strategy	Level 1: norms Level 2: satisfaction, commitment, values	Kilmann-Saxton Culture Gap Survey ⁵² Managerial Values Questionnaire ⁵³ Organisational Commitment Questionnaire ⁵⁴ Job Diagnostic Survey ⁵⁵	Managers' judgements comparing the overall performance of their organisation with other organisations producing similar services	A link between culture and performance is claimed but there are significant methodological problems
Rizzo et al (1994) ³⁴ USA	Nomothetic	235 nursing department staff from 13 units in the USA	Analysis of nursing unit culture and work characteristics to inform change in care delivery	Level 1: behaviour patterns	Nursing Unit Cultural Assessment Tool ⁴²	Unit skill-mix; cost measures; worked hours; quality-assurance monitors; documentation of care and discharge planning; patient satisfaction	Only one unit had reached its one-year evaluation mark. It is unclear if a link between culture and performance is supported or not
Shortell et al (2000) ²⁷ USA	Nomothetic	3045 CABG patients from 16 US hospitals	Study to assess the impact of TQM and culture on organisational performance	Level 2: attitudes, beliefs and values	20-item version of the Competing Values Framework ³⁷	Risk-adjusted clinical outcomes, functional health status, patient satisfaction, cost measures	A link between culture and performance is not generally supported

Table 1 continued

Shorrell et al (2001) ²⁸ USA	Nomothetic	56 medical groups in the US involving 1797 physician respondents	Cross-sectional study examining the role of market pressures, compensation and culture	Level 2: attitudes, beliefs and values	20-item version of the Competing Values Framework ³⁷ Patient-centred culture measure ³³	Evidence-based care management measures derived from medical group key informants	Failed to find association between culture and evidence-based care management, perhaps because of amorphous nature of US medical groups
Zimmerman et al (1993) ³⁰ USA	Ideographic and nomothetic	3672 ICU admissions, 316 nurses and 202 physicians	Study to examine organisational practices/culture associated with higher and lower performance in the ICU	Level 1: awards and ceremonies; rituals, learning/teaching Level 2: attitudes, beliefs and values	Interviews and direct observations Organizational Culture Inventory ⁴⁴	Ratio of actual/predicted death rate (effectiveness) Ratio of actual/predicted duration of ICU stay (efficiency)	Structural and organisational questionnaires, self-evaluation by staff members and the research team's implicit judgements following detailed on-site analysis all failed to distinguish higher- and lower-performing units. A link between culture and performance is not supported
Zimmerman et al (1994) ³¹ USA	Ideographic and nomothetic	888 ICU admissions, 70 nurses and 42 physicians	Study to examine structural and organisational characteristics, including culture, at two ICUs with divergent risk-adjusted survival	Level 1: behavioural norms	Creativity, task preferences, communication style and mutual support were measured by an (unnamed) organisational and managerial process questionnaire	Risk-adjusted mortality ratio Mean actual to mean predicted ICU length-of-stay ratio Mean actual to predicted ICU resource utilisation ratio Self-evaluated technical quality of care On-site investigator ranking	Structural and organisational questionnaires, self-evaluation by staff members, and the research team's implicit judgements following detailed on-site analysis all failed to distinguish higher- and lower-performing units. A link between culture and performance is not supported

CABG, coronary artery bypass graft; ICU, intensive care unit; TQM, total quality management; COI, continuous quality improvement.



Box 3 Cultural typology derived from the competing values framework: a model of cultural congruence for organisations adapted from Cameron and Freeman³⁷ with organisation 'type' labels adjusted to correspond with those used in various empirical studies^{26-28,32}

Clan/group

Dominant attributes: cohesiveness, participation, teamwork, sense of family

Leader style: mentor, facilitator, parent-figure

Bonding: loyalty, tradition, interpersonal cohesion

Strategic emphases: towards developing human resources, commitment, morale

Hierarchy/empirical

Dominant attributes: order, rules and regulations, uniformity, efficiency

Leader style: co-ordinator, organiser, administrator

Bonding: rules, policies and procedures, clear expectations

Strategic emphases: towards stability, predictability, smooth operations

Adhocracy/open/developmental

Dominant attributes: creativity, entrepreneurship, adaptability, dynamism

Leader style: entrepreneur, innovator, risk-taker

Bonding: entrepreneurship, flexibility, risk

Strategic emphases: towards innovation

Market/rational

Dominant attributes: competitiveness, goal achievement, environment exchange

Leader style: decisive, production- and achievement-oriented

Bonding: goal orientation, production, competition

Strategic emphases: towards competitive advantage and market superiority

cultures were significantly different in the internal consistency domain from those that exhibited clan, rational and open cultures. Thus, these findings also support the final proposition, providing some empirical legitimacy for the use of cultural typologies in examining variations in hospital performance.

This study again highlights the interdependency of culture and performance – a recurrent feature in most of the studies reviewed. That certain culture types perform better than others against the measures that they value strongly suggests that they are successful in expressing and realising those values. But this also underlines the relativity of performance measures and begs an important question: Who wants performance or, alternatively, performance according to whom?

Total quality management (TQM), culture and performance of top management in US hospitals

In 1998 Gerowitz published another study, to assess the impact of TQM/continuous quality improvement (CQI) interventions on the culture and performance of top management teams in 120 hospitals in the USA.³² The competing values framework was again used to assess culture type. The performance indicators measured were adaptability and overall performance as gauged subjectively by managers.

The analysis found no significant associations between performance and TQM/CQI initiation. However, significant relationships between performance and culture were uncovered. Externally focused cultures (open and rational cultures) were associated with high performance, and internally focused cultures (clans and hierarchies) were associated with low performance. However, no significant association was found between performance and culture *orientation* (mechanistic hierarchical and rational cultures versus relational clan and open types).

Along with its exclusive attention to US hospitals, this study also uncouples the performance criteria from culture type, thereby losing some of the subtlety of the earlier comparative study. Whereas the first study²⁶ used a variety of different measures of performance, the second³² simply used managers' subjective assessments of overall performance – again confusing dependent and independent variables. Thus this study was unable to examine the more subtle hypotheses that specific cultures are related to specific aspects of performance and could not clarify the nature of any culture-performance relationship.

Culture, organisational commitment, job satisfaction and performance in US hospitals

Nystrom³³ similarly focused on higher management echelons in a study of the impact of task norms and pragmatic values on employee outcomes, including organisational commitment, job satisfaction and performance. Performance was measured by asking managers to compare the overall performance of their organisation with other organisations producing similar products or services. The organisations were also classified by 'strategic type'⁴⁰ (prospectors, analysers, defenders, and reactors). Senior managers (*n* = 41) and executive secretaries (*n* = 36) in 13 health care organisations in the USA were included.

The results show that culture does appear to affect employee outcomes and performance. Job satisfaction and organisational commitment both correlated significantly with task norms and pragmatic values (job satisfaction was also correlated significantly with organisational commitment, as has been found elsewhere).⁴¹ The results also showed that organisational cultures differ for health care organisations pursuing alternative strategies. The distribution of task-norm scores for

managers who see their organisations pursuing a consistent strategy (prospectors, analysers, or defenders) is compared with the distribution of task-norm scores for managers who see their organisation operating with an inconsistent strategy (reactors). The organisations with an inconsistent strategy tended to exhibit weaker norms and weaker values than did organisations pursuing any of the three consistent strategies.

According to the authors,³³ these results show that a stronger culture is more effective than a weaker one, but this conclusion does not directly follow from the data. The results show that, when senior managers are strongly committed to their jobs and perceive the organisation's strategy to be coherent, they are more committed to the organisation and get greater job satisfaction. These results tell us little, however, about the relationship between an organisation's culture and any external (objective?) measures of performance.

Nursing culture and performance in the USA

An analysis of nursing culture assessed 235 nursing department staff in 13 units as a precursor to changing their care delivery model.³⁴ Nursing unit culture was measured by the Nursing Unit Cultural Assessment Tool (NUCAT-2).⁴² Performance was measured in terms of unit skill-mix, cost, worked hours per patient day, quality assurance, documentation of care planning and discharge, and patient satisfaction. The premature report of this study prevents any conclusions being drawn: only one unit had reached its one-year evaluation stage. Further, the results reported (focusing on a reduction in professional nursing staff, cost savings and increased working hours) suggest a thinly veiled cost-cutting exercise rather than a concerted research effort to examine relationships between culture and performance.

Culture and performance in cardiac bypass surgery in the USA

A more substantial and rigorous study, by Shortell et al,²⁷ assessed the impact of TQM and organisational culture on performance in terms of a wide range of outcomes for 3045 patients undergoing coronary artery bypass grafts (CABG). As in the papers by Gerowitz^{26,32} described previously, culture was again measured by the competing values framework.³⁷ Unusually, however, this study defined performance directly in terms of patient outcomes: using risk-adjusted clinical outcomes including mortality and length of hospital stay, functional health status and patient satisfaction. Here, then, we see a more concerted effort to maintain a distinction between the concept of culture and that of performance.

The results from this study show that although a two- to fourfold difference in all major clinical CABG care end-points was observed among the 16 hospitals, little of this variation was associated with TQM or organisational culture in any systematic way. For example, patients receiving CABG from hospitals with high TQM scores were more satisfied with their nursing care but were more

likely to have lengths of stay greater than ten days; a supportive group culture was associated with shorter postoperative intubation times but longer operating room times; and a supportive group culture was also associated with higher patient physical and mental functional health status scores six months after CABG. Overall, the study provides only weak and inconsistent evidence of associations between culture and performance.

Culture and the implementation of evidence-based care management in the USA

A second study by Shortell et al²⁸ again used the competing values framework, as well as a separate physician-specific 'patient centred culture measure',⁴³ in a bid to explain the implementation of evidence-based care management in US physician organisations. The study found that, while implementation of evidence-based care was significantly associated with economic incentives such as compensation and the presence of managed care pressures, there was no apparent relationship with culture. The authors explained the apparent absence of any effect by noting that physician organisations in the USA were more collections of physicians under a legal umbrella than coherent organisations with much that was shared.

Culture and intensive care unit (ICU) performance in the USA

Zimmerman et al³⁰ also failed to find evidence for a link between culture and performance in a study involving 3672 ICU admissions, 316 nurses and 202 physicians in nine ICUs. Culture was assessed using a combination of interviews, direct observations and questionnaires, including the Organisational Culture Inventory.⁴⁴ Effectiveness was measured by the ratio of actual/predicted hospital death rate and efficiency was measured by the ratio of actual/predicted length of ICU stay.

On the basis of each unit's risk-adjusted mortality rates, nine out of 42 ICUs were selected for intensive on-site analysis by investigators blinded to the actual mortality rates. Using semi-structured interviews, examination of physical artefacts and observation, each investigator developed a summary report which was shared and discussed by study members, and combined with all summary reports to create a composite report for each unit. In this way a listing of the 'best' and 'worst' cultures, leadership, co-ordination, communication and problem-solving practices was developed, along with their potential effect on ICU performance. Each investigator also rated the nine ICUs (best to worst) according to its anticipated final risk-adjusted mortality ranking.

The results of the on-site assessments indicated that superior organisational practices among the ICUs were related to a patient-centred culture, strong medical and nursing leadership, effective communication and co-ordination, and open, collaborative approaches to solving problems and managing conflict. However, the

on-site case studies failed to identify accurately those units with significantly better or worse performance in terms of risk-adjusted survival. This failure may be due to a mismatch between the subjectively based on-site investigations and the objective assessment of actual risk-adjusted mortality. Interestingly, however, Zimmerman et al conclude that the cause of the problem lay in their performance criteria: 'We believe the inaccuracy of the rankings was related to the absence of an objective value-free process for arriving at criteria on which to evaluate performance'.³⁰

The final health care organisational study of culture and performance, is a follow-up to the above study.³¹ This later study focused on two ICUs with marked differences in risk-adjusted survival: the actual hospital death rate was 21% for Unit 1 and 6% for Unit 2. When adjusted for case-mix, the standardised mortality rate at Unit 1 was significantly worse (1.21; $P < 0.05$) and at Unit 2 significantly better (0.76; $P < 0.05$) than that across all 42 ICU study sites. However, the findings of this more detailed study of two units do not differ from those of the earlier study. Neither the global judgements of the on-site investigators, nor self-evaluation by unit physicians and nurses, accurately ranked Units 1 and 2 according to risk-adjusted mortality. In addition, on-site observations and questionnaire data regarding culture, leadership, co-ordination, communication and problem-solving/conflict management did not clearly distinguish between higher- and lower-performing units.

Discussion

Cultural comparisons are not especially new: the intimacy of the relationships between attitudes/beliefs and economic structures/performance has long been seen as being bound up with national or group cultures.⁴⁵ The organisational culture perspective extends this work to help explain performance differences between different organisations.^{8,46} Previous work largely outside health care reveals individual studies claiming to have uncovered important culture-performance relationships, but overviews that are more sceptical of the evidential base for such claims.¹⁸ This also appears to be the key message from this review of studies in the health care arena.

Our review of empirical work examining linkages between organisational culture and health care performance found some, problematic but supportive, evidence for the relationship. Four of the ten studies reviewed in detail claimed to have uncovered evidence for the hypothesis and, whereas the other studies failed to find clear relationships, none found much evidence against. The most convincing evidence that encourages further study in this area was provided by the initial work by Gerowitz.²⁶ This study found three important things. First, that health care organisations do differ in measurable ways in their dominant cultural orientation; second, that this cultural orientation is associated with various aspects of performance; and third, that if we want to understand relationships between culture and

performance we should explore aspects of performance that are valued in the dominant culture. It is this final point that is most instructive in questioning the idea that relationships between culture and performance will be simple; they are far more likely to be multiple, complex and contingent.

The failure of six of the ten studies to uncover much evidence linking culture to performance might more properly be seen as an absence of evidence rather than evidence of absence, not least because of the formidable methodological difficulties in this area. Although no formal comparative assessment of methodological quality was undertaken (and, given the methodological diversity, such an approach would have been difficult), all of the studies used predominantly cross-sectional designs and would have benefited from being longitudinal. Further, the sampling of units in which to examine the culture-performance link was often far from ideal, and sample sizes often led to a lack of power to detect appreciable effects. In addition, there remain many concerns over how culture and performance are assessed and related.

Assessments of culture

Most of the studies focused on culture at level 1 (patterns of behaviour) and level 2 (espoused attitudes, values and beliefs). That none addressed level 3 (assumptions) is both a shortcoming and a testimony to the difficulties of so doing. However, as Schein has identified,¹¹ we can begin to uncover implicit assumptions by looking for discrepancies between espoused values and actual practice. This in turn draws attention to the predominance of quantitative methods used in the studies: addressing discrepancies between espoused views and observed behaviours will require far greater utilisation of qualitative methods.

Four of the studies^{26–28,32} used a typological approach to assessing culture rather than continuous variables. In each case, the approach chosen was based on the competing values framework (see Box 3). This approach has a strong provenance in social theory and organisation studies and allowed more nuanced investigations of not only does culture affect performance but, also which cultures are related to which aspects of performance? Qualitative assessment of cultures was deployed in three studies.^{29–31} The latter two studies by Zimmerman et al failed to identify correlations between these qualitative assessments and performance, but the authors attributed this more to the difficulties of identifying appropriate performance indicators than as signs that the culture assessments were deficient. Qualitative culture assessments would seem to be capable of offering rich descriptions of great potential value; for example, in providing a better underpinning to behaviourally based economic models.⁴⁷

Assessment of performance

The studies examined a wide variety of measures of performance. This highlights a difficulty at the heart of

performance assessment in health care, which may also help to explain why the link with organisational culture, if it exists, is so hard to determine. There is almost as much dispute regarding how to define performance in health care as there is about defining culture.⁴⁸ Although frequently presented as a hard-nosed, bottom-line concept, performance is, in practice, almost as nebulous, elusive and complex as culture. Thus performance may be seen to be less an objective phenomenon and more as something that is both negotiated and socially mediated. Further, as there is no consensus – or even clearly hypothesised suggestions – as to which outcomes should be affected by which cultures, we should not be surprised that many studies fail to find an effect.

A related issue concerns the degree of separation between independent and dependent variables in some of the studies. It is problematic, for example, to assess the effect of espoused values on employee loyalty and commitment,²⁶ when such measures of performance are indeed values themselves. Likewise, can subjective judgements of managers on their own organisation's performance³² be viewed as external to that organisation's culture? At one extreme, organisational culture as 'the way things are done around here'⁸ sounds suspiciously like a definition of realised performance. Thus there is a danger of confusing cause and effect, and so clouding rather than illuminating any culture–performance link.

One way of maintaining a separation between culture and performance is to focus more clearly on patient-related outcomes, as seen in some of these studies.^{27,28,30,31} Yet, in these same studies linkages *are* found between the organisational culture and some aspects of performance (e.g. superior organisational practices), but such gains were not seemingly reflected in improved patient outcomes (such as risk-adjusted mortality). These paradoxes warrant further detailed investigation.

A further difficulty lies in disentangling the direction of any causality between performance and culture. Although most of the attention has focused on how culture affects performance, it is equally plausible that certain cultures emerge from high-performing organisations. That is, performance may drive culture. More likely still is that culture and performance are created together in a reciprocal and mutually reinforcing manner that is thoroughly dependent on wider context and influences.

Once we accept that performance is as contested a domain as culture, and that culture and performance are likely to be mutually constituted, then the difficulties of reconciling the two domains through simplistic equations such as 'strong culture equals superior performance' begin to seem insurmountable.

Patient involvement in the production of culture

A final significant observation about culture and performance emerges from one of the studies.²⁹ The behaviour of patients (itself an indicator of the performance of the health care system) is likely to be

influenced by practitioners; but practitioners too are likely to be influenced by their own perceptions of their client group. The conventional view of an organisation's culture as a closed system, or at least as having a strong centripetal tendency, does not adequately recognise the increasing influence of patients. Nor does such a view recognise the increasingly explicit inter-organisational dependency of health care systems, encompassing, for example, social care and the voluntary sector. The degree to which elements of NHS culture and performance are being revised through the encounters between patients and staff from other agencies would make an interesting and possibly useful subject of study. For example, the level of trust shared between patient and doctor will be both interconnected and related to the wider context.⁴⁹

If patients too are involved in creating health care cultures, certain implications follow. One is that it is impossible to reduce the essence of organisational culture to the behaviour, values and assumptions of staff: patients must also be brought into the equation. Another implication is that intervention on one side or the other, patients or practitioners, may be efficacious in changing the culture shared between them. We have perhaps seen this effect in recent years in changing patterns of patient–practitioner communication. Whether patients have become more assertive or practitioners have become better communicators is open to research and debate. Thus studies of culture and performance may need to broaden their scope to examine the role of patients in the production and maintenance of health care cultures.

Concluding remarks

The proposition that organisational culture (however defined) and health care performance (in all its variety) are linked has enduring intuitive appeal, but is currently supported by relatively little firm evidence. Considerable conceptual and empirical work remains to be done to provide better-substantiated articulation of what these links might be – and what their implications are for health care policy and management. Crucially, therefore, it is not enough to know whether culture is linked to performance – we also need to discover how and why it is linked (e.g. technically, psychologically, linguistically, politically). For only then can we decide if policies, strategies and interventions are appropriate, or how they could be better designed. We also need to move beyond singular views of culture to embrace analyses of multiple subcultures and their interactions.^{8,50} The methodological obstacles to unpacking culture are formidable, but this review has at least allowed a clearer sense of what these obstacles might be and offers some tentative suggestions as to how these might be overcome (see Box 4).

Whether we term it a culture or an institution, it seems certain that the local social systems at the heart of health services are both impacted by and set limits on structural and procedural change.⁸ Dealing with these cultural issues is a key challenge in managing change in

Box 4 Methodological implications

Methodological insights emerging from the review of empirical studies examining the link between organisational culture and performance in health care include:

- *Typologies rather than simple variables.* Assessments of culture which identify cultural types, and then assess performance along dimensions valued within that type, may be more valuable than simple culture rating scales. Similarly, there may be scope to define performance typologies, rather than relying on simple measures.
- *Combined qualitative/quantitative approaches.* Notwithstanding difficulties of commensurability methods that are responsive to the key research questions need to be chosen, and multiple methods may well offer complementary views of the same organisational phenomena.
- *Greater attention to deeper levels of culture (levels 2 and 3) and the relationships between levels of culture.* Most studies to date have focused on surface issues; more insights may be gleaned by examining deeper assumptions and the ways in which such assumptions are expressed through behaviour. One way of shedding light on deeper assumptions may be to examine discrepancies between espoused values and observed artefacts (especially behaviour).
- *Better-theorised relationships to allow more directed empirical work.* Most previous research has been at the level of macro theory (i.e. the ontological status of culture, and the rival epistemological approaches towards its study), or micro application (e.g. atheoretical 'practical guides' to implementing culture change) – with little or no interaction between these two approaches. Therefore, there is a need for meso-level approaches which span/translate important insights from theoretical understanding into empirical study and practical usage.
- *Longitudinal study as well as cross-sectional analyses.* Few studies have explored culture change longitudinally, and cross-sectional analyses, while useful in many respects, leave unanswered questions of causal direction.
- *Inclusive of patient, as well as organisational, outcomes.* Often, examinations of culture and performance limit their definitions of performance to those constructed by senior managers. Embracing patient outcomes will extend the value of culture studies.
- *Cognisant of how patient and professional cultures may be mutually constitutive.* Patient cultures and professional cultures do not exist in isolation; understanding one may require engagement with the other.
- *Multi-disciplinary and inter-disciplinary in orientation, including, for example, sociology, social anthropology, social psychology, economics and organisation studies.* Various disciplines have contributions to make to the study of organisational culture, but there is an important distinction between *multi-disciplinary* work on culture (triangulating different disciplinary perspectives to understand culture, with consequent problems of fragmented understanding) and *inter-disciplinary* approaches (melding methodological approaches and theories to understand culture). The latter is the more challenging and needs to build on the former.

any organisation, and shaping culture is a (perhaps *the*) core component of leadership.^{11,51} Thus we need to understand cultures in health care rather better than at present. Before we can do that, however, we need to reflect more deeply on what we mean by health service culture and health service performance.

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