Organisational Factors and Performance: A Review of the Literature

Report for NHS Service Delivery and Organisation Research & Development Programme

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Executive Summary

Aims and objectives of the review

This report describes a scoping study, commissioned by the SDO, into the relationship between organisational factors and performance.

The study aims were as follows:

- To construct a conceptual framework to enable us to categorise and evaluate the existing evidence in the field;
- To conduct a preliminary review of the literature in order to identify what is known and what is not known about the relationship between organisational factors and performance;
- To identify which issues key stakeholders in the service regard as of greatest practical relevance to aid their decision-making; and
- To make recommendations about the implications of the findings for the commissioning of future research and to influence the development of policy.

Background

Policy-makers have long assumed that structural, procedural and cultural changes are levers for improving the performance of health service organisations. There is currently only limited evidence to support this assumption.

Definitions

Given the significant heterogeneity of the literature and lack of clarity in the field, we agreed working definitions for the key terms at the start of the project. In particular, we defined an organisation as a concrete, observable association of persons engaged in collective activities and pursuing common objectives.

Conceptual framework

We identified four levels of analysis to assist our understanding of the relationship between organisational factors and performance:
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- The context or environment within which organisations function;
- The formal structures that make up the organisation;
- The processes or activities that go on within the organisation;
- The outcomes or consequences of these processes, categorised as outcomes for patients, staff satisfaction, equity, efficiency, process quality, humanity, and adherence to external performance targets.

We then classified the evidence by expressing the four levels of analysis in the form of dyadic relationships:

- How environment influences structures;
- How structures influence processes;
- How processes influence outcomes;
- How environment influences processes;
- How environment influences outcomes; and
- How structures influence outcomes.

Methods

The literature review methods drew on the systematic review guidelines as a source of best practice but these were adapted according to constraints of time and the particular requirements of a diffuse and ill-defined subject. The heterogeneity of the literature meant that the bibliographic indexing systems were far from robust, so less systematic approaches needed to be adopted. The project’s conceptual framework was used to categorise the studies that met the inclusion criteria.

The stakeholder consultation included key National Health Service (NHS) decision-makers from a 'diagonal slice' of NHS organisations. Data were collected using one-to-one telephone interviews, a focus group and participation in national meetings focused on organisational change in the NHS.

Results from the literature review

The initial scan of the literature identified 14,314 studies of potential relevance. On the basis of the title, key words and in most cases the abstract, 2171 references were considered to be relevant, reduced to 1568 references by tightening the inclusion criteria. The inter-rater
reliability of this reduction process was low (Cronbach alpha 0.34) reflecting the heterogeneity of the literature.

Survey and case study methodologies were most frequently employed. Only 19 percent of studies used any kind of comparative group. Four percent employed a longitudinal design, 1 percent a quasi-experimental design and just one a randomised controlled trial. Studies meeting the inclusion criteria were equally likely to be conducted in health- and non-health-related organisations, but more likely to be conducted outside the UK (86 percent). Forty-six percent of the papers addressed the relationship between organisational processes and outcomes. Most of these examined efficiency, and only a small proportion explored issues relating to equity or humanity. Fifty-five percent of the papers addressed organisational structures and 14 percent the environment within which organisations operate.

In content terms, the key preliminary findings from the literature are as follows:

- The relationship between organisational form and function is complex and contingent. There are few, if any, simple organisational levers that can be pulled to influence organisational performance.
- The political, socio-cultural and historical environment within which an organisation operates appears to have an important influence on the way that it is structured and the ways in which it functions.
- Different organisational structures (e.g. hierarchical or networked) and cultures (e.g. clannish or rational) appear to be associated with different kinds of outcome.
- Organisational change needs to focus on the engagement of staff in order to have a positive impact.
- There is no consistent or strong relationship between organisational size, ownership, leadership style, contractual arrangements for staff or economic environment (competition, performance management) and performance.

Results from the NHS consultation

- Few decision-makers are looking for traditional scientific evidence on which to base change within their organisations.
- Those who are looking for evidence want easy fixes — what organisational forms can produce their desired outcomes.
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- Decision-makers want to move away from traditional structures based on professional silos to more operationally and functionally based structures.

- The resource intensity of organisational change was the main barrier to implementing new ways of working. Organisational change was generally regarded as something that was imposed, rather than something that was developed from within.

- Current policies, such as Foundation Trusts, Patient Choice and Payment by Results, are all felt to have important implications for organisational form, with a need to focus more on locally flexible structures to deliver locally relevant outcomes.

- Research that identified ways of breaking down traditional boundaries was felt to be the main priority for the future.

Study limitations

The scale of this scoping exercise has inevitably resulted in only a relatively superficial review of the issues. A number of factors limit the extent to which firm conclusions can be drawn from the published evidence. These include:

- the lack of agreement in the literature about the definitions and boundaries for each of the domains;
- the lack of clear conceptual and theoretical frameworks to guide the analysis and interpretation of the evidence;
- the weak methodologies underpinning many of the studies;
- uncertainty about the generalisability of the results; and
- the conceptual framework aided categorisation of a large and poorly defined field, but our interpretation of our findings are equally constrained by the assumptions built into the conceptual framework.

Implications for policy

- The review indicates that highly centralised and vertically differentiated organisational structures are liable to have dysfunctional effects.

- It would probably be misguided to search for the 'one right size' for each kind of NHS body.

- The high frequency of government initiatives can result in an unstable environment to which, the literature suggests, organic
or 'matrix' organisational structures are better suited than highly centralised, 'mechanistic' structures.

- It appears that governments would probably be wise to be cautious about promoting for-profit hospital provision ('for-profit' in the American sense of distributing profits to shareholders).

**Implications for research**

- Few studies expressly link specific kinds of health care organisational structures to the policy outcomes of interest to this review. This is a major gap in organisational research on the NHS, especially as Foundation Trusts and other new forms of organisations begin to operate.

- Particularly under-researched are the structures of non-hierarchical organisations such as GP co-operatives, professional partnerships, and the provision of NHS services in collaboration with voluntary bodies and local government.

- The parallels between NHS and analogous organisational structures elsewhere in the public sector would also repay research.

- The *Patient Choice* and *Payment by Results* provide a second opportunity to research what outcomes the important structural innovation of primary-care-led health care funding produces.

- Research into how workplace teams and groups structure themselves around processes of care and so 'fill out' the working of official organisational structures in NHS trusts and primary care trusts (PCTs) would be a way to explore how the official structures might be made more patient-focused.

- There is need for constant review of new organisational structures in health care and the public sector generally outside the UK in order to widen the range of organisational options known to UK policy-makers and NHS management.
Chapter 1  Introduction

The organisational forms established in the United Kingdom (UK)’s National Health Service (NHS) in 1948, with its tripartite configuration of hospitals, community services and family practitioner services, were based more on what could be negotiated with the medical profession than on an informed judgement about creating the most effective structures to perform the functions of the new service (Ham, 1992). Although these initial organisational forms remained practically unchanged until 1974, since that date there has been a greater assumption in UK health policy that structural, managerial and cultural change are key levers for improving the performance of NHS organisations. Subsequently, the changes of 1974 have been followed by further structural reforms in 1984, 1991, 1999 and at the time of writing (2004), with various kinds of health authorities, primary and secondary care organisations having come and gone over the years.

1.1 Recent structural and system-based reforms

In 1997, the incoming Labour government argued that the ‘top down’ hierarchies and internal markets that the NHS had hitherto used had not worked (Secretary of State for Health, 1997). Although their account of NHS history until the early nineties as a bureaucratic hierarchy followed by a quasi-market represents something of an oversimplification (Powell and Exworthy, 2002), in their place the government advocated new organisational models for decision-making and management systems based on Giddens’ (1998) ‘Third Way’ approach. This has included a very clear imperative for a large range of health and social care agencies to work in ‘partnership’, a mode of co-ordination and decision-making that sits far more comfortably with the type of governance structure known as ‘networks’ than with hierarchies or markets (Rummery, 2002). Considering that the new Labour government in 1997 defined the NHS as a hierarchy from 1948 to 1991 and as a market in much of the nineties, it might therefore be possible that a future incoming government may describe the present policies, however long they last, as its ‘network’ period.

In addition to ‘partnership working’, since 1999 new organisational forms have appeared, including Primary Care Groups (PCGs), Primary Care Trusts (PCTs), Care Trusts, and Strategic Health Authorities (SHAs). More are also emerging; foundation trusts are about to begin operation, Private Finance Initiative projects multiply, and general
practitioner (GP) contracts have been redesigned, with personal medical services (PMS) and the revised general medical services (GMS) contracts as alternative options. Current policy (Department of Health, 2000; Secretary of State for Health, 2001) now offers 'front-line' NHS bodies more latitude to determine what organisational forms to adopt, incorporating a widening range of organisation types and networks. These innovations can be seen as practical attempts to find the most appropriate organisational forms for the NHS. Alongside them, new financial systems, an increased focus on performance management and 'earned autonomy' freedoms have appeared in the NHS.

Yet the existing evidence base for such changes is limited. Apart from a few earlier studies (see Forsyth and Logan, 1960; Georgopoulos, 1986), little research linking health care organisations’ form (structure) and function (processes or behaviour) with performance (outcomes) was carried out before the 1990s, and systematic reviews of such research have only recently become possible (see Mitchell and Shortell 1997; Ferlie, 1997).

1.2 Purpose and aims

To support the realisation of the government’s health care objectives, NHS managers and central policy-makers increasingly need an evidence base indicating relationships between organisational form, function and performance. This study’s purpose was to indicate where it might be desirable to expand this evidence base.

The relevant literature is large, complex and amorphous, however. To begin reviewing it, it is first necessary to set out a conceptual framework in which to order, relate and analyse the individual studies. This is done by drawing critically upon the ‘classic’ works on the subject area, which has then to be supplemented with sufficiently concrete definitions of the main terms and concepts used to enable the bulk of the literature selected to be mapped onto it. These preliminaries then allow us to adopt and specify the methods to be utilised, and the limitations we recognise as existing in both those methods and the evidence itself.

Then we can order, appraise and summarise evidence on the relationships between organisational form, function and performance across a range of health and social care settings, and highlight gaps in the evidence, compared with the range of topics and relationships which our conceptual framework implies are relevant.

In addition, we conducted and report qualitative research to gain views from a range of key NHS personnel about what topics and evidence are relevant to their practical decision-making. From all this, we draw out the implications for the NHS of such evidence that does exist; identify topics for further research in this domain, so as to strengthen the
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evidence base for future decisions about NHS management and organisational forms; and offer policy recommendations.

The first step, therefore, is to present the conceptual framework that structures the review as a whole.
Chapter 2  Conceptual framework of the review

In what might be called 'classic' (for present purposes, pre-1990) studies in the field of organisational structure and the relationship between organisations and their environments a number of recurring themes and questions directly match the purposes of the present review. These questions are: What is the nature of an organisational structure? What is the relationship between structure, efficiency and performance? How does an understanding of structure impact upon organisational design? As a framework for relating the material in the present review to these questions, this section explores how organisational theory has interpreted and answered these questions. It thereby constructs an analytical framework for the review, comprising the following:

- A brief account of what literature is used to derive the analytical framework
- An initial definition of 'organisation', from which derive:
  - four levels of analysis (the organisations' environment; structure; processes; outcomes)
  - relationships between different levels of analysis
  - definitions of what factors — hence what concepts and data — each level of analysis contains
  - definitions of the term 'relationship', for present purposes.

The resulting definitions are sufficiently specific to enable practically all the studies scrutinised in this review, with their corresponding evidence, to be ordered as possible answers to these questions and related to some of the main themes of organisational theory.

2.1 Existing organisational theory

Organisational studies, and social sciences generally, harbour a greater variety of competing theories with their corresponding evidence bases and methodologies co-exist than is usual in natural and clinical sciences. Unlike human biology, the objects of study — organisations — change constantly and rapidly whilst research proceeds. New technologies, occupational groups, and organisational forms (e.g. the public firm or 'trust', virtual organisations, franchises, co-operatives) are invented. The complex social environment in which organisations exist is equally mutable. Furthermore the methodological hierarchies and standardisation increasingly found in clinical, epidemiological and natural science barely exist in organisational studies. Not least, organisational research findings are more closely linked with the
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legitimisation of political positions, public policy and management practice (or in opposition to them) than natural-scientific findings usually are (although evolutionary theory and genetics sometimes find themselves in that position too). These substantive disputes frequently spill over into methodological debate.

A review of this correspondingly complex, and large, literature therefore requires an analytical framework that accommodates both the range of theories and the range of empirical phenomena studied. This framework should expose the debates occurring in organisational studies without begging the questions being disputed, and accommodate as much of the existing empirical research as possible from the domains in which this review is interested, thereby providing a basis for defining the terms of the present review more precisely, selecting and ordering studies, and evaluating their coverage.

2.1.1 Relationship between the environment, organisational structure and processes

The preoccupation of classical organisational theorists in trying to understand the relationships between environment, organisational structures and processes has been to define and interpret the environment, and to elucidate a typology of organisational responses to the environment either in terms of structural fit and adaptation, strategic choices, or altered organisational processes.

Many authors on the subject tend to use, either explicitly or implicitly, the broad distinction between the general environment (political, economic, sociological and technological) (Jurkovich, 1974) and the domain or task environment (Thompson, 1967). The concept of task environment focuses on 'successful' organisational outcomes as the consequence of action in the sector or niche environment that the organisation inhabits. Equally influential in the papers considered in this review are Emery and Trist's (1965) descriptions of the environment in terms of its stability and uncertainty, and of organisations’ placid — randomised or placid — clustered organisational responses to it. Not only do organisations have to be able to define the environment, they also have to be able to interpret it. 'Boundary spanning' consists of the processes of monitoring and representation in the environment in terms of organisational performance (and in the case of public services, fulfilling policy intentions) that help to link and co-ordinate the organisation with its environment (Miller and Friesen, 1989)

The nature of the relationship between organisations and their environment has very broadly been conceptualised in the established literature in terms of different conceptions of the inter-linkages: a systems theory approach; a deterministic approach: of organisations having to adapt to their environment (population ecology models); or, from the perspective that organisations have choices, they 'enact' their environment. System theory approaches have tended to use the
analyses of natural systems with input and output models, but Butler and Wilson (1990) developed this concept to better match environmental complexity especially in respect of organisations developing inter-organisational and network strategies (e.g. contracting, co-opting, coalescing with third parties). Other examples of such approaches are in terms of supply chain management (vertical integration to reduce the power of markets, horizontal integration to control them and the development of cartels to suspend them) and mergers and alliances. This complex relationship has also been conceptualised in terms of the rise and fall of organisations and their life cycles. This is similar to the Population Ecology Model approaches of Aldrich (1979), Hannan and Freeman (1977), and Grinyer and Spender (1979). This approach focuses on the age and size, niche width, population density, prior foundings and failures of an organisation, based on the assumption that an organisation will adapt to its environment. The after-effects of history persist, it is argued (Lawrence, 1984; Selznick, 1957; Stinchcombe, 1965; Zald, 1987), and determine an organisation’s future development — something that cannot be underestimated for this review, given the unique history of the NHS.

It can also be argued that the strategic choices that organisations make in response to their environment are all about 'fit'. This is the basis of structural contingency theory (Donaldson, 1995) in all its varieties of sophistication (Miles et al., 1978; Porter, 1980), and the way it analyses performance (Dalton et al., 1980; Miller, 1987), interpersonal processes (Lieberson and O’Connor, 1972; Rizzo et al., 1970) and even the more fashionable 'control' options of benchmarking (Camp, 1989) and total quality management (TQM). Hackman and Wageman (1995) tell a story of the hand of the environment being the causal factor in organisational behaviour.

Counter-arguments about choice in the face of such determinism are equally sophisticated, recently being refreshed by post-modernism and structuration theory (Alvesson and Willmott, 1992; Giddens, 1979; Hassard and Parker, 1993). Essentially, they revolve around the idea that organisations can create or 'enact' their environment, which at least leads us towards a view of inter-organisational relations as political economies and recognises the importance of institutions, in the sense of societal rules, values and culture. It is from this integrated perspective of what is an enormously diverse and contested field that we have developed our analytical and conceptual approach.

### 2.2 Definition of 'organisation'

The focus of the present review, and therefore its unit of analysis, is the organisation. However, the term 'organisation' is ambiguous:
'Organisation' in the sense of the abstract property of 'being organised'. In this abstract sense networks, markets and even biological systems display the property of organisation.

The present study adopts the second, more specific definition of organisation, however, in the sense of an organisation — i.e. a discrete, relatively stable group of individuals linked by relatively stable patterns of interaction and pursuing common objectives (Morgan, 1986).

To define an organisation as a set of individuals practically collaborating in pursuit of common objectives immediately raises two questions: (1) How are these objectives pursued? (2) In particular, if collective action is necessary to achieve them, how is that collaboration produced?

Defining an organisation as the collective pursuit of objectives has two implications. First, realising an objective always requires the use of a specific technique (or 'technology'; Damanpour, 1991) — applied to either a physical thing, or the behaviour of people within the organisations, or something in its environment. What way this is (i.e. what techniques are necessary and sufficient for the purpose) depends on the causal characteristics of the objects being manipulated, the physical characteristics of tangible object, the character of human motivation, and so on. These techniques can in principle be discovered (which is the part of the work of the sciences). Second, defining an organisation in terms of purposive collective action implies that an organisation has as its central — but not necessarily its only — activities those intended directly to realise those objectives; in short, its 'core working practices'. Like any deliberate action, these core working practices implicitly apply a theory that specifies what working practices are (purportedly) necessary and sufficient to achieve its objectives (i.e. what has to be done to the target objects or people or organisation to realise the organisation's objectives). However, there is no guarantee that this working theory that an organisation's members and their core working practices follow will actually reflect the techniques that are in fact (empirically and objectively) necessary to achieve their common goals.

In the modern world, organisations in this sense are predominantly what classical sociology calls 'bureaucracies', although this definition of 'organisation' also covers — to the extent that studies of them exist — charismatic organisations, armies, political parties, churches (and other religions' equivalents), prisons and even organisations based on slavery or forced labour. Except insofar as they operate as concerted units (e.g. as units of production), the definition excludes families, since families originate biologically rather than being created to pursue specific objectives. The present definition also excludes policy networks, including 'new social movements' and other political or social movements, but includes any specific organisations (e.g. a professional
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body or trades union) found within them. In concrete NHS terms, the definition means that each SHA, PCT, NHS Trust, regulatory body and general practice count as a single organisation. This definition admits the possibility that these social relationships that make up organisations can be mediated through physical objects (machines, tools, buildings, etc.), formal bodies of knowledge, and interactions with 'outsiders' such as clients or customers.

2.3 Levels of analysis

This conception of an organisation implies dividing the empirical domain of the review into the following four levels of analysis, which also recur in the classic studies outlined above:

1. The context within which organisations function, i.e. their external 'environment'.

2. The organisation itself. Following most of the classical literature the present review defines this as being, in the first instance, a complex of formal organisational structures. 'Organisational form' is taken to mean 'specific type of organisational structure'.

3. Organisational processes, i.e. the activities conducted, and governed, through the formal structures, both officially and unofficially. The latter include 'informal' organisational life.

4. Outcomes, as the effects that organisational processes produce both upon the organisation's own members and upon its external environment (or at least, parts of that environment such as customers and governments).

These levels of analysis further suit the present review because they reflect the broad sequence in which a policy is implemented: decisions and resources are transmitted from government (part of the organisation's environment) to the formal organisation, which then translates the policy into work process, which produce altered outcomes. Empirically, each level of analysis focuses on organisational processes that are nested (embedded) within the next higher level.

There are six possible relationships between pairs of levels in the above list:

1. How environment influences organisational structure ('form').


3. How environment influences organisational outcomes.

4. How organisational structure ('form') influences organisational processes ('organisational behaviour').

5. How organisational processes influence organisational outcomes ('function').
6 How organisational structure influences organisational outcomes.

To these can be added the four possible relationships that involve three levels, i.e.

- Between organisational environment, structure and processes;
- Between environment, structures and outcomes;
- Between structures, processes and outcomes; and
- Between environment, processes and outcomes.

For clarity, however, the present study will focus on the six dyadic relationships first listed, and either decompose other relationships into them (as do Lee and Wan, 2002) or treat these more complex relationships separately.

The purpose of the present review is to identify the existing studies and to summarise what they suggest about the causal relationships that exist between these levels and, insofar as they bear upon the realisation of policy outcomes through organisational structures, causal relationships between factors within each level. This purpose requires three further steps. The first, using existing organisational theories, is to indicate what entities each level of analysis contains; what sorts of causal relationships exist between each pair of levels of analysis; and what relationships exist between factors within each level. This provides a more detailed, concrete analytical framework with which to categorise the studies found and to assess their significance. A second step is to translate the key terms in this analytical framework into definitions precise enough to enable the wide range of empirical material reviewed to be mapped onto the analytical framework used. Third, it is necessary to expand on the nature of the 'relationships' between organisational level and factors. The term 'cause' is also a problematic and contested concept in social sciences; therefore, it is necessary to define what we mean by 'relationship', 'cause' and other cognate terms in this review.

### 2.4 Relationships between environment and organisation

An organisation's environment restricts what action it can take, what structures and processes it can establish to accomplish that action, and what outcomes that action can produce. These environmental constraints are posed by the following:

1. Actions of other individuals and organisations;
2. Non-human events;
3. Dependence on external resources necessary for its joint activity;
4. The causal character of those parts of the environment which
the organisation aims to transform.

Different organisational theories focus on different components of this
list.

2.4.1 Actions of other individuals and organisations

At minimum, an organisation requires that other individuals and
organisations do not actively obstruct its activities. To that extent, it
requires legitimisation in the eyes of others. This legitimisation occurs
through 'value' systems, of which the most powerful for practical
purposes is the law. Ultimately, its sanctions are enforced by physical
coercion. To law must be added state policies, and to those the more
subtle and pervasive non-legal systems of 'values' and 'rules', besides
the other elements of ideologies and social 'culture' that originate
outside the single organisation. These value systems constrain how it
may structure itself, what organisational processes may occur, how an
organisation defines its objectives, and what value systems of its own
it generates internally.

These external value systems govern both the external and internal life
of each organisation. However, they are not just constraints, but also
provide the intellectual medium through which an organisation
formulates what objectives it will pursue. Neo-institutionalism
emphasises that organisations are socially embedded in a legal and
regulatory system, in a social 'culture' with its own 'values', and in
inter-organisational networks (e.g. professional networks, policy
networks; DiMaggio and Powell, 1983; Granovetter, 1983; Machado and
Burns, 1998). This embedding, say the neo-institutionalists, explains
how both contractual relationships and organisational structures work.
Institutionalist theory thus regards organisations as institutions in the
sense that rules, norms and values take on a durable, concrete form in
such practices as the habits of obedience in hierarchies and the
honouring of contracts. One way in which values affect structures is
that organisations mimic other organisations (DiMaggio and Powell,
1983), especially those seen as 'successful'.

Even when it is not directly obstructed, an organisation's activity is
also, under certain conditions, constrained by the existence and
actions of rivals and substitute organisations; and by those of
organisations and individuals it depends on (e.g. suppliers, payers) for
input to its own activity. These external bodies determine the extent
to which an organisation can shape, or must adapt to, its environment.

2.4.2 Non-human events

Similarly, collective activity requires that non-human events do not
obstruct its activities. Disruption by natural catastrophe is readily
intelligible (though rare). More often, an organisation's social
environment can also disrupt its activities. Although each person's and

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organisation's actions may be more-or-less purposive, their interactions frequently produce unpredicted effects that no one intended (e.g. economic recessions, political crises). Less dramatically, technologies and consumption habits are in modern societies in constant flux. To that extent, an organisation requires a means of adjusting the ways in which it organises its core working practices so that such 'uncertainties' do not disrupt the pursuit of its objectives.

Contingency theory (e.g. Burns and Stalker, 1961) answered that organisations structure themselves in order to respond to their environment and to use current production technologies (then, the 'Industry of the New Age', electronics). Their conclusions that a more mechanistic structure is better suited to a stable environment and that a more organic structure is better suited to conditions of change and instability still endure today and are reflected in many of the papers reviewed in this analysis. Lawrence and Lorsch (1967) asked how the degree of environmental uncertainty impacted upon the specific levels of decision making and the degree of specialised job function both in within an organisation and in terms of how different departments dealt with environmental uncertainty. Their analysis led to the enduring concepts of organisational differentiation and integration, which recur in this review.

### 2.4.3 Resource dependencies

Organisations frequently require external resources in order to pursue their objectives (indeed, the very objective of many organisations is to obtain external resources). Beyond the obvious case of physical inputs, 'resources' have for this purpose been defined to include human resources, knowledge, legitimisation (see above) and even prestige. Resource dependency arises from two factors. One is the nature of the organisation’s core working practices and the extent to which they depend on external resources (contrast an introverted religious sect (low dependency) with a bank (high dependency)). The other is ownership — if there is free access to resources, resource dependency is no bar to an organisation’s activity. When other individuals or organisations control (have *de facto* property rights in) the resources an organisation needs they are notoriously prone to make their transfer of these resources conditional upon receiving some other resource or benefit in return. In this way, external resource dependencies create the external incentives that organisations face, impose second-order (instrumental) objectives on an organisation, and define the function of the organisation from the standpoint of external bodies (Pfeffer, 1978).

The New Institutional Economics takes this argument further. Not only the economic character of the resources that individuals seek but also the character of the transactions through which individuals seek them determine whether individuals form organisations to do so (instead of just using market transactions) and if so, what kinds of organisational structure and processes become necessary. The existence and
character of organisational structures thus reflect the transactions their members make in pursuit of common interests. Institutional economics explains organisational structures in terms of what kinds of transactions the organisation undertakes; their scale and frequency; whether opportunism or trust develops; the distribution of knowledge; and how much competition or contestability there is in the organisation's market environment (Williamson, 1984).

Ecological theory (Hannan and Freeman, 1989) applies a similar logic but explains organisational structures in terms of their adaptation to a specific environment characterised more broadly, not purely in economic terms. Thus, specific social environments engender characteristic organisational structures and processes, which is why health systems contain specific kinds of organisations which do not necessarily exist elsewhere. This theory does not directly contradict the previous ones. Rather, it argues that the relationship between environment and organisation is between a particular environment and a specific type of organisation, whose structures and processes therefore bear a 'family resemblance'. By ecological analogy, the differences that exist between that are explained by each organisation's attempt to occupy a specific 'niche' where it has some advantage, compared with other organisations, in its capacity to attract resources or legitimisation.

2.4.4 Causal character of the environment

Often an organisation's objectives include transforming some part of its physical, social, policy or intellectual environment (health promotion is a case in point). As explained above, the specific physical character of raw materials or the landscape, the causal character of social relations or the character of the beliefs to be changed determine what techniques are necessary for effecting this change. The core working activities of an organisation consist of applying what the organisation's members believe (perhaps rightly) to be the necessary techniques. Thus the character of the environmental feature to be altered determines what technique is (actually or supposedly) necessary; the choice of technique determines the choice of core working practices; and these core working practices necessitate the adoption of an organisational structure adapted to organising them. Woodward (1965) and her successors thus explain organisational structure in terms of the type of tasks that the organisation undertakes and the 'technology' these tasks require. She and the Aston School focused on manufacturing as the paradigm for such explanations but the principles apply to any technique.

Here we encounter three problems. One line of theory plays down the constraining effects of environment upon organisations. Whilst one often reads assertions that policy environment, legal systems, market conditions (where applicable) and wider social culture (intellectual and ideological climate) are in principle amenable to human control, this is a
different thing to saying that a single organisation can control, or even choose to any great extent, what social environment it exists in. Similarly, to say that an organisation can chose which environment it works in (Child, 1972b) means only that it can chose among the given, existing environments (e.g. it can decide which markets to enter), not that it can create any environment it chooses. Once it chooses, all the above factors come into play. From then on, its environment is also largely a 'given' for a single organisation, especially in the short term and for smaller organisations. For the physical and demographic environment this is obvious, but the same reasoning applies to social environments (e.g. the choice of market entered).

At times, organisational theories appear to conflict. A review cannot just ignore one side of an argument, but a review equally requires a consistent analytical framework. The present solution to this problem is to articulate the assumptions that bring the theories into contradiction. When that is done, it may appear that the contradiction is more apparent than real. In the present case, there is nothing inherently contradictory in claiming that organisational structures and processes are constrained by external agents and by environmental uncertainties and by social values and by resource dependencies and by the causal characteristics of the environment. What creates a contradiction are competing claims that one of these environmental factors and not the others is the sole or main factor. However this empirical question can only be settled, if at present it can be settled, at the outcome of the present review. In these circumstances, we suspend judgement on the debate until then.

Finally, it is already apparent that the 'relationships' under discussion are complex and bidirectional. Environment influences organisational structure and processes; but reciprocally organisations' process and core working practices are often intended to change the environment. For the present we will assume that the two directions of relationship co-exist in some fashion yet to be explained. That explanation can only be made after the different types of relationship have been examined.

### 2.4.5 Relationships between organisational structures and processes

The preceding section implies that external incentives and social culture will especially influence the formation of an organisation's objectives. Strategic management research describes what range of decisions is open to managers (Child, 1997). Whilst it is brief, convenient and (perhaps) widely understood to speak of 'organisational objectives', it is strictly speaking a category mistake. Individual people — not organisations — have objectives (or 'aims', 'purposes', 'policies', 'intentions' or 'missions'). ‘Organisation’ implies either that a group of individuals collectively pursue objectives that they all spontaneously share already, or that individuals who initially pursue different objectives negotiate some agreed, compromise common objective, or
that some individuals ('leaders') succeed in getting the others to adopt the leaders' objectives. The idea of an organisational objective thus presupposes the existence of a set of relationships — an organisational structure — through which these objectives are formed and then put into collective action. In the language of organisational theory, organisational strategy influences organisational structure, and vice versa.

In organisational theory, the term 'structure' is used, depending on context, to refer to either or both (e.g. Fombrun, 1986) of the physical structures associated with an organisation (e.g. in Donabedian, 1980) and the social structures by which an organisation produces collective action.

Physically determined organisational structures are:

1. The technique by which they produce their objectives. By far the most far reaching contextual factor in contemporary society appears to be the impact of advanced technologies (i.e. production, information and communication systems) on organisational structure. Most organisations engage in some form of production, whether of physical objects, services or more abstract cultural objects such as literature reviews. A technique consists of the application of certain actions to definite raw materials, always through human labour and generally using physical materials. Certain steps have to be followed to produce the specified result. Regarding physical goods and services, what these steps are and their sequence are determined by physical, not organisational, laws. Even when there are several ways of producing, say, bread, the range of methods that work and what has to be done to apply each one are strictly physically determined. The range of technical possibilities itself is also physically determined.

2. The physical means of production used to execute the technique. They include any existing physical resources and equipment that an organisation uses and, for immovable resources and equipment, its spatial distribution. The physical resources also determine the number of people necessary to operate them and the minimum skills required.

3. The 'human resources' available, both as organisation members and hence a potential workforce; and as recipients of any good or service or activity that the organisation produces. Although human resources can be 'developed' they too are limited by demography and the limits of human strength, skills and ability to learn; and, more subtly, by the (much debated) limits of the possibilities for changing human motivations and attitudes.

4. The organisation's age, not only in absolute terms but compared with any similar rival or substitute organisations, whether a
given organisation is a 'first mover' or 'late entrant' in its field of activity.

5 The mere presence of physical resources is not enough to enable individuals jointly to produce a product or service. It is also necessary for them to know how to operate, manipulate and combine these resources i.e. to have technical (or in its grander forms, scientific) knowledge of the process of production. This knowledge has to identify and describe the natural processes involved in production sufficiently accurately for to enable its users to manipulate the physical resources. To that extent, the content of that technical knowledge too is physically determined.

Even when they are the product of human action (as knowledge is), these structures are nevertheless also directly physically determined. In undertaking production, organisations are restricted not just to the range of physically available processes but, within that range, to the sub-set known at the time. Similarly for means of production; organisations are limited not only to those capable of making the intended transformation, but with that range to those presently available.

These arguments imply that the main social structures of an organisation comprise the following:

1 Hierarchical characteristics ('vertical' organisational structure).

A prior question much neglected in organisation studies is how to define the conditions under which hierarchy instead of non-hierarchical organisational structures (e.g. co-operatives, partnerships in the sense of a professional partnership, project teams) is necessary at all for managing the core working practices in a given organisation. Many studies even equate 'organisation' with 'hierarchy', although network theory is now eroding that assumption. Having accepted the necessity of hierarchy, much organisational theory then considers how managers can adjust hierarchical organisational structures (the number of layers in it, spans of control, the allocation of tasks and responsibilities across the hierarchy, the extent of decentralisation) so as to manage and change organisational processes and thereby meet the organisation's objectives ever more effectively. Thus Urwick (1956) proposed that the optimum span of control is six subordinates. Perrow (1986) argues that tall narrow hierarchies imply slow and less reliable communications of information and decisions (which have more layers to traverse), and a higher proportion of transaction (managerial) costs. Williamson (1975) and Williamson and Verdin (1992) argue that M-form firms (i.e. those made up of several largely autonomous operating divisions) pursue profit most effectively because separation of strategy and operations.
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allows top managers to focus on main objectives; unit managers are responsible for operations but can’t influence strategy; profits are not returned to units; firms have an allocatively efficient internal market for capital; and top management is committed to profitability.

2 Specialisation through division of labour (‘horizontal’ organisational structure). The technical character of the core working activity necessitates a determinate technical division of labour and minimum levels of skills and knowledge in the workforce (‘skill mix’). Within these constraints, there may remain latitude to decide between different skill mixes or to establish temporary, ad hoc project teams for particular projects (which contingency theorists argue enables more flexible responses to unstable environments and idiosyncratic customer needs than rigidly-fixed task allocation does). Often there is also latitude to create a division of managerial labour too, by allocating, for example, procurement, data-analysis, planning, staff recruitment, etc., to separate groups of specialists.

3 Property relations (i.e. who controls the organisation and its resources). These internal property relations reflect those outside the organisation (i.e. the resources that individual members bring to the organisation and its activity). To assume that organisations form their strategy in response to their environment takes as given the organisation’s ownership (and so, control), which determines who decides its response and what elements in its environment it responds to (Parker, 1995). Thus, ownership is the fundamental structural characteristic that determines how organisations fine-tune their other structural characteristics (e.g. their hierarchies, division of labour) in response to their environmental circumstances. Besides predicting circumstances in which markets are more allocatively efficient than organisations, new institutional economic theory in particular contrasts the effects of different ownership structures upon organisational processes; questions which are a staple of debates between ‘new left’ and ‘new right’ theorists. Tactily these debates assume that an organisation’s ownership status determines its internal culture besides its management practices, objectives, vertical and horizontal structures, communications, labour relations and the nature and place of its core activity (Parker, 1995).

Organisational structures alone are not sufficient to produce collective action. Collective action presupposes that someone initiates the action and that many people jointly carry it out. An organisational process consists of one or more individuals in an organisation using its social structures to instigate others to undertake a joint action. These are the particular, concrete actions that take place within the general,
formal organisational structures. How, then, do organisational structures relate to organisational processes?

Given an organisation’s objectives, both its physical and its social structures generate its working practices.

Of the physical structures, the technique of production and manipulating its tools, equipment and inputs, necessitate specific, more-or-less tightly constrained working practices. Each technique of work requires a certain division of labour and hence minimum skill mix, specific flows of materials; communications of knowledge, decisions, information and feedback, specific working times, places and sequences (because of the interdependence of stages of work (Van de Ven et al., 1976)), and methods for accommodating any uncertainties or disruptions in the work (Perrow, 1967; Van de Ven and Delbecq, 1974). Insofar as organisations depend on external resources, these working practices include transactions with the environment 'outside', not the least being management of the recipients of the organisation's activities, services or produces. In order to sustain them, working practices generated by all but the simplest techniques require the further activity of co-ordinating the working processes described above, both routinely and ad hoc. The co-ordinating activities include staff recruitment and deployment (matching individuals to tasks) including the creation of temporary project teams, planning the activity, obtaining and allocating resources (or budgets) for it, establishing such routines as times of work, and decision-making, including the delegation of decisions, discretion and responsibility.

Because it requires a specific skill mix, a given technique of production implies the presence of a particular set of occupational groups, including professions; and these in turn tend to develop their own particular occupational or professional culture, the product both of their technical activity and of their attempts to define and further their interests as an occupational group (for medicine, see the large literature on professionalisation, beginning with Freidson (1988).

Assuming their necessity, hierarchical structures generate organisational processes through a 'vertical' or 'social' division of labour (in contrast to the 'horizontal' or 'technical' division of labour created by the technique of production). Decisions about what the organisation's objectives and strategy can be are concentrated in the hands of those at the 'top' of the hierarchy. The overriding purpose of hierarchical managerial processes is to mobilise, manage and reform the core working processes which actually produce whatever outcomes ('functions', 'performance') an organisation achieves (Braverman, 1974). Regulation occurs through a combination of means, pre-eminently (in modern organisations) resource control (hiring or firing, rewarding or penalising staff; and budgetary or physical allocation of production inputs, including the direct producers' time). Institutional economics focuses on individuals' income and workload as incentives,
whilst organisational psychologists (e.g. Ajzen, 1988; Frey, 1997; Herzberg, 1968) focus on such incentives as worker satisfaction, personal development and social interaction. In some hierarchies direct physical coercion is applied (e.g. corporal punishment in schools). Technical control can be exercised through technical knowledge and moral control through legitimisation, including attempts to manage or even construct an organisational culture. Organisational behaviour and organisational sociology writers focus on how managers harness ideologies (Courpasson, 2000), internal networks and informal organisation (Ouchi, 1980), not least those of the professions. Foucauldian theory emphasises that exposing work to managerial scrutiny is in itself a means of control ('discipline' and 'governmentality'). These hierarchical differences in power and resource control are concomitantly prone to generate different cultures at different levels in the hierarchy. These 'informal' cultures and organisational processes frequently have a dissident, oppositional character.

The organisational processes involved in sustaining an organisation’s core working practices can be described (Argyris, 1992; Blair and Boal 1991) as 'first-order' organisational processes. However, these first-order processes are liable to disruption. Conditions outside the organisation or other contingencies change (for instance, the organisation gains or loses resources). Organisation members try to contrive new, more effective means of pursuing the organisation’s objectives, and an organisation may simply change its objectives or strategy. Organisations therefore develop 'second-order' processes intended to change the first-order processes. These second-order activities include entrepreneurship (establishing new activities or organisations), organisational redesign, planning, re-engineering, cuts ('downsizing'), restructuring, mergers, projects and project teams; put generically, 'change management' and 'organisational development'. In part, these second-order processes are also instigated by the relevant level within the 'vertical' division of hierarchical roles but also the upper layers of the hierarchy develop a 'horizontal' organisation structure of their own ('staff', as opposed to 'line' management) which also instigates and controls these more specialised managerial processes. These specialised managerial bodies also provide another means by which general managers can influence the organisational processes within any semi-detached uni-professional hierarchies.

In these ways, organisational structures produce the following types of organisational processes:

1. Core working practices, including transactions with external individuals and organisations;
2. Management routines and techniques for organising and regulating these working practices, in particular the
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incentivisation, control and resourcing of the staff who carry out the core working practices;

3. Changing the organisation's activity;

4. In doing so, the organisational structures generate both intended and unintended internal 'cultures', and

5. Informal structures and conflicts.

Since the work of Fayol (1949) and Taylor (1911), a large organisational literature has therefore predicted, prescribed and tested how to manipulate an organisation's structures in order to make its organisational processes, especially core working practices, more rapid and effective. Existing theory tends to focus on how organisations can adjust:

1. Hierarchical structures: Debates comprise the best degree of decentralisation and the relative merits of 'tall, narrow' and 'wide, flat' hierarchies.

2. 'Horizontal' structures, in particular the most effective forms of 'staff' (as opposed to 'line') management, how to manage professions with their tendencies to independence, and what balance to strike between a skilled workforce (more flexible, more productive and costly on a person-for-person basis, lower supervision but stronger bargaining position) and an unskilled one.

3. Property relations, public versus commercial forms being the usual formulation of that choice during the cold war, although network and hybrid options are now becoming more widely discussed. The new institutional economics contrasts the effects of different ownership structures upon organisational processes.

Recent trends in the study of organisational structure tend to address the issue of organisational design and effectiveness in the context of such issues as customer relations and adaptability (Piore and Sabel, 1984) in fragmented markets with highly discerning customers.

Attempts to increase productivity through human resource management have been conceptualised in terms of 'excellent' companies (Peters and Waterman, 1982) and of employee commitment (Walton et al., 1985), two themes which have influenced the concepts of TQM and business process re-engineering (BPR; Hammer and Champy, 1994; McNulty and Ferlie, 2002).

2.5 Relationships between organisational processes and outcomes

Central among organisational processes are those which execute the core working practices that are the organisation’s technique for
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realising its objectives. Whatever effects these working practices actually produce can for short be labelled its 'organisational outcomes'. Second-order organisational processes, organisational culture, informal organisational processes and conflicts all contribute to these outcomes, but indirectly through their effects on the core working processes. Second, organisational processes usually have side-effects on organisation members (e.g. the production of technical knowledge, ideological 'culture' or just social contacts), effects which may also be transmitted through their families, friendships, professional organisations, pressure groups and other 'outside' organisations. What social and psychological impacts work processes have on service users ('process quality', humanity') is the study partly of evidence-based medicine (EBM), but also medical sociology, and marketing research (Sheaff, 2002). However, staff morale and satisfaction are equally affected (Braverman, 1974; Herzberg, 1968).

Explanations of how exactly the core working practices of an organisation produce these outcomes lie partly outside organisational theory. At best, organisational theory explains what working practices result when given organisational structures and organisational processes operate in a given environment, but having identified those working practices, the explanation of how they produce their outcomes lies elsewhere. What substantive technique an organisation uses depends on what its substantive objectives are and so, therefore, does the relevant technical theory and evidence. Where the objective is to manipulate physical objects — including human beings in their capacity as patients — the natural sciences are relevant. For manipulating other organisations or policy or human beings in their capacity as consumers or voters, certain social sciences are relevant; and so on. Mostly these theories are outwith organisational theory, although, in the case of disciplines such as economics and marketing, contiguous with parts of it. In the case of NHS working practices, their technical effectiveness is defined in terms of health outcomes. EBM researches which clinical work processes are, in that sense, most technically effective.

Nevertheless, organisational theory examines certain aspects of the relationships between organisational processes and outcome. In general, the extent to which an organisation achieves its objective depends, above all, on whether its members know the necessary technique, have the material and human resources to implement it, and an organisational structure that successfully provides these inputs and organises the necessary working practices.

There is no guarantee that all this will occur. Implementation theories (e.g. Sabatier and Mazmanian, 1979) and the theory of policy networks (e.g. Rhodes, 1997) analyse how the wider 'policy networks' and 'implementation structures' determine how far the organisations within them can adhere to external policy targets. Implementation, change management and innovation theory between them adduce the following categories of reason why they cannot adhere:
1 Implementation failure occurs: the organisation’s structures and processes fail to realise the intended outcomes because they fail to implement the core working practices (technique) assumed to be necessary for that purpose. A large literature shows that, depending on circumstances, implementation can be frustrated by any of the following: internal conflicts and informal organisational process; occupational groups deflecting or obstructing the intended activities; attempting to introduce over-complex techniques too fast; lack of sufficient or correct resources; failure to motivate the actual implementers; and failure to communicate the knowledge and instructions necessary (Illes and Sutherland, 2001).

2 Working practices are implemented as intended but the implicit theory underlying them is not true. The working practices do not (indeed, cannot) produce the intended outcomes. Indeed, the more fully a misconceived technique is implemented, the less likely it becomes that the intended outcomes will be achieved (e.g. if firms in price-sensitive markets try to increase profits by raising prices). In these circumstances, the altered working practices yield perverse (counter-productive) results.

3 The working practices are implemented as intended, the underlying theory is true, but unexpected outcomes are produced besides the predicted, intended ones. In some cases this is harmless, but in others the unintended outcomes negate the intended ones (e.g. when Diagnosis-Related Group (DRG) like payment systems stimulate up-coding and 'gaming', and raise transaction costs).

4 Working practices are implemented as intended, the underlying theory is true, there are no adverse unexpected outcomes, but the beneficial outcomes are negated either by another, incompatible organisational objective or technique ('policy mess' (Rhodes, 1984).

5 Working practices are implemented as intended, the underlying theory is true, there are no adverse unexpected outcomes or policy messes, but the intended outcomes are thwarted by unforeseen or uncontrollable events in the external environment of the organisation. How vulnerable an organisation is to the latter depends on its resource dependencies. Lower resource dependency, or dependency on more diverse sources, means greater autonomy of resources and less susceptibility to economic downturn (Pfeffer, 1978; Issel et al., 2003). A more subtle external cause of failure occurs when the many activities of many organisations interact to produce an effect that none of them intended (e.g. a stock-market crash). Besides these indirect links through organisational structure and work processes, its environment directly influences how well an
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organisation performs its functions. Institutional and neo-classical economics (Pickering, 1979) both analyse how different market structures differ in allocative efficiency.

Frequently, such outcomes suggest to the members of an organisation the need to change their organisational processes, structure or working practices. Such learning is a further form of feedback through which organisational outcomes determine other organisational variables (as well as vice versa).

Whether intended or not, the eventual outcomes can always be evaluated in several dimensions at once:

1. How far the outcomes achieve the purposes for which the organisation (or individuals within it) initiated the action and whether the outcomes are mutually consistent (see above).

2. Allowing that some organisational processes might conflict, the purposes that an organisation pursues are not always the same as those that all its individual members pursue (e.g. when one person's cost saving means another person's redundancy). Organisational outcomes can thus be evaluated in terms of individuals' interests or preferences too.

3. Analogously, third parties might evaluate the outcomes against their own interests, perhaps by different criteria than those used by the organisation itself. The brief for the present review might be a case in point.

The first two of these points nevertheless allow an empirical evaluation: actual outcomes can be compared with those that representatives of the organisation — or its individual members — say they intended. Furthermore, it is always possible in principle to trace these outcomes back to the organisation processes that produced them. Only in the third case is a purely normative judgement being made, in the sense of a choice of normative criteria of evaluation.

2.6 Definitions of each level

Whilst the classical organisational theories generally analyse organisations in terms of the above levels, particular organisational studies typically focus on relatively few factors — people, conditions, relationships, institutions or organisations — within the chosen level(s) of analysis. One way to define the levels of analysis more concretely and sharply is therefore to enumerate which factors each level consists of. This definitional work then enables one to allocate studies to these categories consistently, and state more precisely what relationships the available evidence concerns.

Often it is obvious a priori which factors belong to which level of analysis. Studies often state it explicitly. Competitors, government and the legal system are clearly part of the environment for a single
organisation, its managerial hierarchy part of its formal structures, its production methods are paradigm organisational processes and its effects on product users are clearly an outcome. In other cases, terms and concepts found in the literature (e.g. 'culture', 'incentive', 'technology') are, on superficial reading, ambiguous between the four levels. However, by enumerating and differentiating specific, discrete factors that the classic organisational literature already identifies within these broad terms, it is usually possible to classify them for each particular study. To illustrate, in some studies the term 'culture' refers to external environment, referring to such factors as whether the organisation operates within a Moslem society, what the character of workers' family life is or what legal system exists (cp. Hofstede, 1997). In others (e.g. Davies et al., 2000; Peck et al., 2001), 'culture' refers to the internal climate of an organisation — meaning the processes of normative and ideological regulation co-existing with formal organisational structures. When a study analyses 'culture', that study can thus be classified as relevant to one or other level(s) of analysis according to which sort of 'cultural' factor(s) it concerns. By resolving broad terms found within the studies into sub-categories in this way, it generally becomes possible to define which level(s) of analyses a given study is relevant to. The allocation of organisational factors to levels of analysis, and thus the definition of levels of analysis, followed, as far as possible, the assumptions of the classical organisation theory. Nevertheless, to accommodate the inevitable exceptions, a category of 'other' factors was added to the list of factors anticipated, on the basis of the classical organisational literature, at each level of analysis. Occasionally, studies used terms ambiguously (e.g. Germain and Spears, 1999) describe production technology as a 'context' but in all other respects treat it as a structural aspect of firms). Such studies were analysed according to their substantive focus, setting the verbal infelicities aside.

The one partial exception to this method was for organisational outcomes. Sub-categories were already pre-defined for the present review and were not derived from the classical organisational literature. Sometimes it was possible to attribute what the research literature regards as outcomes fairly unambiguously to the list of policy outcomes of interest to the present study; but not always. Then, the only recourse was to make verbal legislation, arbitrarily — but always explicitly — categorising specific outcomes discussed in a particular study under one of the pre-define sub-categories of outcome.

The resulting definitions of each level of analysis, and where necessary rationales for the definitions, are as follows:

*Environment*: What counts as 'environment' depends on the focus of a given study; the firm is the 'environment' of a single department, the world polity is the UN's environment. The definition of 'organisation' adopted above implies defining 'environment' as the external surroundings of a single organisation, including the rest of the economic
sector in which the organisation operates. Thus, for NHS organisations, the environment includes the Department of Health and its policy pronouncements, other NHS organisations, professional bodies and government. Environment is defined to include the following:

1. An organisation's relationship with external organisations — collaborator, competitor or substitute, whether it is 'first mover' or 'late entrant' etc.;
2. The whole economic sector (health versus social care versus manufacturing versus..., and so on) in which an organisation operates;
3. Socio-political context (i.e. culture, legal system, legal and policy mandates of organisations, local history, 'ethos', external intellectual and moral climate, external 'culture');
4. External resource dependencies, including the labour market and alliances with external organisations;
5. Hence, external incentives (facing the organisational as a whole), concomitant financial systems, distribution networks, etc.;
6. Environmental sources of risk, uncertainty and opportunity, e.g. 'product dynamism' qua the instability of consumer tastes;
7. External trans-organisational institutions e.g. professional bodies, trades unions, pressure groups, policy networks, etc.;
8. Population profile — personal individual characteristics (e.g. 'personality', age, gender, etc.) which pre-exist organisational membership.

Organisational structures: Organisational structures are of two kinds — social and technical. Differentiating the social structures from organisational processes is a subtlety because organisational structures are a sub-set of intra-organisational interactions which have become routine and reified. However, organisational structures can be defined more narrowly as the durable social relationships through which the organisation (or more exactly, its representatives, leaders or owners) control other members' behaviour so as to realise the organisation's objectives. These are formal structures in two senses. They are explicitly defined; and they are general media of control which can generate a range of particular, concrete activities. The technical structures consist always of technical knowledge and fellow workers, and usually other physical resources (tools, raw materials, etc.). On these bases, organisational structures would be defined thus:

1. Ownership (public versus private versus co-operative versus mutual, etc.), which determines property rights within an organisation — and hence its internal power distribution, resource control and internal incentive systems; and the openness of information and decisions to scrutiny. Concomitant
aspects of ownership are the source of financing, degree of outsourcing, whether the organisation's workforce are volunteers or employees, which activities are open to top managers by virtue of property rights. Here, health maintenance organisations (HMOs) are regarded as payment sources (environmental) rather than a form of ownership, although many HMOs are also direct service providers (see Robinson and Steiner, 1997).

2 'Vertical' organisational design: hierarchical role definitions and domains of autonomy, managerial discretion, delegation, strategic de/centralisation, span of controls and of subordination, formalisation of activity, activities open to top managers by virtue of their hierarchical positions, stratification.

3 'Horizontal' organisational design: specialisation and the technical division of labour among organisational divisions and branches, diversification, occupational 'silos' including, derivatively, professionalisation (both staff-management and direct labour specialisation). Permanent work 'teams' count as structures (but the creation and disbandment of *ad hoc* project teams would count as processes).

4 Technical resources: 'technology' *qua* physical techniques of production (including its 'dimensions', such as the contrast between routine (mass) and customised production (Miller, 1987)) and the physical resources used for it — that is, plant and equipment, information systems, human resources (including gender mix of workforce), the physical workplace environment. Concomitantly, knowledge of physically determined techniques of production i.e. technical knowledge, including EBM; systematic reviews; and operational techniques such as JIT ('just-in-time' production).

5 Concomitantly, place of service provision (including dispersal of sites), the size and age of the organisation.

Organisational processes are defined as the activity of applying and using the structures, both routinely and *ad hoc*; that is, as the activities resulting from the control exercised by the organisation's leaders, representatives or owners. These activities include informal activities, including routine ones ('informal structures') and conflicts beside the 'official' activities instigated by those at the 'top' of the hierarchy. Purely managerial innovations count as new organisational processes (not outcomes). Organisational change is defined as a broad category covering adaptations in all these areas, covering changes in both routines and *ad hoc* activities, including capacity for entrepreneurship:
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1 Working practices in the course of actual production, including informal co-operation between members of different occupations.

2 Management routines, techniques, procedures and ad hoc activity: decision-making; strategising; recruiting staff; planning; budgeting; organisational development (OD); creation of ad hoc, temporary project teams (but permanent 'teams' count as structures); staff deployment (matching individuals to tasks); delegation of decisions, discretion or responsibility (including 'empowerment' (Germain and Spears, 1999)); dissemination of information and knowledge; consultations; the creation and maintenance of everyday working regimes (e.g. the compressed working week); pay policy; and management 'technologies' such as TQM, process control, preventive maintenance.

3 In particular, the incentivisation, control, and practical support of staff (with knowledge, training, emotional support); 'human resource management'.

4 Transactions with external organisations, in particular product or service users. Hence 'integrated care' in the sense of the activity of co-ordinating different service providers, referrals.

5 Changing the organisation's activity, including entrepreneurship (establishing new activities or organisations), organisational redesign or re-engineering, cuts ('downsizing'), restructuring, mergers and growth. Conversely, organisational inertia.

6 The 'internal 'climate', 'culture', 'values' and 'ideologies' of an organisation, including 'customer orientation' (in the sense of an organisational norm), legitimisation.

7 Operation of informal structures and of internal conflicts (e.g. 'industrial relations'), networking and trust (Zolkiewksi and Turnbull, 1997).

8 Other organisational processes

Organisational outcomes. For the present review, the organisational outcomes of interest were defined in the project bid (itself reflecting contemporary health policy interests in the UK) and were standardised across a number of research projects. Some policy outcomes reported in organisational studies could reasonably be defined under more than one of the broad policy outcomes stated in the research brief. (For instance, cost control is both an objective of current UK health policy and a facet of efficiency; user satisfaction could be counted as a patient outcome or aspect of service quality.) Some verbal legislation has had to be made in mapping organisational outcomes onto the SDO 'outcome' headings. The resulting allocation is perforce arbitrary, but to make it at least consistent the following definitional rules were applied:
Outcomes for patients. To apply studies from outside the health sector, the terms 'users' or 'consumers' (or 'pupils', 'tenants', 'passengers', etc., depending on context) have to be taken as analogues to 'patients'. These outcomes are taken to include users' preferences and satisfaction, demonstrated by recruitment (or, conversely, attrition, drop-out, DNAs ('did not attends' i.e. patients who miss appointments)) of users, product or service range (as implying scope for user choice), and user complaints. One particular case, avoidance of prison disorder, is regarded as a user outcome (leaving open whether to regard prisoners or governments as the main 'users' of prisons).

Process quality is defined to include clinical quality, perceived care or standards of care, emotional support to patients, carer (as opposed to patient) satisfaction, 'Non-hierarchical practice' (in nursing, etc.), favourable staff attitudes to patients, provider–user (e.g. company–customer) interaction, speed of service (waiting times), product differentiation, product quality *sans phrase*, physical environment, quality of ancillary services (cleaning and food etc.), use of computers as academic tools is counted as process quality in the case of schools.

Humanity substantially overlaps with process quality (the quality of the social interactions that users experience, staff attitudes to patients or other service users) and patient outcomes (response to user preference, waiting times). What is added under this heading are therefore quite narrow outcomes: patient influence over what treatments they receive; service responsiveness to users; user participation in decision-making.

Staff satisfaction and morale: job stress and psychological (as opposed to organisational) climate; worker alienation, commitment, need satisfaction, health and safety and conversely workplace violence. Absenteeism, burnout and staff turnover are known correlates of job dissatisfaction, and therefore counted as 'negative morale', as are worker cynicism, resistance, anger, distress, anxiety and stress.

Equity is defined in terms of equal access for equal needs, and probity (with criminality as its obverse). It therefore includes; access to health care and redistributions between workers, shareholders and consumers. Probity includes ethical sensitivity, conscientiousness, transparency, whistle-blowing, and reduction of sex discrimination among staff and/or patients.

Efficiency is defined in terms of cost and effectiveness. 'Effectiveness' covers clinical effectiveness — which arguably could be defined as a patient outcome or an aspect of process quality. It also covers 'productivity'-related outcomes such as evidence-based practice, technical and service innovations. It does not cover purely managerial innovations, which count as
new organisational processes (see above). The term 'effectiveness' does cover 'performance', unless the context clearly implies defining performance in other terms (e.g. as a euphemism for profitability or as 'social performance' — see below). 'Performance' is defined in 'real' (i.e. non-financial) terms. It covers self-reported performance, 'brand success', growth of output. Stoppages — which may, but need not, reflect worker morale — are counted as an adverse productivity (hence efficiency) outcome. Firm collapse or closure is therefore counted as the ultimate productivity (hence efficiency) failure. The costs side covers reduced costs including reduced transactions costs and 'effective budgetary control'. In the special case of blood transfusion, increasing numbers of blood donations was counted as productivity gain.

Adherence to external performance targets was defined to cover two broad areas. The first was public policy targets other than those covered by the other foregoing categories of outcome: eco-innovation and 'social performance' in particular. The other area was profitability and its cognates such as return on investment, dividends and shareholder value. They were defined as external targets for two reasons. An important policy rationale for public sector bodies is to guarantee certain 'real side' outcomes irrespective of commercial viability. This is an argument for clearly separating 'real side' productivity from profitability. Neither is it unrealistic to describe most profit-seeking in this way; for firms which finance investment by external credit (i.e. the vast majority), profitability becomes *inter alia* a target required by external creditors, shareholders and other financiers. In many organisations, including the whole public sector by definition, ownership and management are separated.

So defined, these headings thus accommodate both hard indicators and soft intelligence on the relevant outcomes. They leave open the relative merits of process versus outcome measures, expert versus user-defined measures.

### 2.7 Relationships between each level

For simplicity, we have limited ourselves to classifying dyadic relationships between the levels of analysis. We have decomposed more complex relationships between the levels into two or more of these dyads. For example, a study of how technology (an aspect of structure) and trades unionism (informal organisational process) affect productivity (an outcome) would be regarded as a combined study of the three dyadic relationships structure-outcome, structure-process and process-outcome. Six dyadic relationships are logically possible between the four levels of analysis. Taken in sequence, the first three
relationships reflect the broad sequence of policy implementation. So, more summarily, does the sixth, which short-circuits the structure–process plus process–outcome sequence:

1. How environment influences organisational structure ('form');
2. How organisational form influences organisational processes ('organisational behaviour');
3. How organisational processes influence organisational outcomes ('function');
4. How environment influences organisational processes;
5. How environment influences organisational outcomes;
6. How organisational structure (immediately) influences organisational outcomes.

As explained, nearly all studies concern not the whole relationship between two or more of the levels of analysis, but relationships between one or a few specific factors at one level (see the definitions above) and one or a few factors at another level. Many studies also examine the relationships between factors defined above as lying within one level of analysis. The links between levels of analysis thus decompose into sets of links between factors. Again, complex linkages have been decomposed into sets of dyadic linkages in order to simplify the analysis. To illustrate, we defined environment as containing eight broad groups of factors and structure as containing five. That implies \(8 \times 5 = 40\) theoretically possible dyadic links between groups of environmental and structural factors, as Figure 1 illustrates (for clarity just the first few lines are shown).

[FIGURE 1 HERE]

Each study can then be analysed in terms of which link or links its empirical findings concern. This framework leaves open the option to collapse factors and links back into one another should existing studies either fail to differentiate them or suggest that there is little empirical difference between them. When possible, that step would remove repetition in the review. Where no studies are found concerning a particular category or link, the 'empty' categories or links indicate possible areas for further research.

2.8 What is meant by 'relationship' between levels and factors?

Terms such as 'cause' and its near-cognates such as 'determine', 'influence', etc., are notoriously more difficult to interpret in social than natural sciences. In part this reflects the contestation of social theory described above, but there are further problems:
Even if the concept of mechanical causation is valid in natural sciences, it seems problem-laden in organisational domains in which, at least partly, events are apparently 'caused' by human decisions which are both conscious and seem to have (another contested question and minefield) a degree of choice and freewill.

Mechanical causation is typically understood (possibly, misunderstood) as a unidirectional process. However, certain relationships operate in the 'reverse' direction to that supposed by a naïve model of policy implementation. For example, a hospital might use budget savings (outcome) to finance re-engineering (organisational process). More subtle reverse relationships also occur. Insofar as decisions about working practices really do influence how physical technologies are used, the latter retroactively constrain (on pain of lost production) what decisions managers can practicably make about working practices. Furthermore, reciprocal relationships appear (e.g. a firm's productive capacity affects its income but its income determines how much productive capacity it can build), and these can become cyclical (e.g. increased profit finances increased investment which increases profit again).

Organisational relationships frequently link two or more factors as the putative 'cause' of a given policy outcome or some other effect. In particular, contingency theories often assert that the 'fit' between two factors explains the behaviour of a third, or that the relationship between two factors is mediated or moderated by a third (e.g. Alexander and Randolph (1985) and Ahuja and Carley (1999) investigate whether that the fit between formal structure and technology determines organisational performance). For bibliometric purposes, no harm is done by decomposing these complex relationships into pairs of dyadic relationships as described above, but to avoid the risks of reductionism the substantive analysis notes such findings when they occur.

To avoid begging these questions, the analytical framework for the present study deliberately accommodates and identifies 'reverse', reciprocal and cyclical relationships. It also accommodates different strengths of relationships from 'association' (a formulation committing the researcher to asserting little more than a coincidence of data patterns, howsoever caused) to 'over-determination' (asserting that a given event is the product of multiple causes that together fix its character definitely). The price paid for defining 'relationship' this widely is that the conclusions of the study have to err on the side of caution in regard to the strength, reliability and policy manipulability of the relationships reported.
With these definitions and provisos, it proved possible to map almost all the concepts and relationships found in the literature onto the analytical framework outlined above.
Chapter 3 Methods

3.1 Objectives and methods

The aim of this literature review was to map and critically appraise the theoretical and empirical evidence on the relationships between organisational form and performance across a range of settings.

Our objectives were as follows:

1. To critically review relevant theory and construct a conceptual framework through which to order and evaluate existing evidence;
2. To highlight gaps in the existing empirical evidence;
3. To illuminate the implications for the NHS of the evidence that exists;
4. To contribute towards refining methods for reviewing organisational and qualitative research literature;
5. To produce a distillation of NHS managers’ key policy concerns to inform decision-making on topics to be commissioned by the SDO programme.

These objectives necessitated three parallel research methods. The first four objectives required a literature review adapted to the present subject matter. The fifth, and to a lesser extent the third, objective required a consultation with NHS stakeholders to elicit what their key policy concerns currently are and what evidence might be relevant to them. As a preliminary to the literature review, it was necessary to elaborate the conceptual framework described above.

3.2 Conceptual framework

The essential form of the conceptual framework was defined at the time of the original research bid. This framework was subsequently elaborated in two stages. Initially, whilst the literature review began, the framework was elaborated on the basis of what might be called ‘classical’ organisation theory. For reasons explained below, a cut-off date of 1990 was set for studies to read in full text. Earlier theoretical material was therefore used to create the initial conceptual framework on which the review build, and possibly modify. The elaboration was intended to define a coherent framework within which to order and analyse the relationships between organisational structures and the outcomes of interest to the review. That purpose required a syncretic framework which allows diverse, possibly even conflicting, theories and evidence to be compared. It proved possible to produce a framework of
sufficient clarity to distinguish the levels of analysis and inter-relationships between them, as discussed in the previous chapter.

During the scoping search (the opening stage of the literature review; see below), it became apparent that many of the relevant studies dealt with quite specific, even narrow, parts of the conceptual framework. Different studies often used their own preferred language (such words as 'downsizing', 'empowerment') which differed from the language of the conceptual framework. Given its syncretic purpose, the conceptual framework was also formulated in relatively general abstract terms, whereas many of the empirical studies described concrete, localised events. A second stage of preparing the definitional framework was therefore to agree the definitions (see the preceding chapter) which by translating between the different forms of language and different levels of generality or abstraction would make it possible to map local empirical studies onto the wider conceptual framework.

These two stages resulted in the conceptual framework and are outlined in the preceding chapter.

### 3.3 Literature review methods

There are established guidelines for conducting systematic reviews of intervention studies (Khan et al., 2001). However, methods for literature reviewing in diffuse topic areas are relatively underdeveloped in comparison. Literature may cover a range of study designs and types of research evidence and such topics are more difficult to define and translate into a search strategy. We identified two recent literature reviews that covered aspects of the organisational literature, and examined the methods sections to identify possible approaches and potential difficulties (Illes and Sutherland, 2001; Goodwin et al., 2003).

The review adopted the following conceptual framework outlined in the previous chapter. Theoretical and empirical studies of the relationships between organisational form and function were therefore to be mapped around six sets of relationships:

1. How environment influences organisational structure ('form');
2. How environment influences organisational processes;
3. How environment influences organisational outcomes;
4. How organisational form influences organisational processes ('organisational behaviour');
5. How organisational processes influence organisational outcomes ('function');
6. How organisational structure ('form') influences organisational outcomes.
At the outset, SDO stipulated the seven outcomes on which the review should focus. The combination of seven outcomes with three categories of organisational factor (environment, structures, and processes) that might produce these outcomes implies the 21 relationships shown in Table 1.

Table 1  Levels of organisational analysis and policy outcomes

<table>
<thead>
<tr>
<th>Environment</th>
<th>Organisational structure/form</th>
<th>Organisational processes/behaviour</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outcomes for patients</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Process quality</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Humanity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Staff satisfaction</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Equity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Efficiency</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adherence to external performance targets</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

In effect, Table 1 unpacks the relationships between the seven chosen policy outcomes and the other three levels of analysis. The list of dyadic relationships between the levels of analysis, and as an amplification of some of them Table 1, thus provided a guide for developing, criteria for selecting which studies were relevant, and the categories under which to assemble and relate the studies and their findings.

3.3.1 Identification of the literature

The main method used to identify literature was by electronically searching bibliographic databases. A good quality literature search should

- use both natural language and thesaurus approaches to searching to allow for inconsistencies in the indexing practices of bibliographic databases; and
- balance the need for sensitivity (avoiding the non-retrieval of relevant items) and specificity (precision in retrieving only what is relevant)

Devising a search strategy that balances these requirements is more difficult when identifying literature in a diffuse and ill-defined subject area such as organisational form and function. Potentially relevant literature might be located in a variety of discipline and subject-based sources and reflect a range of epistemology and methods. This makes the identification of relevant journal titles and bibliographic databases more difficult. A substantial amount of time had to be spent conducting scoping searches to establish the range and depth of potentially relevant sources of information and the nature of a topic.
More diffuse subjects might not be well represented in the indexing systems of bibliographic databases, which leads to greater reliance on the use of free-text searching. This can lead to a loss of specificity in retrieval. Literature reviews of diffuse subjects attempt to identify a wide range of different types of research evidence. Because all research evidence represents narrative of some sort, issues of audience, language, terminology and assumptions arise. This makes the process of identifying the literature a difficult one because exact criteria for relevance cannot always be specified beforehand and the potential for search results to be confounded by the different meanings attached to terms is increased. No methodological filters can be used to limit the amount of information retrieved and therefore search findings have to be subjected to additional iterations of manual filtering and additional searching to identify what constitutes relevant literature.

3.3.2 Identifying database sources

One of the underlying purposes of the review was to bring evidence from the field of organisational science, beyond purely health sciences literature, to bear on NHS policy and practice. Like Blair and Boal’s review (1991), the literature reviewed therefore included both ‘context-specific’ (i.e. health-sector-specific) literatures and ‘context-free’ literature (concerned with the nature of organisational structure, drawing on evidence from all sectors of production). ABI Inform was therefore identified as the main bibliographic source for identifying relevant literature. This is the leading database for the identification of organisational science literature. We consulted colleagues at the Manchester Business School Library and Information Service who confirmed this database as the main bibliographic database for organisational science.

Our search of ABI Inform was supplemented by searches of 9 other bibliographic databases across health, medicine and the social sciences. The databases were Medline, Embase, Health Management Information Consortium (HMIC), Cumulative Index to Nursing and Allied Health (CINAHL), PsycInfo, Social Science Citation Index, Applied Social Science Index (ASSIA) the International Bibliography of the Social Sciences (IBSS) and Expanded Academic.

3.3.3 Scoping searches

The purpose of the scoping exercise was to establish the range of potentially relevant literature and to develop and refine terms for the search strategy. As a starting point we examined the reference lists of four relevant publications cited in the research proposal (Ferlie, 1997; Mitchell and Shortell, 1997; Pettigrew et al. 1999; Scott and Mannion, 2001) for coverage of journal papers cited within our selected databases. We also examined which index headings were applied to
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cited papers relating to organisational structure on ABI Inform. The scoping searches highlighted that 'organisational structure' was problematic as a search term as it reflects aspects of formal organisation (e.g. management structures,) and informal organisation (e.g. some networks, organisational culture). Structures can also be a desired outcome of change. Therefore it was difficult to plan a search strategy using a traditional approach of breaking the topic down into concepts. As a result of the scoping searches, the decision was made to include organisational culture in the search terms.

Potentially relevant terms were identified for inclusion in the search by

- identifying terms from the conceptual framework and matrix;
- brainstorming the topic within the research team;
- examining relevant papers included in the research proposal;
- examining the thesaurus of ABI Inform.

Having identified a large number of relevant terms, we produced a basic search strategy that was compatible with ABI Inform. It was run as a free-text search to identify terms in either title, abstract or keyword/subject heading fields. The initial basic strategy was therefore a search for

\[((\text{organisation* or organization*}) \text{ w/2 (structur* or form* or function* or determinant*)}) \text{ and (outcome? or process* or perform* or satisf* or efficien* or effectiv* or equity or growth or develop* or justice or quality or cultur* or manage* or leader* or change)})\]

3.3.4 Initial inclusion criteria

Table 2 lists our initial search criteria for inclusion.

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Inclusion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coverage</td>
<td>Theoretical and empirical literature relating to one or more of the relationships identified in the conceptual framework</td>
</tr>
<tr>
<td>Publication types</td>
<td>Initially all publication types were considered. However, where a database contained non-peer reviewed material and an option was available to restrict the search by this (e.g. ABI Inform) we limited to peer-reviewed publications only</td>
</tr>
<tr>
<td>Language</td>
<td>No language restrictions were placed on the search for any database except IBSS where to reduce the number of hits records were limited to those in the English language</td>
</tr>
<tr>
<td>Study period</td>
<td>Not restricted. Databases were searched retrospectively without date limitations.</td>
</tr>
<tr>
<td>Study design</td>
<td>Any. Any study design was initially included although they may later have been rejected if they failed to satisfy quality criteria</td>
</tr>
</tbody>
</table>
3.3.5 Limitations of searching

Owing to the major limitations of ABI Inform as a database, it was not possible to conduct a more complex search strategy. Among major limitations identified were:

- inconsistent data entry;
- limits on number of records which can be downloaded;
- limits on the number of search terms that can be entered and combined;
- the inability to use more than one wildcard in one term;
- difficulty of limiting findings by publication type.

Our intention to bring non-health literature to bear in this review led to the decision to focus on ABI Inform as the main database. Its limitations suggest that even for organisational research, future health service researchers might do better to focus on health databases that, although excluding relevant non-health papers, permit much more sophisticated search strategies.

All search strategies were modified versions of the above basic strategy. It was necessary to amend the exact search statement according to which search facilities and options (i.e. thesaurus searching, proximity searching, etc.) were available with each database selected for searching. So, for example, the main difficulty with medical or health databases was limiting our search to research adopting an organisational perspective and preventing confounding with cognate words in biological sciences papers, particularly terms such as 'culture' and 'structure'. We retrieved all papers indexed under MESH terms for relevant organisational concepts before running our final search strategy in a pragmatic effort to avoid confounding. A copy of the final search strategy for the Medline database is included as Appendix 1, as an example of the modification of the search strategy required when applying it across a range of subject specific databases.

Expanded Academic is a database of full-text journal articles, rather than a bibliographic database. As such, records had to be filtered for relevance whilst online, and records judged by the librarian as relevant to the framework and matrix were cut and pasted into our bibliographic database software, Reference Manager, because this was the only method available to obtain records from the database.

Copies of all other search strategies employed are available from the authors on request.

3.3.6 Generating the study database

The results from each of the 10 individual database searches were downloaded into a separate database using the Reference Manager V10 reference management software. These individual databases were then
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merged and duplicates removed to create a final study database containing 14,314 records.

Appendix 2 provides a table summarising the number of unique records identified from each database source. All the literature searches were carried out during August 2003.

3.3.7 Additional searching

For all the databases (excluding Expanded Academic), the searches were re-run in January 2004 or auto-alerts collated during the intervening period. This was to ensure capture of relevant literature published during the nine-month period of the project. These were then scanned by the lead researcher for relevance. This resulted in a further 75 potentially relevant references being identified. These were added to the database, resulting in a total of 14,389.

We generated a list of all the journal titles that had records included on our final database. This was then compared with a list of relevant titles known to the researchers and the list of journals hand-searched in a recent literature review of a related subject (Goodwin et al., 2003). The following journals were identified as relevant but not covered by the electronic database searches:

- *International Journal of Integrated Care*
- *Journal of Integrated Care Pathways*
- *Korean Journal of Public Administration*
- *Health Care Papers (Canada).*

The contents pages of all issues of these titles from 1990 onwards were obtained and scanned by the lead researcher for additional relevant records. This did not result in the identification of any additional relevant references. The tight time schedule limited the use of alternative and subsequent methods to identify literature to this modicum of contents-page-searching, auto alerts and checking of a limited number of official websites (see below) where relevant peer-reviewed research in English-language grey literature was most likely to be found. Given more time, we could also have tried to improve recall through snowballing references back from papers initially identified as relevant, citation searching, and running the electronic searches with additional terms from the selection criteria for the initial scan and names of key authors.

The records were then filtered for relevance by the research panel. No further methods were used to identify relevant literature because the lead researchers felt that the literature identified had substantially covered the topic.
3.3.8 Initial scanning for relevance

All 14,314 records identified from the database searches were scanned for relevance on the basis of the information available from the bibliographic records alone. In most cases, this constituted the title, keywords and abstract.

The purpose of this review was to identify evidence relevant to the six relationships between organisational structures and the outcomes listed above. We therefore prepared two lists of keywords. List 1 contained terms concerning organisational environment, structures and processes. List 2 comprised terms concerning the seven selected outcomes. The initial criteria for relevance were that to count as relevant, a record had to contain both at least one term, or a term with equivalent meaning, from list 1 and one term, or a term of equivalent meaning, from list 2. A copy of these criteria on which initial relevance was judged is included as Appendix 3.

The 14,314 records were divided into 11 batches of 1301 records each. These batches were then allocated to individual members of the research team for initial scanning for relevance. Owing to the large number of records retrieved, three PhD students who were studying areas relevant to the review contributed to this phase (two students of organisational science, one of health services research).

In some cases, it was not possible to make a decision on relevance from the limited information available in a bibliographic record. For this literature search, it was regarded as a lesser evil to include, at least initially, works of uncertain relevance (and eliminate them later if necessary) than to miss potentially relevant studies. A policy of caution was therefore adopted whereby if relevance could not be judged from the information available or the assessor was uncertain the record was included and went forward to the next stage of selection. As a result of the initial scanning, 2171 references were identified as potentially relevant for inclusion in the review.

3.3.9 Inter-rater reliability

An inter-rater reliability check was carried out to establish levels of agreement between individual members of the research team who took part in the initial scanning exercise. The whole initial list of records was divided into blocks of 100. From each researcher’s initial 1301 record, one of these blocks of 100 was selected at random using numbers generated from a random number table. Each sample of records was then re-scanned by another member of the research team. The results were analysed using the Statistical Package for Social Sciences (SPSS) and a Cronbach alpha figure for inter-rater agreement calculated. The results showed low inter-rater agreement. The mean of the Cronbach alphas was 0.34, range 0.11–0.59. Subsequent discussions among the researchers suggested that these low alphas probably reflect four circumstances: a very diverse literature with heterogeneous methods.
and datasets; reviewers of very different disciplinary backgrounds
ranging from medicine to politics (an advantage for interpretive
purposes but not for promoting uniformity of opinion); the database still
included various kinds of publication (papers, professional press, book
chapters etc.) and all languages; and we had expressly erred on the
side of conservatism when selecting studies. So to a certain extent the
differences in the alphas reflected the inclusion of items which would
probably prove, on closer inspection, to be redundant.

The ideal way to increase the consistency of selection would be to re-
evaluate the whole 14,389 records a second time, with all points of
disagreement between first and second reviewers then being settled by
discussion followed by writing up detailed inclusion and exclusion
criteria, resolving every case of initial disagreement. The time available
for the review, however, did not permit this remedy, although the
researchers intend to apply it before producing material for peer-
reviewed publication. In the interim, two methods were used to
produce a more consistent selection. It was agreed to select peer-
reviewed journal articles only, excluding theses, book chapters,
professional press and advertorials, and to select material only in
English. Having excluded these items, two researchers then re-scanned
the resulting database. Maintaining the policy of caution in order not to
miss possibly relevant works, the superset of their selections was then
made the pool from which to the select papers whose full text would be
obtained. This pool contained 1568 records of papers judged relevant
to the review and of good quality.

3.3.10 Data extraction

The next step was to extract bibliometric data from these 1568 records
in order to categorise and profile the studies identified as relevant. The
publications were classified under one or more of the six types of
relationship being investigated (environment — organisational
structure; structure — organisational processes; processes —
organisational outcomes; environment — processes; environment —
outcomes; and structure — outcomes). Chapter 2 explains how these
terms were operationalised. They were also classified in terms of three
aspects of the strength of evidence they contained: the scale of their
evidence base, its representativeness and the research design of the
study.

When entering and cleaning data, each study was coded into the
category for its largest, most representative dataset if it contained
more than one type of data. A third set of classifications recorded their
geographical and sectoral coverage, and dates. An OpenOffice
spreadsheet containing headings for each of the six relationships, and
factors within those relationships, was designed and a matching data
extraction sheet was produced (Appendix 4) In piloting this, it was
found laborious to separate theoretical and empirical headlines, and the
separation added little knowledge, so for each publication a single brief synopsis of 'headline' findings was produced.

### 3.3.11 Full-text papers

It was also necessary to identify papers to read in full text. Two researchers reviewed the (third) list of 1568 records. They selected from it papers that were or appeared to be

- post-1990. This date was chosen as an historical watershed; the end of the cold war and start of the current period of health system reform. It also coincides with the first attempt to set up an NHS internal market in the UK;

and fell into at least one of the following categories:

- Meta-studies or literature reviews from all sectors;
- Directly relevant to health care, including cross-sectoral studies;
- Explicitly theory-testing papers from all sectors;
- Uncertain cases which appeared to satisfy at least one of the three preceding criteria but for where only the title was available or the meaning of the abstract was uncertain. (Many abstracts reported 'finding a relationship' without stating what that relationship was.)

The last category was created, again following the policy of caution, because of the poor quality of many abstracts and the large proportion of obscure, cursory or missing abstracts. The full text was obtained of 331 journal articles.

### 3.3.12 Synthesis of the literature

Studies on each of the six relationships between organisational structures and the outcomes listed above were allocated to a researcher to synthesise. For the material on each relationship, the researcher made a thematic analysis, drawing out the main empirical findings in the literature and mapping them onto the conceptual framework explained in the previous chapter. In the absence of formal hierarchies of methods and evidence, the analysis is, to a certain extent, a judgemental activity. The researchers had to judge which studies appeared to offer the most extensive evidence, most valid research designs and most consistent reasoning.

Besides the full-text papers, the researchers brought to bear their own subject expertise, their knowledge of literature beyond the full-text journal papers (i.e. their knowledge of relevant books, grey material, current research in progress and 'classic' studies from before 1990). They also consulted other experts and searched websites, including some suggested by those experts, to collect any reviews recently
completed and not identified by the bibliographic database searching.

The websites:

SDO http://www.sdo.lshtm.ac.uk

NICE http://www.nice.org.uk

The Healthcare Commission, at the time of this study provisionally known as the Commission for Health Audit and Improvement (CHAI). Its website was then http://www.chi.nhs.uk and is now http://www.chai.org.uk

Kings Fund http://www.kingsfund.org.uk

British Medical Association/Journal http://bmj.bmjjournals.com

Cochrane http://www.cochrane.co.uk

York Centre for Reviews Dissemination http://www.york.ac.uk/inst/crd/

European Health Management Association (EHMA) http://www.ehma.org

World Health Organisation http://www.who.dk

AcademyHealth, at the time of this research still known as the (US) Association for Health Services Research (AHSR) with its website at http://www.hfco.net; now at http://www.academyhealth.org

Australia Medical Association http://www.ama.com.au

Canadian Medical Association http://www.cmaj.ca

New Zealand Medical Association http://www.nzma.org.nz

The sections of analytical text corresponding to the six types of relationships listed above were then summarised to produce the chapters interpreting them, identifying points of ambiguity or disagreement, policy implications and future research directions.

Two problems soon became apparent. First, the health-relevant studies are unevenly distributed among the six sets of relationships listed above. The more health sector related studies were available in a given category, the greater the extent to which the synthesis of evidence for that category could highlight health sector studies. Where health sector was sparse, the synthesis relied more heavily on non-health sector evidence (where even that existed). The following chapters which present the syntheses of findings are thus (deliberately) differ in their balance between studies of health and non-health organisations. Second, in a review of this scale and character, some important individual names and works are bound to get submerged into general judgements about where the balance of work and evidence lies. It is impossible for the explicit references to be encyclopaedic and at times possibly invidious choices have had to be made about which works to give explicit coverage.
3.3.13 Bibliometry

Two methods have been used to analyse and present the bibliometric data (see above) classifying the 1568 works initially judged to be relevant to the review. The simpler, more objective, less-interpreted but also less digestible way is to present one table for each of the 21 cells that make up Table 1. Appendices 5–25 are the resulting tables. A more arbitrary but also more intelligible way to summarise the bibliometric data is to apply a scoring system. Ignoring the 'not stated' and 'other' categories leaves six rankable categories for scale of evidence, five rankable categories for representativeness of evidence and eight rankable categories for study design. One can then assign six points to a study that appears in the top category (census of organisations) in terms of scale of study, five points to a study in the next category down (survey of organisations) and so on down the ranking of categories for scale of evidence.

An analogous scoring system can be applied to the representativeness of the evidence. For study design, the same principle is followed but with two restrictions. Multi-method studies have to be excluded from the ranking and scoring because it is not a priori obvious how to rank them against other designs. Similarly, it is not obvious a priori how to rank comparative studies (especially cross-sectional studies which make up the bulk of this category) against longitudinal designs. Comparative and longitudinal studies thus get an equal score, lower than experimental designs but higher than case studies. Because of the tie, the maximum score under the design heading is seven points, not eight. By adding its score from each of the three tables a study can be given a strength of evidence score of between zero and 18 points. Adding up the scores for the studies belonging to each cell in Table 1 then gives a summary indication of the strength of evidence in regard to each of the 21 cells. Lower scores indicate relationships about which — although no data exist — there is scope to strengthen the evidence base.

The limitations of this scoring method are obvious. Sub-totals and totals show the strength of evidence found but not its internal consistency. For example, a multi-site case study supporting a given assertion gains the same score as one suggesting the opposite. A huge survey (say with millions of patient episodes, which a few meta-studies achieve) gets the same score as a very small survey. A substantial multiple case study (e.g. Parker's (1995) study of ten UK nationalised industries and services) may also describe a larger proportion of an economy than, say, a census of organisations in one industry in one region. It might be argued that the scores actually take the combined effect of researchers' foci of interest, publication bias and the reviewers' methodological judgements as a proxy for strength of evidence. Granting all this, one must therefore take the strength-of-evidence scores as only a very approximate summary of how the evidence is distributed and how it compares between the different cells
in Table 1. As far as it goes, however, the scoring system is at least more consistent and objective than relying on qualitative summary perceptions about the evidential profile of the literature reviewed.

### 3.4 Stakeholder consultation

The purpose of the consultation exercise was as follows:

- To identify which aspects of 'organisational function' and its relationship to organisational form most interest stakeholders in the NHS and why;
- To identify any gaps in the research evidence where areas of interest expressed by stakeholders are not reflected in the literature.

Consultation with NHS decision-makers took the following forms:

1. Telephone interviews with a 'diagonal slice' of NHS decision-makers. Interviewees were recruited by writing to all Chief Executives in the North West, Midlands, London and South West NHS Regions. This resulted in a self-selected group of respondents who covered all the main types of NHS organisation, but unevenly, with PCT Chief Executives predominating. Ian Carruthers and Edna Robinson assisted by nominating colleagues and staff to participate. Elsewhere, Chief Executives in some cases agreed to be interviewed themselves, or nominated a manager at Director Level. The interviewees included CEOs of 7 PCTs, two NHS acute hospital trusts, two mental health trusts, one care trust and three SHAs. Three Directors of Public Health were also interviewed, as were representatives of three national-level NHS advisory bodies, a modern matron, an NHS-based OD consultant and a development manager from a tertiary acute trust.

2. A focus group held in Manchester. Its members included public health and health promotion managers, a head of hospital paramedical services, a GP and nurse managers.

3. Attendance at national-level Modernisation Agency meetings reviewing current organisational experiments in the NHS and clinical governance arrangements.

4. Meetings via the National Primary Care Research and Development Centre’s (NPCRDC) own links with the New Zealand Health Ombudsman, a leading NHS Confederation representative and other NHS managers.
5 The review also drew upon new primary data simultaneously being collected in another NPCRDC research project investigating how patient panels participate in, amongst other things, the restructuring of NHS services across one English local authority.

Interviewees and focus group members were assured anonymity. The interviews and focus groups were semi-structured, using the schedule in Appendix 26. Its final item, however, was a reminder to ask informants if there were any other topics relevant to evidence-basing NHS decisions about organisational structure which we had not already discussed. This very open question was intended to prevent the schedule pre-empting topics or leading the informants. All participants were invited to contact the researchers again should they subsequently wish to supplement or qualify their responses, but none did. The contents of these discussions were either tape-recorded and transcribed (focus group) or written into contemporaneous field-notes (interviews, meetings). They were then analysed thematically by first enumerating all the points made by informants, then grouping these points into a manageable number of themes. The method of analysis for the consultation results was thus inductive.

3.5 Identifying areas for further research

Between them, these methods offer four ways of identifying areas for further research relevant to the perspective of NHS-oriented researchers:

1 The review of substantive existing research findings indicates missing, meagre or conflicting evidence, or evidence which appears to have implications for UK health care, but whose implications are obscure.

2 There are unresolved theoretical disputes to whose resolution empirical research in the UK health system might contribute. To the extent that these debates reflect underlying normative differences of policy preference, however, empirical research can only make a limited contribution to resolving them.

3 The bibliometric analyses indicate missing studies, or studies with weak evidence

4 Consultation with potential research users (i.e. NHS decision makers) indicates the absence of evidence applicable to their decision making. Here, 'absence' means that the evidence does not exist; there is little which organisational research by itself can do to rectify failures to communicate, know about or apply such evidence as does already exist.
3.6 Limitations of the review

The methods actually used, the remit and time-scale that constrained them, and the nature of the literature being reviewed imply that the review findings should be read bearing certain provisos in mind.

The second and third methods discussed above for identifying areas for further research are structured by the conceptual framework outlined and to that extent presuppose its assumptions. That is, they presuppose that the conceptual framework does not define out-of-view important causal relationships between organisational structures and the policy outcomes of interest. The conceptual framework has been presented a priori and an objection might be made that, like any such framework, it should be based in evidence. Two extenuations can, however, be pleaded. First, the 'classic' theories did not originate ex nihilo but from their own, older evidential bases; however, inadequate subsequent research might prove them to be. Furthermore, the cycle of making and testing a conceptual framework has to start somewhere, and here it starts with the conceptual framework. The classifications of levels and of relationships between them allow alternative theories to co-exist pending an evidential resolution of their differences, to the limited extent that the alternative theories do formally contradict each other, as opposed to simply directing their attention in different directions.

The corpus of literature potentially relevant to this review is large and its boundaries overlap with other disciplines. Whilst we have stated explicit inclusion and exclusion criteria, we are also aware that further relevant studies are likely to exist in literature whose main focus is not organisational structures and outcomes, but nevertheless incidentally study such matters as (for them) peripheral topics. These 'neighbouring' disciplines and literatures include the following:

1 Development studies, whose literature inter alia concerns the relationships between organisational structures and policy outcomes in so-called 'developing' economies.

2 Informatics, whose literature inter alia concerns the relationships between information systems and technologies, organisational structures, organisational processes and policy outcomes

3 Industrial relations, whose literature inter alia studies the connections between management practices, property relations, staff morale and informal organisation

4 Marketing research, whose literature inter alia studies the connections between relations between organisational structure, management practices and user outcomes and experience.
5 Ergonomics, whose literature *inter alia* studies the connections between physical means of production, working processes and worker health, morale and productivity.

6 Public health research, whose literature *inter alia* studies equity in the sense of studying the impact of social inequalities as a cause of ill-health.

7 Much clinically oriented EBM literature also makes passing mention of organisational contexts. This material is not used here, although attention is paid to the 'evidence-based management' component of the EBM movement.

The present review is intended to give a cumulative overall profile of relevant studies to date that fall within the boundaries described above. To that extent, it aspires more to the character of a digest than a sample of the literature, albeit a digest of a specifically defined literature (see above).

It bears repeating that in contrast with clinical and epidemiological meta-analyses and systematic reviews, no undisputed *a priori* method exists for ranking by evidential value the predominantly qualitative studies found in the present domain. The present review attempts to minimise this problem by grading the strength of evidence in the studies found, but the system provides only rather gross means of assessment and it sets aside certain 'hard-to-categorise' designs. The decision at a late stage to drop all other types of publication and only obtain full-text of peer-reviewed journal articles was a matter of balancing a risk of encountering known publication biases against the practicalities of risking exceeding the time and resources available for the review.

With these qualifications, the methods used can be said to provide a thorough and systematic overview of English-language peer-reviewed studies relating to the initial brief of the review.
Chapter 4 How organisational environment is related to organisational structures

Following the sequence of analysis set out in Chapter 2, we begin the review of substantive findings with the relationships between organisational environment and organisational structures. Studies assessing how organisational environment is related to organisational structures are most developed, among those likely to be germane to the NHS, in two main fields:

1. The availability and character of the external resources which constitute an organisation's physical structure and human resources. For health care, this means skilled labour above all.

2. In a policy-sensitive sector such as health care, government and its attempts to manage the performance of health care organisations occurs, especially in the UK, through changes in the structures through which governance of NHS bodies occurs, changes which include making NHS bodies' performance more publicly transparent.

This chapter follows that sequence, adding a third section for other studies relating to the environment–structure relationship.

4.1 Evidence on the labour supply of doctors and nurses

A key requirement for the successful functioning of a health care organisation is the ability to recruit, and retain an adequate supply of highly trained health care professionals. Thus, the structure and responsiveness of the labour market within which a health care organisation is located (including the labour participation decisions of health care professionals) may have a non-trivial impact on the quality and costs of services provided to patients. Indeed, The NHS Plan (2000) made clear that, in the government’s view, the chronic shortage of doctors, nurses, therapists and other health professionals who provide patient care was the biggest constraint on enhancing the performance of the NHS. To address this problem, The NHS Plan set out an ambitious agenda for increasing the workforce by 7500 consultants, 2000 general practitioners (GPs), 20,000 nurses and 6500 more therapists and other health professionals. The government is attempting to achieve these targets through a variety of measures and supporting tactics, including increasing the volume of training; modernising pay structures and increasing earnings; improving the working lives of staff; and recruiting more staff from abroad.
4.1.1 Supply of doctors

Empirical studies in most labour markets suggest that the supply of training places responds (albeit in a lagged fashion) to the demand for training places. However, this causal relationship does not seem to apply to the market in doctors in the UK NHS. A key feature of the NHS is that demand for doctors persistently exceeds supply (resulting in long run disequilibria). The gap between demand and supply of doctors in the NHS has been filled by recruiting doctors from overseas which now account for over 25% of the total number of doctors employed by the NHS (Elliot, 2003). However, shortages on the supply side are not a characteristic of all labour markets for doctors. The US, Germany, Italy and most of central and eastern Europe for example have produced ‘surpluses’ of doctors in recent years. In the US towards the end of the 1990s the supply of doctors was approximately 200 per 100,000, about twice the level in the UK at that time.

Elliot (2003) argues that there is currently a lack of robust research evidence to support an understanding of the reasons for a shortage of doctors in the UK NHS. He suggests that future research could usefully explore the following:

- The differences between the NHS labour market and those that produce a surplus of doctors.
- What differences are there in access to training and in the market power of institutions that represent medical staff in these countries.
- Given the recent move towards part-time working by medical staff (especially pronounced for GPs where the majority of new entrants are women) he argues that it is essential to that the determinants of supply of hours are better understood, through exploring the relative attractiveness of different aspects of doctors work and remuneration and contrast these to other labour market and non-market opportunities.

4.1.2 Supply of nurses

Nurses and midwives constitute 45% of the total staff in the NHS Hospital and Community Health Services (Yuen 2003). Their salary accounts for almost 50% of the NHS salary bill (Dargie, 1999). Nursing shortages are perceived to be a serious constraint on NHS activity and performance, although they appear to be a cyclical problem in the UK and other health systems (Blundell and Macurdy, 1999).

4.1.3 US evidence

Antonazzo et al. (2003) identify 16 relevant studies on the supply of nurses in the US health system. They highlight a number of key policy-related issues arising from the research.
First, the impact of own wage on hours worked appears to be ambiguous. Whereas some studies found a significant positive correlation (Brewer, 1996; Lehrer et al., 1991; Link and Settle, 1985; Sloan and Richupan, 1975), others found a weak or negative one (Bognanno et al., 1974; Spetz and Given, 1992). However, most studies found that the wage of the spouse and non-labour income is negatively associated with labour force participation and hours worked. The presence of very young children under the age of five was generally found to be a constraint on labour force participation, although the effect of the presence of older children was unclear. Finally, the age and the education of the participant do not appear to be linked significantly to labour supply decisions.

4.1.4 UK evidence

There has been little recent empirical research conducted in the UK on the labour market decisions of nurses. Gray and Phillips (1996) examined links between local labour market variables and labour turnover. They found two variables were significantly related to turnover: the size of the private health sector and the relative pay with respect to the local average for comparable workers. In relation to pay policies Gray and Phillips (1996) investigated across the board pay increases and claim that they are not generally a cost-effective way of reducing turnover rates. Finally, the relationship between age, length of service, and turnover rates among different staff groups, including nurses, has been examined. (Gray and Philips, 1994) with the finding that turnover rates decline with age, and rise close to retirement.

Whilst the ways in which external labour shortages constrain health care organisations’ working practice are apparent, the reasons for these shortages are not.

4.2 Evidence on the impact of external performance measurement and public reporting systems in health care

External performance measurement and assessment, including public reporting of comparative performance data has become an important part of the regulatory environment of health care across OECD (Organisation for Economic Co-operation and Development) countries (Smith, 2000). In the USA, which has the richest experience in this area, standardised performance data in the form of ‘report cards’, ‘provider profiles’ and ‘consumer reports’ have been published for over 15 years. In Europe, Scotland has been at the forefront of public disclosure, and initiatives date back to 1994 when the Scottish Executive published the Clinical Resource and Audit Group (CRAG) clinical outcome indicators for all hospital Trusts and Health Boards in Scotland. Since 1999, similar indicators have been published for
hospitals in England and Wales as part of the NHS Performance Assessment Framework, and more recently an independent company (Dr Foster) has started to publish comparative performance information in the form of a good hospital guide.

In September 2001, the UK Government published the first Star Performance Ratings for NHS organisations, providing acute hospital services. In July 2003, an independent body, the Commission for Health Improvement (CHI), was given responsibility for publishing annual performance data, including star ratings, for all NHS organisations in both acute and primary care. Following the abolition of CHI in April 2004 a new regulator, the Health Commission, was handed responsibility for publishing these data. Clinical governance reviews, National Service Framework reviews, national and local audits and performance monitoring by SHAs are also used to monitor the performance and quality of NHS organisations.

4.2.1 The purpose of public reporting

Public disclosure serves variety of purposes for different audiences and serves a rich pattern of formal and informal accountability relationships. Advocates of the public release of performance data are often unclear about both how they expect the various stakeholders to respond and the intended outcomes (Mannion and Goddard, 2002; Marshall and Davies, 2001; Marshall et al., 2000). Broadly, two outcomes are intended when performance data are put into the public domain:

1. To increase the accountability of organisations and individual professionals and managers (Davies, 1999; O’Neil, 2003).

2. To maintain standards or stimulate improvements in the quality of care provided or both, different environmental mechanisms can be used to achieve this aim — economic competition, performance management with or without incentives, or appeals to the intrinsic desire of those working in health care to do a good job. For each of these mechanisms, active consumers, informed but passive service users, managers and health professionals are expected to play different roles.

4.2.2 US experience of public disclosure

The US has led the modern public disclosure movement. (Marshall et al., 2003). A small but growing body of evidence in the United States indicates how the various stakeholders respond to comparative information and the impact of that data on the processes and outcomes of health care (Marshall et al., 2000).

Given that one of the two broad reasons for public disclosure of quality information is to stimulate health care organisations to manage the quality of care more actively, it is perhaps surprising that there are few published studies on this subject. We could find no published data from
randomised controlled trials that assess the effect of public reporting on quality, though some are currently being conducted. All that is available comes from observational studies. Probably the strongest evidence regarding the association between public reporting and outcomes is based on studies of short-term mortality and morbidity following cardiac surgery, where evidence demonstrates American states that have public reporting systems have experienced declines in cardiac surgery mortality that are more rapid than the declines in states without public reporting (Hannan et al., 1994; Peterson et al., 1998). The Cleveland Health Quality Choice Project has also been the subject of several evaluations, but the data are limited by lack of a control group (Rosenthal et al., 1997; 1998). There are no data regarding the effect of public reporting on long-term outcomes of cardiac surgery, or outcomes from care for other health care conditions. There are some observational studies of the effect of public reporting on processes of care judged to be related to health outcomes, such as influenza vaccination or screening mammography. Prominent among these are the greater improvements over time in the processes of obstetrics care for those hospitals reported as low quality outliers compared to other hospitals (Longo et al., 1997), and the observation that in the US health plans that publicly reported their data showed greater improvements over three years on some Health Plan Employer Data and Information Set (HEDIS) measures than did health plans that measured but did not publicly report the assessment of their care (Bost, 2001).

One possible mechanism for public reporting to stimulate efforts to improve the quality of care is through consumer pressure. Several studies have demonstrated that US consumers want more information about health care provider performance and are willing to identify the content and format of the information of greatest use to them (Edgman-Levitan and Cleary, 1996; Robinson and Mollyann, 1997). However, most of the evidence from both the UK and USA (Marshall et al., 2000; Schneider and Lieberman, 2001) suggests that when this information is published, the public does not search it out, does not understand it, distrusts it and fails to make use of it. There are notable exceptions, for example higher reported performance has been associated with greater employee enrolment (Scanlon et al., 2002) and a lower desire to switch health care provider (Bealiieu, 2002). Some studies have shown that those who do respond to report cards are more likely to be young and well educated (Schneider and Epstein, 1998). In addition, where user interest has been demonstrated, it appears to decline over time, suggesting that the public responds primarily to new information (Mukamel and Mushlin, 1998).

The predominant lack of user response has been explained in terms of difficulty in understanding the information (Mennemeyer et al., 1997), lack of trust in the data (Romano et al., 1999), problems with timely access (Schneider and Epstein, 1998) and lack of choice (Hannan et
al., 1994). However, recent evaluations of even the newest, state-of-the-art report cards that address many of these potential barriers have failed to demonstrate significant or sustained public interest (Harris et al., 2002; Schaufffer and Mordavsky, 2001).

As several of the studies discussed above dealt with consumer assessments of cardiac surgery report cards, the association between public reporting and improvements in health outcomes described above suggests that consumer use of report cards is not a necessary precondition if public reporting is to have an effect. Much work in the US continues to try to understand how to present quality information in ways that are meaningful to consumers, but most experts do not believe that consumer pressure will be a significant mechanism to stimulate quality improvements in the foreseeable future.

Despite this consumer passivity, growing evidence suggests that health care organisations do nevertheless respond in ways that improve the quality of the care, both in the US (Bentley and Nash, 2004; Berwick and Wald, 1990; Dziuban, 1994; Longo et al., 1997; Rosenthal et al., 1998; Rainwater et al., 1998) and the UK (see below). US hospitals that are shown by the data to be performing poorly are inclined, at least initially, to discredit the reports and question their value. However, a recent study suggests that these organisations' considered and private response is different; they use the published information to help them focus on quality issues, improve their internal data systems and improve the quality of their care (Davies, 2001).

4.2.3 UK evidence

Over time, there has been a change in the form of performance measures in the UK public sector (Mannion and Goddard, 2000; 2004a). In a review of performance measurement systems across seven public sector services, the authors conclude the across all the sectors they surveyed, there have been clear shifts in the way in which data have been collected and used. These shifts are as follows: from collection of data on a narrow range of dimensions of performance towards development of indicator packages which reflect a broader assessment of organisational activity; from the gratuitous collection of performance data towards the collection of more streamlined and focused indicator packages; some development of cross-sector or interface indicators; and a general shift from these data away from primarily being used for internal management control purposes towards their use for external accountability and control.

In the first comprehensive evaluation of the impact of public reporting scheme in health care outside the US, Mannion and Goddard (2001; 2003) evaluated the impact of the CRAG clinical outcome indicators published for all hospitals in Scotland. They conclude that the indicators had a low profile in the hospital Trusts and were rarely used to inform internal quality improvement activity or used externally to...
benchmark best practice. The indicators were mainly used to add background evidence to applications for further funding and service development. The low level of impact was attributed to range of attenuating factors. These included a lack of professional credibility in the indicators arising from perceived problems around data quality and timeliness; limited dissemination; weak incentives to take action; a predilection for process rather than outcome indicators; and a belief that soft information is often of more use than quantitative data when attempting to assess clinical performance. One study also reported limited use of these data by patients and GPs in Scotland (Mannion and Goddard, 2004b). Similar data are now published as part of the NHS Performance Assessment Framework and inform the classification of star ratings assigned to NHS organisations. Recent work investigating the impact of star ratings in NHS acute Trusts has found that although the star ratings may have generated some positive organisational outcomes, they also appear to propagate a range of dysfunctional consequences (see below).

In an econometric study of the impact of waiting lists and waiting time indicators, Gravelle et al. (2003) found that suggest that indicators and targets associated with waiting times appeared to have a substantial impact on behaviour in the desired direction, in that supply responded to reported measures of waiting times.

Recent focus group data indicate that some members of the public consider public reporting to be a punitive tool used by politicians to punish hard working professionals and they expressed concern about the practical implications of introducing report cards on general practice in the UK (Marshall et al., 2002).

### 4.3 Dysfunctional and adverse performance outcomes of performance measurement

Although performance measure may catalyse change, that change is not always in the desired direction. There is growing evidence from the US and UK (Goddard et al., 2000; Mannion et al., 2004; Smith, 1995; 2003) that, in addition to facilitating beneficial performance outcomes, the publication of performance data may also induce a range of dysfunctional organisational consequences. That performance data may be used for good or ill makes it imperative that the use of this information is monitored not only in terms of the degree to which it levers beneficial change but also in terms of the dysfunctional side-effects that are induced.

Several types of dysfunctional consequences have been identified in the literature:

- Tunnel vision, i.e. concentration on areas that are included in the outcome scheme to the exclusion of other important areas.
Suboptimisation, i.e. managers (and clinicians) pursue their own narrow objectives at the expense of strategic co-ordination.

Myopia, i.e. concentration on short-term to the exclusion of long-term issues which may not show up in (clinical) outcome indicators for some time.

Convergence, i.e. having a stronger preference not to be exposed as an outlier in an indicator scheme than to be outstanding.

Ossification, i.e. organisational paralysis due to an excessively rigid system of measurement and the disinclination to experiment with new and innovative methods.

Gaming, i.e. altering behaviour so as to obtain strategic advantage.

Misrepresentation, including creative accounting and fraud.

Complacency, i.e. lack of ambition for improvement brought about by an adequate comparative performance.

Misinterpretation, i.e. incorrect inferences about performance brought about by the difficulty of accounting for the full range of potential influences on a performance measurement.

Ghettoisation, i.e. polarisation in provision and quality of provider staff exacerbated by a poor performance ranking.

The overall picture is that transparency to external bodies does influence the processes (although not necessarily the organisational structures) for managing quality within health care organisations. These effects are produced by the organisations' apprehension of official or payer responses to adverse comparisons with other organisations, or the opportunity to exploit favourable comparisons, rather than the exercise of consumer choice or pressure.

4.4 Impact of external culture and social capital

Neo-institutionalist theories of organisations view the institutional framework within a society as a fundamental determinant of organisational structures, processes and performance. Here, institutions are defined as the generally known rules, including, conventions, customs and good manners, habits and professional norms and rules of conduct. Such institutions narrow the scope for possible actions (in particular deception and fraud; 'opportunism'), moderate the misuse of the power and discretion which organisational structures give those in the middle and senior ranks, and make other people’s actions more predictable. This helps to lower the transaction costs of exchange in complex situations and facilitates co-operative behaviour between agents. These cultural characteristics external to individual
organisations, and also referred to as 'social capital', have gained specific attention in this respect.

The World Bank defines social capital as 'the institutions, the relationships, the attitudes, and values that govern transactions among people and contribute to economic and social development' (World Bank, 1998). Whereas physical capital and human capital are essentially the property of individuals, social capital resides in groups, and, unlike traditional forms of capital, stocks of social capital increase rather than decrease through use. Thus, whereas physical capital is worn out or consumed, trust demonstrated today will be amplified tomorrow.

Empirical research on social capital employs one or more of the following three types of variables:

- Trust and trustworthiness;
- Membership of formal and/or informal groups;
- Acceptance of moral rules and norms or adherence to certain values.

4.4.1 Building trust and social capital in the NHS

Given the diversity and immeasurability of much of health care, formal contracts cannot hope to specify in entirety the service desired and this purchasers must trust that unspecified aspects will be delivered to a required standard. The inevitability of incomplete contracting also means that purchasers also need to trust that the unmeasured aspects of performance do not become neglected or downgraded. Therefore, all formal relationships in health care involve at least some trust as a backdrop to more explicit arrangements, and there may be merit in devising strategies aimed at fostering trust (Davies and Mannion 2000).

When first elected in 1997, the Labour government articulated a desire to nurture a suitable environment for the growth of beneficial social capital in the NHS through establishing relationships new economic relationships based on co-operation rather than competition (Goddard and Mannion, 1998). Mannion and Smith (1997) find that trust is an essential component in the market for community care given the lack of objective information on the performance of providers. Similar findings obtain for GPs’ assessments of hospital performance (Mannion and Goddard, 2004b). Numerous studies (Allen, 2002; Ferlie, 1994; Ferlie and Pettigrew, 1996; Flynn et al., 1996; Griffiths and Hughes, 2000; Hughes et al., 1996) adduce similar evidence about contracting in the NHS since 1990.
4.5 Other evidence about environment and organisations

Contingency theory hypothesises that organisational success depends in large part on the degree of strategic fit an organisation achieves between its distinctive competence (strengths and weaknesses) and the demands and uncertainties of its environment. The typical contingency formulation suggests organic structures (fewer rules, less hierarchy, lateral communications, etc.) are best suited for turbulent, uncertain environments. whereas mechanistic or bureaucratic structures (rigidly defined tasks, many rules, strict hierarchy, vertical communications etc.) are appropriate for more stable and certain environmental conditions. The contingency perspective is based on the logic of the functionalist paradigm (see Burrel and Morgan, 1979). Cross-national work in Mexico and Italy comparing the impact of market competition on organisation structure and effectiveness appear to support the contingency theory of organisation as originally set out by Lawrence and Lorsch (1967). This study found that in mildly competitive markets, Mexican and Italian firms with centralised structures were more economically effective than those with decentralised structures (Simonetti and Boseman, 1975). Tannenbaum and Dupurefruno (1994) suggested that labour availability (i.e. shortage) promotes the adoption of human resource management (HRM) innovations. Marsden et al. (1994) show environmental complexity in the sense of the range of markets served by US firms to be correlated with their organisational complexity, i.e. the number of departments and hierarchical levels they have. However Shanks-Meile and Dobratz's study (1995) of blindness rehabilitation agencies in 22 US states indicated that competition had no impact on organisational structure. In their wide-ranging private sector study, Keats and Hitt (1988) addressed the organisational response to environmental instability. They concluded that higher levels of instability were associated with lower levels of divisionalisation and diversification, that strategy was related to structure, and that size did not mediate the strategy–structure relationship.

Whilst strategy formation is an organisational process that takes place within an existing organisation, there is also evidence that it leads organisations to re-structure, the better to pursue the chosen strategy (for various sectors, see Keats and Hitt (1988); for manufacturing, see Habib (1991)). Blair and Boal (1991) drew this conclusion from an extensive review of strategy formation research to 1990, with a specific focus on US health care. Many studies describe organisations adjusting their structures to suit their 'business' (or equivalent) strategy. Young et al. (1992) confirmed this in regard to US acute hospital Boards' composition. However, Blair and Boal found that existing studies focused on corporate strategy (deciding which markets to enter) and business strategy (deciding how to compete in the chosen markets), rather than on strategy formation in not-for-profit or
publicly owned organisations. They found only equivocal evidence for the assertion that performance depends on 'fit' between strategy and structure, as did the Pettigrew et al. (1999) review.

Institutional theory emphasises that organisational environments are not only technical (providing resources and information to support the production of goods and services) but also institutional. From this perspective, firms are rewarded for developing internal structures which are 'isomorphic' with external institutional pressures. These rewards include increased legitimacy, resources and survival capabilities (DiMaggio and Powell, 1983; Meyer and Tucker, 1992). In this approach, structures in firms with highly institutional environments are shaped by pressures from other organisations (coercive isomorphism), by imitation of structures adopted by others in response to pressures (mimetic isomorphism), or by conformity to normative standards established by external institutions (normative isomorphism) (DiMaggio and Powell, 1983). Organisational environments in which professional socialisation plays an important role appear to enhance scientific productivity in universities. Broader organisational contexts, such as voluntary participation in professional associations, appear to influence scholarship outcomes because such involvement provides a form of disciplinary integration and shapes and modifies behaviours and aspirations (Keith et al., 2002).

Institutional theory focuses on the normalising rather than resisting tendencies within organisations and on homogeneity. Its focus is on passivity rather than resistance. This focus rests on the assumption that without compliance organisational legitimacy is lost. In this sense institutional theory has tended to focus on conformity rather than resistance. Broadbent et al. (2001) provide a useful corrective to this view in investigating the resistance strategies of organisations and their staff to unwanted changes in accounting practices. Adopting a critical theory perspective (Habermas, 1987), the authors explore the resistance strategies of GP practices to external pressures (NHS internal market reforms). They demonstrate how satellite organisations were created by some GPs to control, undermine or absorb the disturbances. Numerous studies describe how professional organisations' attempts, through professional 'discipline', to control technical working practices and ethics constitute a strong environmental influence on health care organisations' structures. Not only trust is involved; on occasions 'soft coercion' is also applied (Sheaff et al., 2004a, 2004b).

4.6 Empirical summary

In summary, the main empirical findings about the environment-structure relationships which are germane to the NHS are as follows:

- UK medical training has been exceptionally unresponsive to shortages of doctors;
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- UK nurse turnover reflects the size of the private health sector and how nurse pay relates to other occupations available to nurses;
- Public reporting of clinical outcome data slightly improves provider performance, but not through the mechanism of consumer choice;
- Target-driven performance management is liable to produce adverse beside positive effects;
- Contractual relationships between NHS bodies also depend heavily on trust and goodwill to make them workable;
- Environmental changes and pressures lead private sector (including private health) organisations to change their strategies, then change their organisational structures to fit the strategy;
- Professional networks appear to promote professional productivity and discipline.
5.1 Introduction

Whilst it was possible to categorise the various distinctive aspects of the environment from the papers, it was less easy to distinguish a clear relationship between environmental aspects and organisational processes. This was because of the multifaceted and very complex nature of the impact that the environment has on more than one aspect of organisational processes. There was very little indication from the published research of the real nature of the causal relationship between the environment and organisational processes.

Parker and Bradley’s (2000) paper provides a useful starting point and reminder of the fundamental differences between the public and private sectors. They have defined these differences as diversity of goals, differential access to resources and different economic and political constraints. An overriding consideration is that the environment of the NHS is governments’ overarching political and ideological strategy for economic and social development. Consequently, in respect of organisational processes there is more need for co-ordination, negotiation and conflict resolution than in private sector firms (Considine, 1990; Massey, 1993; Pollitt, 1990; Scott and Falcone, 1998). Further, a bureaucratised and highly professionalised workforce dominates the public sector. Perry (1996) suggests its motivation may differ from that of private sector workers. All of this suggests in some limitations to the application of general management theory to the NHS.

The majority of the papers relevant to this chapter addressed either working practices, management routines, changing the organization’s activity or the organisation’s culture and climate. A lot of the literature dealt with the formulation and design of strategy, indeed the external environment is seen as part of the context of the strategic decision making processes (John, 1991). No papers related to the physical environment, although one by Vinton et al. (2003) suggested that a rural environment was more frustrating for the work of health care managers and more likely to produce burnout than an urban setting would.

5.2 An organisation's relations with external organisations

There were no papers in the environment to process section that we categorised under this heading.
5.3 The functional structure of whole economic sectors

Again, there were few papers that we were able to categorise into this section. Amongst those that there were, one dealt with the public sector and one with health care. Mur-Veeman et al. (2003) showed that the separate financing of health and social services and between public/private and voluntary ownership served to obstruct integrated care. Bozeman and Kingsley’s (1998) work showed that managers were more risk averse when have dealings with elected officials than with private sector counterparts.

5.4 The national policy context

Pollitt et al. (1991) and Harrison and Wood (1999) provide succinct summaries of large scale change and design in the NHS from its inception to 1998. The taxonomy for what Harrison and Wood identify as two historical environmental phases are 'the technocratic blueprint and the bright ideas or manipulated emergence phase'. The relationship with organisational processes are manifold when considered on this scale, especially in respect of the impact upon management routines and the organisation's internal culture and to a lesser extent upon working practices. Harrison and Wood also suggest that one result of 'manipulated emergence’ is the increasing dissolution of the policy–action distinction. This was because there was evidence that policymakers seemed content to let local actors take the initiative with bright ideas, and indeed they received incentives if these were in accordance with government philosophy. The contemporary policy context for the NHS has, of course, been patterned by the advent of managerialism in the public sector, the New Public Management and 'Third Way' ideologies (Aucoin, 1986, 1990; Dawson and Dargie, 1999). Dixon et al. (1998) address managerialism and public agency performance, whereas Kakabadse and Kakabadse (2002) look at culture change through collaborative inquiry in order to understand the modernising government initiatives.

Contemporary policy pressure is towards mandated collaboration both in terms of service delivery and planning. Ledwith’s (1999) work on community mental health services in the UK suggests that there are inter-agency difficulties, not because of a lack of willingness to work together but because of contradictory policies. On the one hand, policy suggests an internal market approach; and on the other, is characterised by a system of tight controls. In terms of the consequences of this for organisational processes, those most affected were working practices and managerial routines, especially in respect of hands-on activities, planning and financial decisions.

In a paper giving similar findings, Khan (2003) also points out that different agency mandates hamper inter-agency collaboration. North
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(2000) examines community planning and social exclusion as an example of a collaborative policy environment but does not address the relationship with organisational processes because her analysis is at a much more macro level. Indeed, a common theme that emerges from this section is that there is no match of macro to micro levels of analysis. In a further example of contemporary health policy initiatives, that of evidence-based practice, Dobbins et al. (2001) examine what mediating organisational characteristics act as predictors of the use of systematic reviews for decision making in public health. They reach a similar conclusion to Wallace et al. (2001): what really matters is the perceived values that an organisation has when making the decision to use research-based evidence. This raises the question of how these values originate (see Chapters 7 and 8).

Taking the broader concept of governmental regulatory frameworks, Haveman et al. (2001) use the concepts of organisational ecology and more specifically punctuated equilibrium to look at how industries respond to discontinuous change in the environment. Using the examples of a general hospital, they show that the main change to the organisation occurred in respect of chief executive officer (CEO) succession. With regulatory punctuation the rates of CEO succession would rise slowly over time, with the concomitant impact upon management routines. Indeed, the more normative aspects of the environment can have a far-reaching impact at a variety of levels. Bruce (1998) demonstrates how it can change physician behaviour. Hardy (1990) shows how Canadian universities adjusted their strategy in response to funding restrictions.

Another example of the impact of the regulatory environment is the requirement for certain cultural standards in organisations. Shaw–Taylor (2002) examined the recommended standards for culturally and linguistically competent health care delivery required by the Office of Minority Health of the US Department of Health and Human Services. The paper presents a discussion of the impact of these standards on health care organisations in terms of process requirements. One paper that did address micro processes was that of Prodgers (1999), who took a psychoanalytical approach (that of identity) to understanding individual responses to the changing organisation and the changing nature of work in a post-Welfare-State society, echoing something of the Harrison and Wood (1999) work in its approach to taking a broad historical perspective.

5.5 External resource dependencies

Research into the effects of labour markets on organisational structures is discussed in Chapter 4. However, three papers addressed managed care and integrated health care networks. We include them here because of the resource interdependency that characterises managed care. Lin and Wan (2001) look at integrated health care
networks (IHN) and the environmental factors that influence IHN administrators to focus on their service differentiation and the establishment of third-party payers' contracts, the affiliation of managed-care organisations, and the alliances of various non hospital medical providers, to provide a continuum of care. The study findings show that the tax status of an IHN, its age, and market competition affect its service differentiation strategy in the provision of a full continuum of care.

One study of a managed care system for the terminally ill by Lynn et al. (1998) showed that there were some advantages in co-ordinated care across delivery sites. Interdisciplinary teams and integrated services gave opportunities to develop innovative care programmes, service arrays, utilisation controls and accountability for care standards. However, the research also showed that in networked environments continuity and co-ordinated care, financed through a capitated payment and directed at a special population, are both feasible and effective. Finally, Elias and Navon (1996) addressed managed care and the critical role of leadership in producing positive reform.

5.6 External incentives (facing the organisational as a whole), concomitant financial systems, distribution networks

The effects of external incentives on organisational processes are discussed in Chapters 4 (regarding competition), 5 and 7 (regarding ownership). Only one further paper was relevant to this section. Shanks-Meile and Dobratz's study (1995) of blindness rehabilitation agencies in 22 US states indicated that competition between agencies meant that clients themselves were one of the agencies' few controllable resources. Agencies therefore tended to make more aggressive use of outreach clinics and retain clients longer in their programmes.

5.7 Environmental sources of risk and uncertainty

It is generally recognised that dramatic environmental conditions can lead to organisational change (Haveman, 1992). This change can impact upon the more readily identifiable aspects of organisational processes such as work processes and managerial routines and also upon more abstract aspects, such as organisational culture. Studies that have addressed this aspect include Onken and co-workers (1999), which showed that a hyper-competitive environment moderates the effects of organisation culture on performance. Kemelgor (2002) addressed turbulent environments and showed the mediating effect of culture on entrepreneurial behaviour in such an environment.
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The environment as a force for change also impacts on strategic decision-making. One study that we looked at addressed the static–dynamic dimension of organisational environments and how this contributes most to uncertainty in managerial decision-making (Duncan, 1972). Using a study of HIV/AIDS, McKinney (1996) describes the adaptation of mission, organisational structures and functions to be responsive to changing environmental attitudes and funding for HIV/AIDS. Salauroo and Burnes (1998) revisit the argument about environmental stability in their discussion about the impact of a market system on two community health trusts, a faculty of health and nursing in higher education. Their conclusions are similar to other environmental contingency studies in terms of assessing the degree of choice available to organisations in the face of environmental change. Their results demonstrated variable success between the four organisations in dealing with the change, also supporting the thesis of the need for variations in leadership style in response to the environment.

Some studies assess whether organisations opt for an entrepreneurial or conservative response to the environment in terms of their overall processes. Chenhall and Morris (1995) look at the processes of communication and decision-making involved in the use of integrated management accounting systems. They concluded that organic decision-making (open, consensual and participative) was associated with those organisations that pursued an entrepreneurial as opposed to a conservative strategy. Findings in Keats and Hitt’s (1988) wide-ranging private sector study differ from what the classic papers (above all Chandler, 1982) say on these relationships. Here, attention will be paid only to the process relationships including an organisation’s strategic response. Keats and Hitt adopt the organisational inertia argument. In, for instance, a highly divisionalised organisation, data-gathering, and the perceptions of threats and opportunities — i.e. all the things that impact upon strategy formulation — will be different to those of a highly centralised organisation. This work is important in that it traces with empirical data the causality of the relationship between the environment, structure, process and outcome. Although it is based within the private sector, there are lessons for the public sector and the NHS, notwithstanding the aforementioned general caveats.

Innovation in all its forms can be regarded as an organisational response to environmental uncertainty and certain environments seem to stimulate entrepreneurship (Deniz et al., 2001). Greve and Taylor (2000) show how innovations act as catalysts for organisational change via shifts in organisational cognition and search. On the other hand Douzou and Legare (1994) maintain that new technologies, for example network information technology, can reinforce rather than challenge existing professional working practices in the health care sector.

One response to the varying stability of the environment is that of organisational flexibility. Reed and Blunsdon (1998) furnish a
comprehensive discussion of the concepts around organisational flexibility that includes some conceptual definitions covering the degree of flexibility around formalised rules and regulations, the degree of goal directness (e.g. clarity of purpose and whether this is written down) and also workforce flexibility. Their paper also confronts such critiques of flexibility as Pollert's (1998). It uses a definition of environmental instability that, whilst based on private sector dimensions (market share and the stability of the customer base), still sheds light on the processual responses. These, in turn, are categorised as strategy design (new products, standardisation of products and procedures); communication and information dissemination. The overall conclusion to this work, and pertinent to the present review, is that strategic flexibility is associated with a combination of goal directedness, high trust and discretion, together with relationships that are sustained through high levels of face-to-face communication within small, simply designed organisations. Moreover, this is achieved by investing in a core workforce with high levels of training and a long-term strategic human resources plan. One way in which to support such an approach is through management development. Greening and Gray (1994) describe a case where this was used as a strategic adaptation to external pressures.

At a different level of analysis, Gavin and Howe’s (1975) work reflects something of Prodger’s paper in that it deals with micro processes in terms of an organisation’s psychological climate although their definition of the external environment is very broad in that they use the usual PEST analytical variables. The environment in this instance operates as an overarching factor within which the organisation is embedded.

The section about environmental risk and uncertainty had the most papers in it. Since the NHS inhabits an environment that is to a great extent ‘designed’ by government policy, the degree of environmental stability will vary as policy changes (all else being equal). However, it could be argued that because of accountability and regulatory requirements, the NHS does not have the concomitant flexibility to respond either in terms of structure or process.

5.8 External trans-organisational bodies and networks

Studies on network behaviour generally point out that the development of informal, trust-based relationships and the quality of interactions within a network are of paramount importance for its success (Griffiths et al. 2000; see also the discussion of trust below). External networks can act as an environmental factor. Walsh and Szabat (2002) have studied academic health centres that have traditionally been involved in network relationships with multiple partners via their shared technology, collaborative research, and joint educational endeavours. They showed that these quasi-organisational relationships appear to
have provided a framework for strategic decisions and allowed executives of academic health centres to select strategies that were competitive yet closely aligned with their organisational mission, especially in terms of expanding managed care contracts, and developing physician networks.

Given the diversity and immeasurability of much of health care, formal contracts cannot hope to specify in entirety the service desired and this purchasers must trust that unspecified aspects will be delivered to a required standard. The inevitability of incomplete contracting also means that purchasers also need to trust that the unmeasured aspects of performance do not become neglected or downgraded. As noted in Chapter 4, numerous studies suggest that trust is an essential component of internal markets and quasi-markets in health care.

5.8.1 Local history and ethos

One paper dealt with the effects of the historical founding of an organisation. Boeker (1989) explains that an organisation’s founding imprint and its initial strategy will influence its evolving strategy. This is because of the influence of the founding principles on the overall consensus towards future strategy, to the extent that the founding affects the way the initial strategy is perpetuated. This also has consequences for change and cultural metamorphosis, and shows the importance of precedence in shaping strategic action. The findings from this paper can be linked to those of Harrison and Wood (1999) and Pollitt et al. (1991) about the NHS, inasmuch as there is evidence that founding principles (in this case, a welfare state model of health care provision) will exert an enduring effect on the organisation.

There are also examples of more abstract concepts of ‘ethos’ in the literature. Chattopadhyay and Gouranga (1985) show how individual and social psychology influence the worker–manager transaction and also organisational culture and myths. Hasenfeld (2000) looks at moral assumptions (as environment) and how these can change organisational practices.

5.9 Workforce and personal individual characteristics (e.g. 'personality', gender etc. which pre-exist organisational membership)

Chevanne’s (2002) paper describes the social construction of managerially defined needs assessment by health and social care professionals, and is a good example of a pre-existing workforce characteristic — that of the difference in training and professional socialisation between health and social care workers. The study shows that professionals identify older people into two groups or 'classes' —
i.e. those having health needs as distinct from those with social care. Chevanne argues that the techniques used amount to an exercise of power by professionals over older people. It is then proposed that a broader concept of assessment is required to achieve greater relevance to how health and social care is organised, and how relations between professionals and older people are integrated into the idea and practice of participatory care. Similar evidence and conclusions appear in Sheaff (2001) and, for the Australian NHS, Grace (1991).

5.10 Empirical summary

The main empirical findings about the environment-processes relationships which are germane to the NHS are as follows:

- A politicised environment and professionalised workforce mean that public sector organisations have to undertake more negotiation, co-ordination and conflict resolution than private firms do.

- Policy differences between different parts of the public sector obstruct inter-agency collaboration.

- Changes in an organisation's climate impact upon its internal managerial processes; the policy climate can influence professionals' behaviour in the ways they provide service.

- Whether environmental changes produce inertia or innovation in an organisation depends partly on whether it has 'organic' decision-making processes and is open to external collaboration and ideas.
Chapter 6  How organisational environment is related to organisational outcomes

The relationship between organisational environment and organisational processes can be understood in two ways. One way is to decompose it into environment–structure and structure–outcome components; or into environment–process and process–outcome components; or into environment–structure plus structure–process plus process–outcome components. Other chapters deal with these dyads.

This chapter adopts the alternative approach of examining studies which immediately relate organisational environment to organisational process, without much direct attention to any mediating links. The most developed studies of this second kind that are relevant to the NHS consider what outcomes health care competition produces. Many studies confuse competition with markets, therefore studies about marketisation are included here. Other relevant studies are reviewed in a third section of this chapter.

6.1 Evidence on the impact of competition in health care

There has been an international trend towards the creation of explicit markets in health care, in which the purchase of care is separated from provision (Smith, 2000). Examples include the rise of managed care in the US and the introduction of internal markets into public financed health service systems such as those found in Sweden, Italy, Portugal and the UK. These initiatives reflect a wider movement across OECD countries to introduce quasi-market mechanisms into the delivery of public services.

The 1991 internal market reforms introduced supply side competition into the UK NHS and involved a mandatory separation of purchasing and provision, devolved budgets and a quasi-market based on formal contracts. When elected in 1997, the new Labour government at first shifted the emphasis towards relationships based on co-operation rather than competition (Goddard and Mannion, 1998) but more recently has reverted to favouring market incentives based on fixed national tariffs for 15 Health Resource Groups (HRGs) and commissioning based on the volume of case-mix-adjusted activity. Because payments are now linked to activity, the aim is to support the government's Patient Choice agenda: patients are to have more choice in where and when they have treatment (Department of Health, 2003). The government believe that these financial reforms will also enhance efficiency, because providers now have an incentive to reduce their costs and retain any savings that result.
Most evidence on the impact of competition in health care is based on work in the US health system. This literature focuses predominantly on the impact of competition on prices/cost or quality, although usually not both. We begin by reviewing briefly the US literature before discussing the limited evidence on the impact of competition in the NHS.

### 6.1.1 US evidence

In the US, literature studies completed before the mid-1980s differ from more recent findings (Propper et al., 2004). The burden of the evidence in the earlier period suggests that competition between health care providers resulted in increased excess capacity, costs and prices (Joskow, 1980; Noether, 1988; Robinson and Luft, 1985; 1987; Robinson, 1988; Robinson et al., 1988). Work since the mid-1980s suggests the opposite: competition between providers results in reduced excess capacity, costs and prices (Dranove et al., 1994; 1993; Gruber, 1994; Keeler et al., 1999; Melnick et al., 1992; Zwanziger and Melnick, 1988). However, a couple of studies have identified a negative association between competition and hospital costs during the latter period (Robinson and Luft, 1988; Mannheim et al., 1994). Arnould (1993) argues that the differences between the two periods is explained largely by the rise of managed competition in the US health system, especially the ability of HMOs to exert a positive influence by steering patients to more efficient providers. Both price and non-price competition occurs, tending to lead to the emergence of a stratum of leading hospitals who can differentiate themselves in terms of the services they offer whilst remaining price-competitive (Young et al., 2003).

There is less US evidence on the relationship between market competition and hospital quality or clinical outcomes. Kessler and McClellan (1998) investigated the impact of competition on costs and patient outcomes. They found that before 1990 competition led to higher costs and lower rates of adverse health outcomes but after 1990 competition led both to substantially lower costs and significantly lower rates of adverse outcomes. One implication of this study is the possibility that US hospitals in less competitive market environments have an incentive to skimp on quality because of their relative market power. Other studies have provided more mixed results. One study examining the association between in-hospital mortality among Medicare patients and hospital concentration found no significant correlation between them (Shortell and Hughes, 1998).

Ho and Hamilton (2000) tested the hypothesis that hospital mergers decrease competition and therefore reduce quality of care in the local market. They concluded that between 1992 and 1995 hospital mergers in California had no impact on the mortality of heart attack patients or stroke inpatients. A study investigating the impact of price competition on the quality of hospital care in New Jersey found that that mortality
due to heart attacks actually increased following hospital rate deregulation, suggesting that increased price competition was associated with a decrease in quality competition (Volp and Waldfogel, unpublished). Gowrisankaran and Town (unpublished) explored the effect of competition for both HMO and Medicare patients on hospital-specific mortality rates of hospitals in Southern California. They found that increases in the degree of competition for HMO patients decrease risk-adjusted hospital mortality rates for both pneumonia and AMI but increases in competition for Medicare enrollees are associated with increases in risk-adjusted death rates for both diagnoses. On the basis of this evidence, they conclude that, unlike the rest of the market, the Medicare system does not generate incentives for hospitals to compete on quality. Bundorf et al. (2004) found higher rates of cardiac surgery (and higher costs) for Medicare patients in markets with high competition between HMOs (but also lower rates of surgery in markets with high HMO penetration).

6.1.2 UK evidence

There is relatively little evidence on the impact of the 1991 UK NHS internal market reforms. This is for a number of reasons (Le Grand et al., 1998). First, the government at the time did not fund any comprehensive external independent evaluation of the reforms and their effects and claimed that calling on the advice of academics was a sign of weakness. Second, apart from a lack of funding, the prevailing NHS environment meant that research proved difficult to conduct as managers and clinicians were often unwilling to share competitively sensitive information, especially on costs and prices with researchers. Finally, the internal market was introduced as a 'big-bang' reform with no piloting and therefore the size and pace of reform was such that researchers were not just unsure of what to evaluate but of how to evaluate.

A systematic review of the available evidence exploring the various dimensions of the impact of the NHS internal market was undertaken by the Kings Fund in 1997 (Le Grand et al., 1998). This examined the available evidence to assess whether the internal market was a 'success' or 'failure' with respect to four criteria: efficiency; equity; choice and responsiveness; and accountability:

Efficiency: Over the period since the reforms were introduced there was an increase in activity as measured by the cost-weighted activity index that was greater than the increases in resources over that period. However, this increase needs to be viewed in the context of increased transaction costs. The proportion of revenue that was attributable to administration in Health Authorities (HAs) and Trusts grew from about nine percent in 1988–1999 to 12 percent in 1994/1995. There is also conflicting evidence as to whether Trusts adopted more efficient techniques, and if this was the case, whether
this was attributable to the reforms or other factors such as advancements in medical technology.

*Equity*: There is no evidence that 'cream-skimming' — the deliberate selection by both hospitals and fund-holding practices of patients who were easier or less costly to treat in order to protect budgets. However, there is evidence to suggest that so-called ‘two-tierism’ whereby patients of GP fundholders apparently received preferential treatment over patients paid for by HAs. Nevertheless, there remains disagreement over whether this is explained because fundholders were more efficient purchasers, or because they were better resourced. Evidence that GP fundholders' patients benefited is not matched by any evidence showing that access to care or its quality deteriorated for non-fundholders' patients.

*Quality*: The review found no evidence to suggest that hospital trust status enhanced quality. However, there was evidence to suggest that fundholders did increase their quality relative to non-fundholders. In particular, there was evidence that they were able to obtain quicker admissions for their patients and, more response from providers.

*Choice and responsiveness*: The evidence suggests that choice in terms of procedure or provider for patients did not increase under the internal market. However, there is evidence to suggest that fundholders were more successful in obtaining responsiveness from providers.

*Accountability*: Although trusts became more accountable to purchasers there is no evidence that trusts became more accountable to their local populations.

Overall, the authors of the survey note 'how little measurable change there seems to have been related to the core structures and mechanisms of the internal market' (Le Grand *et al.* 1998; p129). They go on to argue that the apparent absence of obvious change attributable to the internal they may be because there was indeed little change, or because there was change but the research methods were not up to picking up these changes. Indeed, they sense that there was a considerable of cultural change in the organisation that was not detected in the studies reviewed.

Recent studies using sophisticated econometric modelling techniques applied to complex data sets provide a more rigorous analysis of the impact of competition in the NHS on prices costs, productivity and quality (Propper, 1996; Propper *et al.*, 1998; 2004; Söderlund *et al.* 1997).

Propper (1996) explores the impact of the NHS internal market on pricing for four specialities (general surgery, orthopaedics, ENT and gynaecology) and concludes that the results offer some support to the view that competition results in lower prices. Söderlund *et al.* (1997) evaluate the effect of purchaser mix, market competition and trust
status on hospital productivity in the NHS internal market using panel data on costs. They find that market concentration is not associated with productivity gains. Neither were gaining trust status and increasing purchaser share associated with increased productivity after adjustments for case-mix, regional salary differences and hospital size. In the most sophisticated attempt to assess the impact on the internal market on quality, Propper et al. (2004) used published data on hospital death rates from acute myocardial infarction within 30 days of admission to hospital and analysed these alongside measures of local competition (based on potential travel). They find that the impact of competition is to reduce quality; hospitals located in more competitive areas have higher death rates, controlling for hospital characteristics, actual and potential patient characteristics. They conclude that these results suggest that the lack of quality signals in this market has resulted in a weak cross-sectional association between higher competition and lower quality.

In summary, the UK evidence differs from recent studies emerging from the US. This may be owing to a number of factors, not least differences in methods used to measure competition, quality and health outcomes. For US health care organisations, the environment of a more competitive market is generally associated with more efficient care provision, but only erratically and contingently with increased quality and clinical outcomes. In England, the internal market environment improved access to secondary care through the mechanism of GP fundholding, but few other clear benefits resulted from competition.

### 6.2 Impact of institutions, external culture and social capital

Different researchers have placed different emphasis on the role of institutional, societal and cultural factors in accounting for national economic performance. Dore and Sako (1989) for example identify a range of cultural factors (groupism, paternalism, lifelong employment, corporate welfarism and the competitive drive to improve life chances) to explain explaining Japan's post-war competitive advantage.

Fukayama (1995) attributes national industrial competitiveness to trust as a societal-level cultural norm and a social capital. According to his view, the ability to institutionalise trust in work and commercial relations accounts for the industrial success in Japan and Germany in the post war period. By contrast, the absence of social groups in the area between the family and large centralised organisations like the state accounts for the relative economic backwardness of Latin catholic countries (such as Italy and Spain).

In Fukayama’s study, however, the link between trust, other forms of social capital and industrial performance has only a meagre evidential basis. An empirical study that has made use of all three social capital
variables (across 29, mostly developed, countries) found that group membership had no impact on economic growth and performance (Knack and Keefer, 1997). However, they found that the variables of trust and civic norms have a significant and positive impact on the economic performance of countries (Knack and Keefer, 1997). Putnam and colleagues’ (1993) work in particular has drawn attention to the relationship between civic values and politico-economic performance. In their study of the Italian regions, they makes the claim that the contemporary economic development across the regions is better explained by civic conditions in those regions in the 19th century, rather than their level of economic development in that period (Putnam et al., 1993). De Soto (2000) argues that whilst developing countries have considerable physical capital, their legal systems prevent it becoming monetarised or being supplemented by investment from richer countries; an obstacle to economic development including industrialisation. More generally, Hofstede et al. (1990) provides the most comprehensive overview to date of the ways in which national, ethnic and religious cultures shape working practices and productivity in workplaces.

6.3 Empirical summary

Main empirical findings about environment-outcome relationships which are germane to the NHS are as follows:

- Competition among health care providers can reduce excess capacity, costs and activity, provided that purchasers are willing to steer patients towards the more efficient providers;
- Provider competition has no clear-cut effects on health outcomes or productivity, but may improve access to secondary care under fundholding-like systems;
- The wider social 'culture' and values appear to have some impact on an organisation’s productivity.
Chapter 7 Relationship between organisational structure ('form') and organisational processes ('organisational behaviour')

Relationships between organisational structures and processes can be decomposed into two elements: structure–process and process–outcome relationships, which this and the following chapter consider. (Chapter 9 deals with unmediated structure–outcome relationships.)

Many studies (see Chapter 4) indicate that organisations form their strategy in response to their environment. However, the ownership and control of an organisation also determines who decides its response, to what elements in its environment it responds, why and how (see below). Ownership is thus the fundamental structural constraint upon how organisations respond to a changed environmental or poor outcomes. Various studies (e.g. Fligstein (1985), Ketchen and Palmer (1999)) indicate that for large companies, poor performance leads to a change in organisational strategy and thence to re-structuring of the horizontal and vertical design aspects of organisational structures.

7.1 Ownership and property rights

Ownership and property right structures can be analysed at three levels: the ownership of whole organisations (for-profit versus not-for-profit versus public versus others: a distinction relevant to the Public Finance Initiative (PFI), Public–Private Partnerships (PPP) and foundation trusts); the status of doctors within organisations (employed versus contracted versus admitting rights structures); and the special case of mutually-owned non-hierarchical organisations (e.g. co-operatives, professional partnerships).

7.1.1 Ownership status of whole organisations

Studies of the effects of fundamental changes in organisational ownership (i.e. transfers to or from public, commercial or mutual ownership, as opposed to mergers or de-mergers of private firms) are relatively scarce. Parker's (1995) study of ten nationalised industries and services shows that privatising them or conversion to 'public firm' status was in the majority of cases associated with more flexible management (with different goals), clearer, more market-driven goals, decentralised, multi-divisional hierarchies, more output- and financially-oriented communications, re-profiling of production work, job reductions and more performance-related pay systems. Human resources decisions tend to be taken at a more decentralised...
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level in private firms than in public organisations in the US. Public organisations there tend to be more formalised, more unionised and more likely to have uniform contracts of employment (Marsden et al., 1994). West and Anderson (1992) contrasted the control and target-oriented culture of NHS trust managers with the more group- and developmentally oriented managerial cultures most often found in private firms. Within the private sector, Colombo and Delmastro (1999) found that in Italy, family-owned firms were more resistant to organisational change than firms owned by a larger company and managed by salaried managers, especially if the owner had a consultative rather than autocratic style of management. In the US, government and voluntary non-profit nursing homes spend more per patient than for-profit homes, and both spend more than 'chain-owned' not-for-profit homes (Luksetich et al., 2000).

A handful of studies suggest similar levels of risk-aversion in public and private managers (Bozeman and Kingsley, 1998; Sheaff and West, 1997), but that TQM initiatives have lower impacts in the (UK) public sector because the greater complexity of organisational structures and lower levels of resourcing (McNulty and Ferlie, 2002; Packwood et al., 1998). In the USA, since the 1980s the differences between the private for-profit and private non-for-profit sectors has narrowed considerably, the latter becoming dominated (despite its name) by profit-maximising hospitals (Fallon, 1991; Westphal et al., 1997). This explains Kralewski's et al. (1988) finding that environmental pressures rather than ownership determine the balance between social-welfare and financial performance goals in US hospitals. Landon and Epstein (2001) found that whilst non-profit and for-profit US health insurers used fairly similar managerial processes, the for-profit plans were slightly more likely to use 'aggressive' utilisation review but non-profits had somewhat more developed quality management systems. One case study (Litwinkenko and Cooper, 1994) show that gaining NHS trust status was accompanied by a shift from a 'support' to a 'power' culture, but this shift may have been an effect of the change process itself rather than of the new organisational status. Evidence about the effects of ownership comes predominantly from the US health sector, where profit and non-profit organisations co-exist on a large scale).

7.1.2 Status of staff within organisations

There is relatively little evidence discriminating between direct-employment and admitting rights structures as means of promoting good medical working practices. For US primary care, what evidence there is (Zinn and Mor, 1998) weakly favours direct employment, although under favourable circumstances an admitting rights model can achieve the same degree of integration between hospital and doctor work-processes as direct employment does (Hoffman et al., 1996). For the NHS, Harrison et al. (1992) point out that the balance of power between NHS managers and hospital doctors is defined, and for NHS
managers attenuated, by the terms of the consultant contract. A recent study of volunteers' commitment to their organisation suggests that organisational structures have little effect on it (Ehlen et al., 1999).

### 7.2 Vertical 'organisational design’

#### 7.2.1 Hierarchy and its consequences

The New Public Management has tended to involve strengthening the vertical organisational structures within public sector organisations. Notwithstanding policy fashions for decentralisation, networks and local working groups, there remains evidence that pyramidal bureaucratic structures which formulate objectives and transmit them hierarchically 'downwards' are stable, effective means of producing collective action in a defined direction and form promoting the changes necessary to that end.

For health care, Blair and Boal's (1991) review suggested that hierarchical structures have greater influence and benefit arise on routine, first-order than developmental activities. Nevertheless, Pettigrew et al.'s (1992) multiple case study of strategic change in the NHS found that simple, clear goals and priorities assist change implementation. Later multi-site studies (e.g. Redfern and Christian, 2003; Wallace et al., 2001; Walston and Bogue, 1999), reviews (Ferlie, 1997; Shortell et al., 1998) and single studies (e.g. Harber et al., 1997; Packwood et al., 1998; Schofield, 2001) corroborate that such methods conduce to changing clinical working practices, to the management of innovation and even team-working (Ryan et al., 2001). Zinn and Mor's review (1998) found just five relevant studies about US primary health care but they suggested that 'bureaucratic' structures assist the co-ordination, specialisation and centralisation of clinical activity, indeed slightly enhance its outcomes. However, Illes and Sutherland (2001) cite three separate NHS case studies that cast doubt on the 'rationalistic' models of change built into evidence-based medicine, as McNulty and Ferlie (2002) do regarding BPR. Informal, micro-political process make change implementation even through strong bureaucracies an uneven, uncertain process.

Similar conclusions appear in studies outside health care (e.g. Carley, 1992; Cheng, 1996; James, 2000; Schulze et al., 2001; Taveira, 2003; Tannenbaum and Dupurefbruno, 1994). There is less 00evidence, which also tends to be negative (e.g. Hough et al., 1977), that hierarchical control increases staff commitment to their organisation. One managerial response to this has been to attempt to extend the remit of 'vertical' managerial structures to include the management of informal relationships (Morey, 1991) and of organisational culture (Schneider et al., 1996; Smith and Kleiner, 1987). Just one study (Ogbonna and Wilkinson, 2003) —describing one of the 'big five' UK retailers —
nevertheless suggests that direct hierarchical controls have greater impact on staff working practices than 'culture management' does.

A more paradoxical finding is that strong pyramidal ('vertical') structures are nevertheless compatible with participative management and with giving discretion to middle management and to workplace teams, provided top managers are sufficiently risk-averse to allow it and organisational structures are not highly constraining. Studies both outside (e.g. Dillard, 2000; Kelley et al., 1996; Oliver and Anderson, 1994; Ravi and Stephen, 2003; Rieley and Clarkson, 2001) and within the health sector (e.g. Kruzich, 1995) provide case-based evidence of participative management, within a formal hierarchy, assisting the implementation of change. One large Italian study (Massimo and Delmastro, 1999) even found the tendency to change organisation structure greater, the larger the number of levels in the hierarchy. Formalisation (whose paradoxical advantages are described below) and centralisation appear greater in branch-subsidiary than in independent firms in the USA (Marsden et al., 1994). However, a corollary of non-constraining organisation structures is that they also increase the scope for error, sabotage and dishonesty in working practices, and for *prima facie* conflicts of interest such as those allegedly caused by NHS consultants' private practice (Bate, 2000; Frankel and West, 1993; Yates, 1995). Evidence of such occurrences is sparser, but does exist for health and non-health organisations. Middle managers can use their discretion to obstruct changes they see as inimical to their interests (Blair and Boal, 1991; McNulty and Ferlie, 2002; Parnell et al., 1992) or passively neglect changes which they are uninterested in (Yeatman and Nove, 2002), and top managers to pursue nefarious interests (Amihud and Lev, 1999; Williams et al., 2000; however, Lane et al. (1998) paint a more optimistic picture).

Conversely, a number of studies, mainly from outside the health sector, describe adverse effects of organisational structures in which roles are narrowly defined and in which there are sharp distinctions of role, power and status according to a person's 'vertical' place in a hierarchy. Whilst the evidence for these adverse effects of highly vertically differentiated structures is limited in volume, it gives a consistent picture across both health and non-health organisations. One such effect is to inhibit communication of information and knowledge, and team learning (Brooks, 1994; Dovey, 1997; Milliken et al., 2003; Tsai, 2002). For example, Scottish NHS commissioners were reluctant to be too explicit in their decision-making for fear of giving higher authorities (and NHS trusts) a weapon against them (Miller and Vale, 2001). Another effect is to inhibit change (Hetherington, 1990). Sharp differences between permanent and temporary staff were found in one study (Clarke, 2003) to inhibit the formation of a 'safety culture'. In NHS organisations, Marshall et al. (2003) found that a hierarchical culture leads managers to challenge clinicians' values rather than collaborate with them. Conversely, a 'no-blame' culture facilitates the
implementation of continuous quality improvement (CQI) (e.g. Wallace et al., 2001). Adams and Bond (2003) found hierarchical organisational structures at ward level were associated with 'hierarchical nursing practice' towards patients. Consistent evidence from studies since the 1970s (e.g. Kanter, 1976; Payne and Mansfield, 1973) and across many sectors suggests that individuals' 'vertical' position in an hierarchy determines their attitudes, behaviour (e.g. willingness to participate in decision-making (Gardell, 1977; Schuler, 1980)) motivation, commitment to the organisation (Drory, 1993; Mcalfe and Dick, 2001; Parker, 2003). Dissenting studies (e.g. Gannon and Demler, 1971) are few. Gannon and Demler found no correlation between rank and acceptance of job changes). Studies from the health sector follow the same patterns (from Hrebiniai and Alutto (1972), to Bate (2000)). In short, organisational 'culture' differs by rank within an organisational hierarchy. This implies that more vertically differentiated an organisational structure is, the more pronounced these cultural and behavioural differences are likely to be.

7.2.2 Decentralisation

Pettigrew et al.'s (1999) review found mixed evidence as the relative financial performance advantages of unitary, holding and multi-divisional structures of firms. Several studies (Elden, 1994; Perrone et al., 2003; Prince, 2003; Spender and Grinyer, 1995; van der Vlist, 1989) found that decentralised structures which allowed staff lower in hierarchies more autonomy increased their involvement in and commitment to the organisation's work. Germain and Spear's (1999) review also found that decentralisation was associated with the adoption of quality management, whilst Reed and Blundon (1998) associated with strategic flexibility and adaptation. Whilst Zetka (1998) cites three (further) studies supporting the claim that decentralisation to flexible teams enhances worker empowerment and democracy, he cites seven others suggesting that staff are liable to see decentralisation 'as a despotic extension of hierarchical control' (Zetka, 1998; p357) and three more indicating that both centralisation and decentralisation can coexist in different parts of the same organisation. ManoNegrin (2004) reports social-work staff seeing decentralisation as a response to and sign of managerial failure. Hales (1999), however, suggests that the mere decentralisation of decisions per se makes little practical difference unless working rules become more flexible too. Decentralisation is neither necessary nor sufficient for strategy-making or decision-implementation to occur, although it doesn't impede them either (Love et al., 2002). That decentralisation might reduce organisational coherence is suggested by just one recent study, but not a trifling case because it describes the industrial relations of British Rail during its last years (Pendleton, 1994). Studies on the effects of decentralising organisational structures thus give apparently conflicting evidence, drawn more from non-health than health care organisations.
7.2.3 Formalisation

Formalisation, i.e. the explicit formulation of the tasks, roles, working methods and functions of the parts of an organisation, is becoming a more important characteristic of health care organisational structures because of the spread of EBM, standards and quality management activities based on them. Somewhat counter-intuitively, as some of the researchers acknowledge, the studies show that formalisation is mainly advantageous to organisations. A small scatter of studies (on scientific work (Fennell and Sandefur, 1983), 'new social movements' (McCarthy and Wolfson, 1996), and small and medium businesses (Miller, 1987)) suggest that formalisation sets a common framework for communication and defines individuals' rights and responsibilities; and channels the exercise of discretion into 'creative' rather than 'deviant' directions (Kelley et al., 1996; Tay and Morgan, 2002). Zinn and Mor's (1998) review of organisational studies of US primary care is, however, equivocal; there is no evidence of any benefits of formalisation and none that adhering to formal clinical standards improves primary care outcomes either.

7.2.4 Non-hierarchical organisation

Evidence about the relationships between co-operative structures and working practices is sparse, reflecting the rarity of this organisational form. Studies such as those of Hallam (1997; on NHS out-of-hours co-operatives) and Woodworth (1986) tend to describe the extent of activities rather than expose their relationship to their organisational structure, although Zinn and Mor (1998) say that US group practices are more likely to have quality assurance mechanisms and use protocols. Warhurst's (1996) study of kibbutzes shows how dependence on financial markets led, in turn, to a centralisation of management and an erosion of the formerly co-operative decision-making processes.

7.3 'Horizontal' organisational structure

7.3.1 Professionalisation and technical specialisation

Because health care is so heavily professionalised, much of the evidence on professionalisation comes from the health sector. The customary method of accommodating professions within hierarchical organisations has been as an occupational hierarchy, formally linked to the rest of the organisation at a senior level and, retaining considerable professional autonomy, line-managed loosely if at all. Since the 1980s, health care organisations have made two main kinds of structural responses to the practical effects — described below — of these semi-detached silos. One has been to strengthen their vertical integration into the rest of the health care organisation. The other has been to
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construct—or allow staff to construct—trans-professional working groups.

The evidence suggests that semi-detached silo structures do indeed promote specialised technical skills (with some beneficial effects on practice), conserve professional status and give rein to professionals' motivation and 'values' including technical standards (Lane et al., 1991; Miner et al., 1994; Vandenberghe, 1999; Zinn and Mor, 1998). The existence of specialised departments is associated, in US firms, with a tendency to decentralise decisions to them (Marsden et al., 1994). Damanpour's (1991) meta-study indicated that in US firms generally, specialisation, professionalisation and functional differentiation were associated with higher rates of adoption of innovation. However, certain studies (Adams and Bond, 2003; Harvey and Kitson, 1996; Zinn and Mor, 1998) of nursing specialisation give little evidence of such an association. Fewer studies examine de-specialisation in health care. Those available (e.g. Cawley and Hooker, 2003; Sibbald et al., 2004; Venning et al., 2000) confirm that, provided clear protocols define the safe range of clinical practice, such substitutions are technically feasible (producing outcomes that are clinically satisfactory and acceptable to patients) but may reduce per-capita productivity. A long accretion of case studies indicates that the semi-detached silo structure conserves a strong occupational culture, including cultures of rivalry with other professions, and puts professionals and professional bodies in a strong position to assist or obstruct managerially-led organisational change (e.g. Bate, 2000; Blair and Boal, 1991; Currie, 1997; Newton et al., 2003; Parker and Dent, 1996; Pettigrew et al., 1992; Redfern and Christian, 2003; Royston et al. 2002).

As for structural measures for re-integrating professional silos with general organisational structures, studies in both the USA (Blair and Boal, 1991) and the UK (Ferlie, 1997) suggest that physician support remains indispensable to hospital strategy formation. However, the crude model of one occupation dominating another has less empirical support than that of the gradual emergence of an interface layer between general managers and doctors, with the professional adapting its defence of autonomy to these circumstances (Coburn et al., 1997; Doolin, 2001; Sheaff et al., 2004a, 2004b) However, Blair and Boal (1991) point out that specialist skills do not necessarily transfer successfully to settings (such as management, in the case of doctors) outside their original domain. Evidence about these processes is limited because they are relatively recent developments, but not restricted to the health or even the public sector (cp. Courpasson, 2000).

Cross-professional work groups or teams represent, in many health care settings, a re-establishment of a product-line or care-group organisational structure which semi-detached occupational silos tend to fracture, and which rigid vertical hierarchies sometimes find hard to accommodate (McHugh et al., 2001). Having largely been semi-formal or informal, these loosely-formalised structures ('communities of
practice' or 'networks') are gradually becoming more formally recognised and managed in the NHS (Bate, 2000; Marett et al., 1998; Swan et al., 2002). Facilitation of best practice across clinical teams was also reported, in a study of Trusts in three NHS regions, to be regarded as the most effective way of changing clinical practice (Wallace et al., 2001). Knight and Procter's (1999) pair of case studies make a similar point about the advantages of matrix compared with mechanistic structures. Such teams also emotionally support their members (Parker, 2002) and (according to one non-health sector study) whilst team work does not lead to cultural uniformity, it does lead to different occupations sharing some elements of 'culture' (Stevenson and Bartunek, 1996). Lack of resources is an obstacle to team functioning (e.g. Adams and Bond, 2003; Ryan et al. 2001; Wallace et al., 2001).

Analogous findings have been made in a number of non-health care settings (Pettigrew et al., 1999; YiHua et al. 2003), especially indicating the importance of 'boundary-spanning' activity in enabling teams to function (Cross et al., 2000; Dvir and Ben David, 1999; Rajesh and Nicholson, 2001; Rhian and Charles, 2002; Rose, 2000; Spector and Beer, 1994; Tsai, 2002; Waldensee et al., 1995; Woolham, 1994).

7.3.2 Specialised 'staff' managers

Specialised non-operational 'staff' (as opposed to 'line') management departments are the other important form of 'horizontal' organisational structure. Studies gives these structures an inconclusively mixed press. There is evidence that 'staff' functions are of value in initiating and formalising (for the benefits of formalising, see above) specific new specialist managerial activities such as BPR, TQM, marketing (still a novelty for some organisations), project teams and IT (Devine et al., 1999; Martinson and Patrick, 1999; Paper, 1998; Raymond et al., 1995; Tay and Morgan, 2002). These techniques are more likely to be used in larger organisations with a hierarchically distinct stratum of professional managers (Jenster and Overstreet, 1990). However, some of the praise, especially of training and OD functions, is faint (e.g. Sharkey, 1999; Sharma and Vredenburg, 1998). Other studies cite cases in which formal planning (Langley, 1988; Lunt, 1984) systematic reviews (Dobbins et al., 2001) and human resource management activities (Bamberger and Phillips’ 1991; Currie, 1999; Gant et al. 2002) had a small or even counterproductive effect on the core working practices of organisations, being used as much to legitimate as to inform decisions. Structural complexity also slows down organisation change (Hetherington and Hewa, 2000).

7.4 Technology

Woodward's (1965) study of the relationship between technology and (other aspects of) organisational structure was based on data describing all manufacturing in Essex. Many subsequent studies have
tended to include technology as just one factor mediating relationships between organisational structural and outcomes or, less often, processes. However a few large surveys exist that take a more focused look at relationships between technology and organisational processes. Colombo and Delmastro’s (1999) study of 438 Italian manufacturers during 1975-96 associated organisational change more with the adoption of advanced production technologies than with changes in human resource management, although sunk costs also inhibited organisational change. Systems for staff promotion from within organisations are more common in firms that produce products rather than services, but more common again in firms that produce both (Marsden et al., 1994).

Evidence about the organisation effects of health care technologies necessarily comes from health sector studies only. The vast evidence base describing the clinical uses and effects of specific health care technologies has no counterpart describing the organisational constraints that they impose, although a few studies exist (e.g. McNulty and Ferlie, 2002).

### 7.4.1 Substitution

Despite the importance of substitution as a health policy in many countries, this applies in particular to studies on the substitution of primary for secondary care. In England, the small literature on outreach clinics (Faulkner et al., 2003; Gosden et al., 1997) suggests that whilst substitution slightly reduces hospital referrals, it has little impact on primary care working practices because GPs and consultants see patients separately.

### 7.4.2 Clinical care and organisational processes

McNulty and Ferlie (2002) show how the more technically complex a clinical working practice (care pathway) is, the harder it is to re-engineer. Because health service organisational structures have (until recently in UK) generally been based on occupational or specialty hierarchies, product-line management (through which technical logic of the process of care expresses itself) has been effected through semi-formal methods such as team-working and TQM (see above). Increasing complexity of techniques, especially low-invasion and tele-medicine, imply an increasing technical importance of teams rather than existing hierarchies (Zetka, 1998). In these teams, control tends, by default, to fall into the hands of the highest-status professional (typically doctors). The centrality of doctors to medical care is assumed rather than explained in nearly all studies. These matters are examined by a limited number of qualitative studies.
7.4.3 Evidence-based medicine and organisational processes

Evidence-based medicine is making the technical effect of working practices an increasingly central component of professional cultures and legitimation of (changes in) working practices (Shortell et al.; 1998, Dobbins et al., 2001; Wallace et al., 2001, Sheaff et al., 2004b). Harrison (2002) describes EBM as contributing to the formalisation and standardisation of medicine; if so, the effects in organisational terms would be as described above. A number of studies represent the ambivalent organisational character of EBM, which on one hand legitimates professional working practices and increases the knowledge gaps between professions and lay managers; but also exposes clinical working practices to management and collective professional cultural (‘disciplinary’) control (cp. McKinlay and Starkey, 1998).

7.4.4 Information technology

Health care working practices, not least EBM, increasingly necessitate informatics support (Mitchell, 1998; Redfern and Christian, 2003). Yet many studies describe conflicts between this requirement and existing ‘organisational cultures’, and not just in health care (Douzou and Legare, 1994; Goldstein and Zack, 1989; Hodges and Hernandez, 1999; Krumbholz and Maiden, 2001; Parker and Dent, 1996; but contrast Grote and Baitsch, 1991). Here, perhaps, ‘culture’ is a catch-all explanation for seemingly inexplicable resistance to new working practices (Ormrod, 2003), possibly because information systems have the same ambivalent character for occupational interests as EBM itself. Numerous studies, mostly qualitative, many from UK, show little dissent with this finding.

7.5 Place, size and age of organisation

7.5.1 Place of service provision

Despite the recent re-emergence of health geography as an academic discipline, we found almost no studies found relating place of provision to organisational structure, except for studies of outreach clinics (see above) and telematic health care (see below).

7.5.2 Size

Studies on the relationship between organisational size and process are numerous. They generally associate organisational size with complexity, formalisation, specialisation and hence economies of scale in supervision, despite the presence of taller hierarchies (Marsden et al., 1994). Together, they suggest that for each of the multiple functions that a health organisation might have, a different size may be optimal. The pursuit of a single ‘ideal size’ appears illusory for all except the
most narrowly specialised organisational structures (e.g. an ambulance crew). Economies of scale and scope appear to set in at quite moderate levels in health care planning organisations (Bojke et al., 2001). Larger organisations may have greater bargaining power with governments. This evidence comes from a diverse range of studies, many in health care. Against this, smaller organisations appear to give staff and patients greater psychological satisfaction (Issel et al., 2003; Zinn and Mor, 1998), and enable them to solve problems and implement change more rapidly (Hannan and Freeman, 1984; Hetherington and Hewa, 2000; Amburgey and Kelly 1993). Smaller size also appears to promote openness, risk-taking, creativity and innovativeness) and to reduce the occurrence of dysfunctional managerial systems, but according to one audit of COPD treatment, also increase risks of mortality (Roberts et al, 2003). For good or ill, the chief executive's personality is more influential in a small compared with a large organisation (Miller and Toulouse, 1986).

7.5.3 Age

One small set of studies on age concentrates on experience and tenure of senior managers and professionals, which appear, on balance, to assist organisational adaptivity; but there is no clear evidence of its effects on technical working practices. Barker et al. (2001), however, show that changes in the top managers of failing US firms tend to be followed by changes in the strategy and structure of that firm. The effectiveness of a firm’s strategic choices about when to enter a new market was shown to be mediated by its age and order of entry into a market (Durand and Coeurderoy, 2001). Because strategic flexibility takes time to develop (Reed and Blunsdon, 1998), older organisations are likely to be at an advantage in change management.

7.5.4 Complexity

A complex organisation by definition has a greater degree of differentiation and specialisation among its employees. Complexity can be regarded as a consequence of the co-existence of vertical organisational structures with the various 'horizontal' additions, whose implications for working practices are noted above. Hoskisson and Hitt (1988) suggest that size-related complexity inhibits information processing. Organisational size has been identified as enhancing corporate wrong-doing and illegal behaviour (Baucus and Near, 1991). There are few studies of organisational complexity per se despite the recent vogue for complexity theory.

7.6 Empirical summary

The main empirical findings about structure–process relationships which are germane to the NHS are summarised below.
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- Semi-autonomous 'public firms' and large private firms tend to be more decentralised, flexible and output-oriented than public hierarchies and family-owned firms;
- Simple, clear goals and participative management assist the implementation of strategic change;
- Vertically highly differentiated structures inhibit communication and organisational learning;
- Formalisation of work processes is mainly advantageous to organisations;
- Semi-detached professional hierarchies increase professional morale and professions' capacity to assist or obstruct (non-professional) management;
- Different organisational sizes appear optimal for different processes. There is no evidence suggesting a single 'best size' for each kind of organisation;
- Specialist management functions are of value for promoting new techniques but of questionable value otherwise;
- Workplace teams and networks compensate for the interprofessional fragmentation caused by occupationally based 'vertical' structures.
Chapter 8 Organisational process–outcome relationships

Relationships between organisational processes and outcomes are the second half of the decomposed structure–outcome relationship. Following the previous pattern, this chapter groups studies according to the sub-categories of organisational processes set out in Chapter 3.

8.1 Working practices

Donabedian’s classic work (1980) on structure–process-outcome relationships an obvious place to start the analysis of relationships between organisational processes and outcomes. However, literature that uses his analytical framework is sparse. Indeed, Mitchell and Shortell’s (1997) report of a paucity of studies relating organisational processes to mortality and other clinical outcomes remains true. Zinn and Mor (1998) assess the literature themselves in respect of this relationship and concluded, as does classical contingency theory, that there is no one best way to organise. Even formalised clinical guidelines and protocols for working practices do not demonstrate a significant relationship between specific outcomes — in the case of their work in ambulatory care. Similarly, Issel et al. (2003) demonstrated that the use of another protocol approach — that of case management (in this case prenatal care) to improve outcomes — was the most highly rated reason for having it. Their findings did not support such a hypothesis, because the greatest change that occurred as a result of using work protocols was in respect of organisational structure (q.v.) and financial status.

Other literature has addressed the use of such disciplines as ergonomics and operations research to understand working practices. Maciel (1998) showed that participatory ergonomics improves worker motivation, production performance and injury reduction. Whilst not health-care-based, this study has some relevance to health workers because their work is also a mixture of mechanical, behavioural and cognitive skills. Longo and Masella (2002) use operations research and specifically the analytical hierarchy process to look at the productivity of working practices in operating theatres. Their work provides a series of important, ranked definitions for the activities that occur in this environment, and so identifying the best working procedures for different operating theatre activities.

Those working practices that can be classified as having been subject to intervention and review, whether through organisation development interventions, evidence-basing or process interventions, are also covered by some literatures. Three papers stand out. Redfern and Christian’s (2003) addresses the use of evidence-based practice to
alter working practices and is one of the few papers to provide empirical data on patient outcomes. They conclude that a linear model of changing working practices might work in an environment of high certainty, but much less so in an environment of uncertainty, thus echoing Burns and Stalker’s work.

Nicholas’s (1982) study of the impact of organisational development interventions demonstrates that technostructural interventions show a greater impact upon worker productivity and behaviour than do human processual approaches and multifaceted approaches to organisational development. Finally, Dreilinger et al. (1982) conclude that management skills training in general, and leadership styles training in particular, are misdirected. They may lead to the outcome of greater staff satisfaction but not greater productivity.

8.2 Management routines

The papers that address the processes concerned with management routines are distinguished by their very narrow concern with three outcomes, namely, staff satisfaction and morale (the majority of papers), efficiency and adherence to external targets. Two of the papers deal directly with health care and address different managerial routines. At a higher level Wallace et al. (2001) consider data from an NHS study into strategies for changing clinical practice, wherein those strategies were classified as educational, facilitative, performance management and organisational change methods. They concluded that for such strategies to be effective those involved needed to believe in the anticipated impact of the intervention on practice. Indeed, the managerial routine of spreading information as to the relevance of managerial activity is supported by Tourish and Hargie (1998) who provide empirical support to demonstrate the importance of managerial communication with staff in the NHS during a period of change.

We have classed strategic behaviour and decision-making as a managerial routine. Both Singh (1986) and Jones et al. (1994) trace the impact of decision-making on organisational performance, wherein good performance appears to be associated with low decision risk-taking and poor performance with high risk-taking (Singh, 1986). Jones et al. conclude that in a matrix organisational structure, rational analytical decision making is more effective than incremental decision making. Several studies (e.g. Hamilton and Shergill, 1992; 1993) provide evidence that the fit between organisational structure and strategy (another contingency factor) determines organisational performance, which in these business contexts essentially means financial and market performance. The impact that the fit between strategy and structure has on profit is about two thirds as great as the impact that industry concentration (degree of competition) has (Hamilton and Shergill, 1992). As noted, Fligstein (1985) and Ketchen and Palmer (1999), among others, describe how, for large companies, poor
performance necessitates changes in organisational strategy. However, this adaptation often takes years to accomplish.

Bowers and Seashore (1966), and Weiner and Mahony (1981), address leadership as a managerial routine and its effect upon both performance and staff morale. These papers posit that both peer and supervisory leadership behaviour are related to outcomes but that such behaviour is best viewed as being multi-dimensional. This is because other, non leadership, variables such as motivation, and work patterns also explain performance. Leadership alone is not sufficient to predict effective performance and one is left with the continuing need to identify causal variables between leadership and organisational performance.

A less well-defined group of management routines are those that concern a more psycho-social discipline which could be termed 'what managers expect', hence also how these expectations are perceived and what action subsequently follows. These studies tend to address the outcome of affective and motivational states of workers. Thus, Oliver and Anderson (1994) describe two models of control. One, 'managerial control', involves supervision, evaluation and compensation. The other, 'outcome-based control', shows little managerial involvement with workers. Their findings show that the type of control philosophy impacts upon the affective and motivational states of staff but not on performance outcomes. Nevertheless, organisations tend to require their staff to achieve its goals and outcomes. In turn, managerial routines are developed to secure these goals. Using a study that included public services organisations, Tansik (1973) showed the importance of goal attainment and how this had a potentially distorting effect upon worker evaluation. Thus, workers doing similar tasks were evaluated differently in the light of different organisational goals. He demonstrated that organisations having less visible and measurable outputs tended to use evaluation criteria based upon factors other than output measures and goal achievement alone. Paradoxically non-profit US credit unions which use formal planning are more innovative than those which don't and showed higher growth in membership, market share, loans and deposits; but performed no differently in terms of member and worker satisfaction, service range or convenience, or worker remuneration (Jenster and Overstreet, 1990).

The idea that managerial routines can liberate, confine or empower workers is a strong one in the literature and is relevant to the whole argument concerning procedural fairness and distributive justice in the workplace (Ehlen et al., 1999; Shannon et al., 1997). Szilagyi (1977) shows how managerial routines can have an influence upon role conflict and role ambiguity in a health care setting. Importantly, it appears that for the managerial level, role ambiguity can create dysfunctional consequences for the organisation. A study of sales staff (Teas, 1983) showed that ill-advised supervisory behaviour can increase role conflict and ambiguity. However, the harm that role conflict and ambiguity
produce also appears to be limited. According to Koustelios (2001), staff burnout among teachers in Greece was not related to role conflict and ambiguity.

8.3 Human resource management processes

Strategic human resource management (SHRM) and its connection with organisational performance has been explored by Jackson and Schuler (1995), Kacmar et al., (1997), and Lado and Wilson (1994). Harris and Ogbonna (2001) bring together a non-health example of SHRM and market orientation. This is a concept which incorporates both customer orientation, proactive strategies underpinned by information and cultural approaches, all of which have resonance to the current NHS. Harris and Ogbonna show that SHRM on its own is not directly related to organisational performance and is mediated by market orientation. SHRM alone cannot improve performance; its human resources element needs to be goals-led. The whole question of the impact of HRM practices on outcomes remains as ambiguous as Daley showed in 1986. At minimum, there is a moderate relationship between humanistic management and organisational success, but above all this relationship is contingent. What the contingent factors are and their relative influence remains unclear, however.

HRM interventions seem to impact upon the outcome of staff morale and motivation when addressing compensation packages. Ronen and Primps (2001) provide a comprehensive, non-health sector study of the impact of the compressed working week and the assumption of greater flexibility, but once again show that it is oversimplified to posit a simple, direct relationship between working hours and morale. That relationship is mediated by additional complex variables, such as employee attitude to leisure, their home life and the job itself.

Pay as part of the compensation package is dealt with by Murray and Gerhart (1998) and Beaumont and Harris (2003). The former authors provide additional support for the skills-based pay hypothesis, but for skills-based pay to be a positive incentive it needs to be operated at a local level. Beaumont and Harris (2003) compare hierarchical pay distribution (dispersed pay structure which supposedly motivates talented employees) with compressed pay (greater pay dispersion supposedly having a negative performance upon employees). They conclude that, once again, contingent factors (in this case size, ownership and intra-industry characteristics) will affect the outcome and that whilst compression holds well for one sector it does not for the majority of industries.

The concept of organisational commitment is a helpful one for understanding the more holistic blend of SHRM and the influence of organisational culture. Essentially, the idea of organisational
commitment comprises a measure of the individual’s identification and involvement with the organisation’s goals and values, this commitment being assumed to translate into individual effort (Allen and Meyer, 1993; Porter and Steers, 1973). Using a public sector example (the police), Metcalfe and Dick (2001) show that such commitment itself is fostered by both HRM and managerial routines that encourages teamwork, participation and personal development, but that the level of commitment varies with position in the hierarchy, with senior members showing higher levels of commitment.

8.4 Transactions with external organisations

Apart from those dealt with elsewhere in this review (Chapters 4 and 9), no further papers were found explicating the relationships between organisational processes and organisations' relationships with external organisations. One reason, however, is that this topic has largely been hived off as the special province of other disciplines and literatures beyond this review: marketing research in the case of commercial organisations, evidence-based medicine in the case of health care.

8.5 Changing the organisation’s activity

This was one of the largest selections of papers in the analysis of process and outcome and was dominated by the subject of holistic change driven by large-scale initiatives such as BPR, TQM, performance management based on benchmarking and the purposeful refocusing of organisational activity with the stated intention of improving performance. Kivimaki et al. (1997) provided a directly health-related study of TQM and its impact upon the well-being of health care personnel, concluding that TQM techniques do not necessarily change the well-being and work-place perceptions amongst workers. Indeed, there was some suggestion that workers were not compensated financially for the extra time spent on TQM activities, implying that TQM had, if anything, a negative effect on organisational commitment (see above).

McAdam and Corrigan’s (2001) study of BPR concludes that its introduction presents special issues in a public health care setting especially in respect of professional autonomy and hierarchies. Paper (1998) and Altinkemer et al. (1998) address BPR in non-health settings and suggest that BPR activities should be evaluated as adjunctive change-management activities to other strategic rethinking approaches and changes in organisational direction, thus assuming that BPR tends to be used as a component in other change initiatives. The idea of rational action in the light of knowledge is strong throughout this literature — for example, in Drew’s (1997) paper on benchmarking. These studies tend to assume a linear causality from knowledge to
action to increased performance, although those cited here have used secondary data (in two of the above, a content analysis of annual reports) and have little if no empirically based evaluation evidence.

Health care organisations have the possibility of learning from others in the area of corporate refocusing, the results of which have been documented for nearly two decades. Johnson (1996) has produced an overview of the literature in the area and a model to express the antecedents, namely environment, governance, strategy and performance — all familiar contingent variables that are applicable to health care and which act as antecedents to restructuring and downscaling. Narine and Persaud (2003) have taken some of these points and assessed the whole area of large-scale change from a conceptual perspective and conclude that many change programmes initially appear successful but are not necessarily so in the long term and one of the key determinates of success is organisational readiness for change. Pettigrew et al. (1992), Newton et al. (2000) and Illes and Sutherland (2001) describe what these conditions are, for the NHS.

The papers that have addressed large-scale change and holistic approaches have with the exception of one paper, exclusively dealt with the outcomes of either efficiency or adherence to external targets. Miller and Friesen's work on large-scale change (1982; 1989) addressed both process and structural variables and was concerned with performance too and suggested that in fact quantum change (large-scale and enduring) tends to occur when change is both concerted and dramatic, as opposed to piecemeal and incremental. Reviews by Oxman et al. (1995), Davis (1995) and Grimshaw et al. (2001) evaluate the effectiveness of a large number of interventions intended to change clinical practice in a more evidence-direction, concluding that few of these interventions exhibit much effect when tried singly. A combination is more effective, possibly because several parallel interventions make the intended change more salient.

Whilst well-established and separate literatures address organisational innovation, two papers deal with strategy as both a management process and in terms of the process of changing an organisation's activity. Ettlie et al. (1984) suggest that a unique strategy is required for radical innovation where there are to be changes in work processes and that at the same time this is helped by the centralisation of decision-making. Gatian et al. (1995) show how the innovative climate of an organisation affects its strategic success. This idea about the importance of strategic behaviour in the change of an organisation is reiterated by Weinzierm (2000), but he emphasises the importance of the simultaneous influence of organisational strategies, top management characteristics and industry attributes, wherein organisational strategies are the most important.

This section raises important issues about the relationship between organisational design and performance and in turn not only structural
determinants of design, but strategic choices, so echoing in many ways the classic papers on strategic choice — Child (1972b, 1997), Miller and Freisen (1982), Porter (1980) — emphasising once again the importance of understanding and identifying the contingent variables.

8.6 An organisation's internal climate

The review and classification of the papers that addressed organisational climate and culture were remarkable in their single-minded attention to the outcome of staff satisfaction and morale. Greenhalgh et al.'s review (2003) finds that participative management styles, a climate of openness to change, and risk-taking encourages innovation. West and Anderson (1992) found that NHS trusts had a predominantly hierarchical culture and consequently were more inclined to adopt innovations that strengthened managerial control and the pursuit of targets than innovations that enhanced service flexibility. These apart, even the one paper by Gombeski et al. (1988) which addresses the influence of patients choice does so indirectly. Both the papers by Lane et al. (1991) and Meyer et al. (2002) address the influence of organisational climate on staff retention and turnover. Lane et al. empirically derived health care data about 33 organisational factors that impact on nurse turnover. Of these, the best predictors of nurse movement are the nurse’s subjective norms, attitude and moral obligation towards the job. In turn, these ‘belief factors’ are described as being affected by the work environment, nursing practice, hygiene factors, negative job characteristics, and the opportunities available for resigning. Exploring the same questions by meta-analysis, Meyer et al. (2002) show the importance of climate factors such as organisational citizenship, procedural, distributive and interactional justice on job satisfaction, involvement, commitment and the decision to continue employment.

Much of what is known about the relationship between organisational climate and staff satisfaction is used as a series of antecedent predictors, as in Randall et al. (1999) who look at organisational politics and support and their links to job satisfaction and turnover. They conclude that only organisational support (concern with the welfare of employees and justice) is related clearly to performance. Using Rizzo et al.'s (1970) approach to role conflict, Pool (2000) reflects similar findings to Randall et al. (1999) in that a constructive culture tends to significantly reduce role stressors and thereby increasing the outcome of improved job satisfaction and morale.

Whilst assessing the promotional activity of a US health care facility and its influence on patient choice Gombeski et al. (1988) identified a number of positive cultural organisational antecedent variables. These were administrative efficiency, a clean and friendly workplace environment and staff's emotional concern for patients. A useful summary of this section and a contemporary interpretation of the
relationship between organisational processes and outcomes can be seen in terms of the High Performance argument. Whitfield and Poole (1997) summarise this genre in terms of organisations espousing packages that include 'high-performance work systems, high-commitment managers and high-involvement workplaces'. These are all based on the premise of a flexible workforce, increased productivity, performance-based work practices that are measured and internally coherent and above all beliefs and strategies that are congruent with the overall strategy of the organisation. It was argued (Chapter 3) that these ideas have influenced BPR and TQM. Repeated studies (Arndt and Bigelow, 1995; 1998; 2000; McNulty and Ferlie, 2002; Shortell et al., 1998; 2000; Wagar and Rondeau, 1998; Walston and Bogue, 1999; Westphal et al., 1997), however, show little evidence for any large impact of BPR, CQI or TQM activities on hospitals' clinical outcomes, patient satisfaction or (in the US) competitive position.

8.7 Empirical summary

To summarise, the main empirical findings about process-outcome relationships which are germane to the NHS are that

- Protocols and guidelines, BPR, CQI and TQM have greater organisational and financial than clinical impact;
- Communication with staff assists the implementation of organisational change;
- Supervisory style and human resource management has a greater impact on staff morale than on performance outcomes;
- Concerted, multidimensional attempts at change management are more effective than piecemeal changes, especially when an organisation's history or environment make it receptive to change;
- Organisational climate has an influence on staff (in particular, nurse) turnover.
Chapter 9  Relationships between organisational structure and outcomes

Research into the influence of organisational form or structure on organisational performance or outcomes takes three broad forms. One strategy is to treat organisations as a 'black box' and try to find associations between structural characteristics and outcomes in a single step instead of decomposing the relationship into a structure-process and a process-outcome phase so as to investigate what mechanisms lie inside the black box (the second strategy; see Chapters 7 and 8). A third strategy assumes that what outcomes an organisational structure produces depends upon the 'fit' between the organisational structure and various 'contingency' factors. The closer this fit is, the better the performance. Here, organisational structure is defined narrowly in terms of an organisation's vertical and horizontal design. Mostly the contingency factors are characteristics which Chapters 3 and 7 defined as (other) aspects of organisational structure viz. its ownership, technological profile, place, size and age. They also include one organisational process — i.e. an organisation's strategy (see Chapter 8).

In turn, the organisation's environment heavily determines the contingency factors (see Chapters 4 and 5). So, in the terminology of this report, organisational outcomes depend (also) on the 'fit' between different elements of organisational structure. In general, the data supporting these claims are extensive but successful replication studies, although often attempted, are few. Under subheadings corresponding to each of the elements of organisational structure enumerated in Chapters 3 and 7, this section therefore first reviews research from all sectors and then any studies that specifically concern health organisations. In doing so, it includes findings about how the 'fit' between structural elements determines organisational performance.

### 9.1 Ownership

There are various theoretical strands to the literature on the relationship between organisational form or structure and performance or outcomes. One that has been used in attempts to explain organisational performance addresses the interests of owners and managers in organisations. Agency theory proposes that top managers, acting as agents of the owners of the organisation, will pursue courses of action that may be inconsistent with the interests of the owners (Li and Simerly, 1995). This may be in terms of managers pursuing goals that will lead to greater personal power, authority, and financial gain for themselves (Daily et al., 2004; Jensen, 1989), rather than what would be in the owners’ interests, and consequently the performance of the organisation will be poorer. The implication from this theory is
that organisational performance will be enhanced when there is ‘insider ownership’, meaning that the key decision-makers in an organisation are also its owners (Li and Simerly, 1995; Lubatkin and Chatterjee, 1994). One way to achieve this is by either privatising nationalised industries and services, or converting them into public firms (state-owned bodies but structured as similarly to a commercial firm as circumstances allow). Parker’s (1995) study of such changes in the UK showed that in the majority of sectors they were associated with higher productivity (labour and all factors) and financial ratios.

Hoffman et al. (1996) studied the effect of ownership on technological adoption, by addressing ‘ownership’ in the context of ‘for-profit’ and ‘not-for-profit’ hospitals in America. They examined differences between these categories of hospitals in the adoption of medical technological innovations, coming to the conclusion that not-for-profit hospitals are more willing to adopt technological change because their key stakeholders, including clinicians, tend to have greater influence than in for-profit hospitals. It appears that it was the spread of authority and influence to front-line staff (thus involving a process of decentralisation) that really drove the technological innovation, although the research was less clear as to why this is a greater characteristic of not-for-profit hospitals than their for-profit counterparts. Nevertheless, this finding regarding the positive effect of raising the influence of stakeholders was not replicated by the research of Heinrich (2000), who found no difference between for-profit and non-profit welfare organisations in terms of either performance or service provision. Lee and Alexander’s (1999) meta-study of the ownership of US hospitals by corporate chains likewise concluded that the evidence as to whether these hospitals had lower costs and higher productivity and profits was equivocal. Ozcan et al. (1997), however, attributed US mental health centres’ capacity to meet mental health care needs in ethnic minority populations directly to the availability of public funding. For US nursing homes, the evidence is inconclusive about what difference ownership status makes to patient welfare (Zinn and Mor, 1998). For hospitals, however, the evidence is clear as one is likely to find. A review of observational studies (Devereaux et al., 2004) found higher costs to health care purchasers in US for-profit than not-for-profit hospitals. Besides Lee and Wan’s (2002) indirect evidence, a recent meta-study provides exceptionally strong evidence (from 38 million US patient episodes) that non-profit ownership is associated with longer patient survival (Devereaux et al., 2002). There is considerable hospital-sector evidence, but evidence is much scarcer for primary and community care.

In a public health care system such as the NHS, managers do not actually own their organisations. Indeed, Stiffman et al. (2001) argued that health care providers are more influenced by the perceptions of its own staff than by the opinions of its patients. The state is ‘owner’ of the NHS. Firm national targets are increasingly being used to shape the
actions of front-line service providers (Dowling and Glendinning, 2003). If such targets work as a means of securing the commitment of service providers (which is still uncertain), there is evidence that the greater commitment of health care providers increases the quality of service provision (see Goss, 1970).

### 9.2 Vertical organisational design

Much of the empirical research directed to this aspect of organisational form has focussed on the centralisation and decentralisation of organisations. The empirical evidence appears to be balanced in favour of decentralised organisations (Singh, 1986). This corresponds with indications that decentralised decision-making increases job-satisfaction more than centralised decision-making (Hage and Aiken; 1967; Hetherington, 1990; van der Vlist, 1989) that it also improves organisational efficiency (Flood et al., 1998; Hetherington, 1990; Schmid, 2002) and managerial effectiveness (Armandi and Mills, 1982), and encourages innovation (Greenhalgh et al., 2003; Moch and Morse, 1977). Ettlie et al. (1984) made the point that gradual change and incremental innovation is more common in decentralised organisations, but also provided evidence that what they termed radical innovation, namely change that is more broad sweeping and sudden, is promoted more by centralised organisational structures. Subramanian and Nilakanta (1996) also claimed that centralisation increases administrative innovation, but decreases technical innovation which is prompted more in decentralised structures. In a study of US nursing homes, Smith et al. (1979) found that centralisation was associated with lower costs of care, provided the environment was simple, stable, uniform and certain. Lee and Alexander (1999) were less certain, however. They found few studies describing the effects of 'restructuring' (which in that context meant dividing up an organisation) and no clear evidence. They also meta-analyse the effect of sub-contracting the management of US public hospitals to private firms. The small number of studies suggests efficiency improvements but there is no evidence as to the health impacts. The balance of evidence thus appears to favour decentralising decision-making in organisations rather more than a centralised structure.

### 9.3 Horizontal organisational design

Horizontal organisational design refers to concepts such as multidisciplinary working, the impact of professionals, and networking structures. Lee and Wan (2002) found an association between US hospital integration, including direct employment of doctors, and higher costs. Chapter 7 outlined research showing how integrated clinical teams were more likely to adopt evidence-based clinical practice. West (2002) reports an association between the provision of human resources and OD support for NHS trust staff with improved patient
outcomes. Research has suggested that organisational structures enabling professional autonomy and a greater amount of time being spent on patient care in health systems enhances physician satisfaction, and priority should be given to maintaining professional values in bureaucracies. Paradoxically, doctors derive job satisfaction from organisational structures which both formalise their work and preserve a domain of professional autonomy (Stevens et al., 1992). The literature also offers support for more networked structures. Newton et al. (2003) claim that change is enabled via clear policies and goals that are led by key people, particularly when organisational networks operate in a supportive culture, and organisational systems that facilitate physician satisfaction and maintain professional values (see Stevens et al., 1992). Sivadas and Dwyer (2000) also echoed this view, although it does rest on the challengeable assumption that changes are automatically positive.

It has also been argued that networking, in terms of partnership working, has had positive effects on general practitioner (GP) workload (Newton et al., 2000) and, in terms of integrated clinical management structures, on access to health care services (Miller, 1998). Potential explanations for such outcomes may be covered by earlier research that suggested organisational interdependence increases co-ordination with correspondingly positive results (see Cheng, 1983). The construction of shared means of everyday working tends to assist the adoption of innovations (Greenhalgh et al., 2003).

9.4 Technology

According to Mitchell and Shortell (1997) high technology or its proxies are among the few structural characteristics of organisations consistently linked to low mortality. Outside the health sector, a study of inefficiencies in the American banking system conversely blamed technological shortcomings and not (other) structural problems (Aly et al. 1990).

Although it has already been noted that Hoffman et al. (1996) examined the impact of ownership in the context of ‘for-profit’ and ‘not-for-profit’ hospitals on technological adoption, the literature search undertaken for this study uncovered little other research on the effect of types of technology on organisational performance at the level of the whole-population or whole care-group outcomes defined for this study. In particular, very little literature was found describing how (other) organisational structures mediate this relationship. The extensive evidence-based medicine literature describes how particular working practices produce specific clinical outcomes, as does nearly all the literature on health technology assessment, but that is a different level of generality to the present study. O’Toole and Meier (2003), however, perhaps provide a rationale for not automatically associating the change created by technical innovation as a positive factor,
suggesting that stability improves organisational performance. In US hospitals, as in other sectors, diversification into technically closely related areas of work might increase profitability, diversification into less closely related areas (e.g. if a hospital acquires a nursing home) is less appears likely to, but here the evidence is scanty and equivocal (Lee and Alexander, 1999).

9.5 Size and age of organisations

Size is perhaps the feature of structure that has most pervasively occupied researchers’ attention when examining the impact of organisational form on organisational performance (Gooding and Wagner, 1985; Child, 1972a; Pugh and Dickson 1976). Donaldson (1986) assembled extensive evidence, covering 15 countries, that organisational size is the most important structural contingency; also re-analysing the earlier Aston studies’ data (cp. Pugh et al., 1963, 1968) to show that about 67 percent of the structural variation in the firms they had studied was explained by the size of the firms. Later studies (e.g. Hickson and Pugh, 1995) have tended to confirm this finding. In general, larger but independent organisations (not subsidiaries) are more decentralised (Pugh et al., 1969).

Size determines degree of variation in an organisation's hierarchical and vertical design (see above), the extreme case being multinational firms with geographical divisions and 'product-area matrices' (Ghoshal and Nohria, 1989). As noted, certain studies (e.g. Fligstein, 1985; Ketchen and Palmer, 1999) indicate how for adapt their horizontal and vertical organisational structures in response to poor performance. All this implies that the fit between an organisational size (on the one hand) and its horizontal and vertical design (on the other) is a major determinant of the outcomes it produces. Much research has therefore focused on economies of scale by examining the optimum organisation size (or the size of an organisation’s subunit) for lowest cost per unit of production (Gooding and Wagner, 1985; Stigler, 1958).

As far as health organisations are concerned, there is very little evidence to support the view that economies of scale result from having bigger organisations, either from recent empirical research (for example, see Wilkin et al. (2003)) or from general meta-analytical reviews of the longer-term literature (see Gooding and Wagner, 1985). Moreover, hospital mergers have had no apparent impact on the satisfaction of patients with the care they received (Ljunggren and Sjoden, 2001) or on hospital efficiency or mortality (Ho and Hamilton 2000). Neither have American HMO mergers reduced prices for consumers (indeed, the short-term effect in some places has been to increase prices; Feldman et al., 1996; Krishnan 2001).

Similarly, the evidence that hospital mergers in the US have promoted efficiencies is divided; Ferguson and Goddard (1997) were sceptical but Lee and Alexander's (1999) meta-study did find economies, although
mainly for small hospitals with duplicate facilities. However, HMOs do show some economies of scale (Feldman and Wholey, 1996), as do US nursing homes (Smith et al., 1979). Innovations compatible with the interests of lower level decision-makers seem more readily adopted in large but decentralised hospitals (Moch and Morse, 1977). Support for this view that large organisations tend to be more innovative also came from Subramanian and Nilakanta (1996). For the NHS, Fulop et al. (2002) record that the process of merging exacted a cost in terms of service delivery and delaying other changes, but without obvious improvements in staff recruitment or retention or economies of management costs. There is evidence for a volume : quality relationship, but only for specific modes of hospital treatment and attributable the fact that larger organisations facilitate specialisation, formalisation, quality management (Germain and Spears, 1999) and innovation (Damanpour, 1991; Kimberly and Evanisko, 1981; Rogers, 1987). Urbach and Baxter (2004) attribute it specific hospital structures (on-site support services, teaching status, multiple related services) not the volume of work per se. Lee and Wan (2002), however, found a positive relationship between (US) hospital size, mortality and complications.

There were far more research papers on organisational size than on organisation age.

9.5.1 Place

The literature search that was utilised for this review uncovered few papers explicitly addressing the impact of an organisation’s location or the sites of service provision (as a characteristic of its structure and form) on organisational performance and outcomes. Pooley et al. (2003) examined spatial variation in out-of-hours medical care, and came to the conclusion that differences were not primarily due to the geographical or socio-economic characteristics of the areas but had more to do with the staffing levels and the willingness of GPs to visit patients. Meanwhile, Disney et al. (2003) assessed restructuring and productivity growth in British manufacturing industries and made the somewhat unsurprising judgement that the closure of poorly performing plants and their replacement with better performing factories enables the growth of firms. Overall though, this issue thus appears to represent a significant gap in knowledge.

9.6 Other aspects of the structure: outcome relationship

9.6.1 Order of entry

Studies have shown that a firm’s order of entry into a market may be a crucial factor in the explanation of firm performance (e.g. Gandal, 2001; Matraves, 2002; Williams, 2003). Classically, researchers use
three categories when studying firm’s order of entry in a business: pioneers, early followers, and late movers. The ‘barriers to entry’ literature explains how pioneers can retain higher market shares and earn above average earnings. Accordingly, the bulk of empirical research suggests that early entry leads to better market performance. One of the moderating conditions that affects performance of firms according to their entry order is the uncertainty of the competitive environment as firms perceive it.

9.6.2 Configurational theories

Configurational theories have played a significant role in the organisational literature, and they associate improved organisational performance with ‘ideal’ types of organisation (Doty et al., 1993). Perhaps the most famous example of configurational theory is Mintzberg’s (1979; 1983) five ideal types of organisation, which were termed as: simple structure, machine bureaucracy, professional bureaucracy, divisionalised form, and adhocracy. The reasoning was that effectiveness would be enhanced when these ideal types fit an organisation’s context; for example, young organisations will be effective when they adopt simple structures rather than complex systems of co-ordination (Doty et al., 1993), although Bennett (2003) argued that complex organisations are more likely to initiate change. Another well-known example of configurational theory is Miles et al.’s (1978) theory of strategy, structure and process in which four ideal types of organisation are identified: the prospector, the analyser, the defender and the reactor. They argued that each of these ideal types was a unique configuration of contextual, structural and strategic factors, and claimed the first three were particularly the most effective forms of organisation. However, there has been a lack of empirical evidence to support either example of configurational theory, although Doty et al. (1993) suggested there was more to endorse that of Miles et al. (1978).

Several studies (e.g. Hamilton and Shergill, 1992; 1993) give evidence that the fit between organisational structure and strategy (another contingency factor) determines organisational performance, which in these business contexts essentially means financial and market performance. Having a vertical and horizontal design that ‘fits’ the organisation’s strategy has an impact on profit about two-thirds as large as that of industry concentration (the degree of competition; Hamilton and Shergill, 1992).

Against these views, there exists research which intimates that organisational performance, at least in terms of profitability, is influenced very little by organisational structure (Weir, 1996). Arlow and Gannon (1982) suggest the evidence regarding the link between organisational form and economic performance is inconclusive and, from their meta-analysis, Ketchen et al. (1997) conclude that the link is only partial. From this, it looks distinctly probable that there is no one
organisational structure that is best for achieving all organisational goals (Zinn and Mor, 1998), especially in the case of a health care system such as the NHS that has so many different and complex aims. As such, the view that flexible organisations that are able to adapt their structures to changing circumstances tend to perform better (see Jennings and Seaman (1994), and Masten (1993)) looks persuasive.

Contingency theory suggests that a fit between the organisation’s strategy (on one hand) and its vertical and horizontal structure (on the other) is necessary for the achievement of its goals; as is a fit between the different elements of its structure and a fit between all of these and the organisation’s environment (Drazin and van de Ven, 1985; Priem, 1994). The evidence supporting these claims is extensive, but successful replication studies, though often attempted, are few.

In other words, structure may well affect performance to an extent, but other factors also do. Then the researcher's problem is to identify and evaluate these multiple causalities.

9.7 Empirical summary

Summary empirical findings about structure–outcome relationships germane to the NHS are as follows:

- A degree of managerial autonomy at 'firm' (or the public sector equivalent) level enhances productivity and financial performance;
- For-profit hospitals have worse morality outcomes than not-for-profit hospitals and higher costs to purchasers;
- Decentralisation assists innovation, efficiency, staff morale and capacity for incremental change;
- Teamwork and networking tends to aid innovation and service co-ordination;
- Health organisation size has no direct bearing upon efficiency or patient satisfaction and affects health outcomes only for certain care groups;
- 'Fit' between the elements of organisational structure is necessary for strong organisational performance; as is a 'fit' between structure, strategy and environment. Adaptive, 'organic' (e.g. matrix) structures conduce to better performance in uncertain, unstable environments than do vertically rigid hierarchies.
Chapter 10  Bibliometric profile of existing research

By the end of the review, the review database contained 1568 records containing one or more keywords relevant to the review. Other studies have also found that organisational literature has many prescriptive studies, fewer empirical ones, and still fewer that expressly test theories about organisational structure and function. For example, Blair and Boal's (1991) review of empirical research on the US primary health sector found only six theory-testing papers among 207 they cited. Normative prescriptions and theory building made up the rest (with prescriptions slightly predominating). Of the 12,212 of 14,389 studies deselected for this review, most were removed because the abstract indicated they contained little or no relevant data.

The 1568 studies entering the penultimate (quantitative) stage of the review do not evenly cover the analytical framework outlined above. Using the definitions explained above, the following tables indicate, firstly, its empirical coverage, beginning (Table 3) with coverage of the four levels of analysis. The numbers add up to more than 1568 because most of the studies concern more than one of the levels of analysis.

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</tbody>
</table>

Table 4 then shows how far the six possible relationships between the different pairs of levels of analysis are covered. The lines in Table 3 are supersets of the corresponding lines in Table 4. Thus, the 'environment' number in Table 1 refers to all the studies in lines 1–3 of Table 4. Nevertheless, the value in Table 3 differs from the sum of the three lines mentioning environment in Table 4 for two reasons. First, some studies about the environment appear in two or three lines in Table 4 because they relate organisation environment to two or three other levels of analysis. Second, some studies reported data or theories about organisational environments (e.g. relationships between environmental variables such as social culture and workforce participation) without relating environmental variables to any other level of analysis. Analogous principles apply to the rest of Tables 3 and 4.
Table 4 Coverage of each relationship between levels of analysis

<table>
<thead>
<tr>
<th>Relationship between levels of analysis</th>
<th>Number of studies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relates environment and structure (form)</td>
<td>73</td>
</tr>
<tr>
<td>Relates structures and organisational process(es)</td>
<td>312</td>
</tr>
<tr>
<td>Relates organisational process and policy outcomes</td>
<td>724</td>
</tr>
<tr>
<td>Relates environment and organisational process(es)</td>
<td>102</td>
</tr>
<tr>
<td>Relates environment and policy outcomes</td>
<td>120</td>
</tr>
<tr>
<td>Relates structures and policy outcomes</td>
<td>520</td>
</tr>
</tbody>
</table>

As far as outcomes are concerned, Table 5 shows how the studies identified in line 4 of Table 3 distribute over the policy outcomes of interest to the present study. The numbers add up to more than 930 because some studies deal with two or more of the seven outcomes.

Table 5 Coverage of selected policy outcomes

<table>
<thead>
<tr>
<th>Coverage of the selected policy outcomes</th>
<th>Number of studies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient outcomes</td>
<td>239</td>
</tr>
<tr>
<td>Process quality</td>
<td>245</td>
</tr>
<tr>
<td>Humanity</td>
<td>22</td>
</tr>
<tr>
<td>Staff morale</td>
<td>316</td>
</tr>
<tr>
<td>Equity</td>
<td>43</td>
</tr>
<tr>
<td>Efficiency</td>
<td>681</td>
</tr>
<tr>
<td>Target adherence</td>
<td>131</td>
</tr>
</tbody>
</table>

As previously explained, the 'target adherence' category includes profit (and cognate) targets besides public policy targets. However, one purpose of this study is to profile existing research literature about the relationships between organisational form and policy outcomes, as noted above. Table 6 shows how the coverage of outcomes in Table 5 is distributed between across the 21 the relationships between policy outcomes and the other three levels of organisational analysis. The relationship between Table 5 and 6 is similar to the relationship between Tables 3 and 4, so the sets of values for each outcome in Table 6 do not simply add up to the corresponding figure in Table 5.

Table 6 Organisational factors and policy outcomes

<table>
<thead>
<tr>
<th>Outcomes for patients</th>
<th>Environment</th>
<th>Organisational structure</th>
<th>Organisational processes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>33</td>
<td>106</td>
<td>151</td>
</tr>
<tr>
<td>Process quality</td>
<td>23</td>
<td>100</td>
<td>122</td>
</tr>
<tr>
<td>Humanity</td>
<td>3</td>
<td>8</td>
<td>11</td>
</tr>
<tr>
<td>Staff satisfaction, morale</td>
<td>22</td>
<td>103</td>
<td>191</td>
</tr>
<tr>
<td>Equity</td>
<td>6</td>
<td>22</td>
<td>15</td>
</tr>
<tr>
<td>Efficiency</td>
<td>51</td>
<td>284</td>
<td>346</td>
</tr>
<tr>
<td>Adherence to external performance targets</td>
<td>11</td>
<td>45</td>
<td>75</td>
</tr>
</tbody>
</table>

Tables 7 and 8 show how the coverage divides between economic sector and geographically. Like Tables 9 and 10, they include for completeness an 'other' category to cover cases where the character
of the study was not clearly stated in the record. The large numbers in the latter are indicative of the poor quality of abstracts in much of this literature. Some studies cover more than one sub-category, so the sub-headings add up to more than the overall figure for non-health studies.

Table 7 Sectoral coverage

<table>
<thead>
<tr>
<th>Sectoral coverage</th>
<th>Number of studies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health</td>
<td>720</td>
</tr>
<tr>
<td>Non-health total</td>
<td>705</td>
</tr>
<tr>
<td>— Academic and sciences</td>
<td>16</td>
</tr>
<tr>
<td>— Agriculture</td>
<td>4</td>
</tr>
<tr>
<td>— Broadcasting and publishing</td>
<td>12</td>
</tr>
<tr>
<td>— Computer services</td>
<td>18</td>
</tr>
<tr>
<td>— Education</td>
<td>46</td>
</tr>
<tr>
<td>— Finance</td>
<td>53</td>
</tr>
<tr>
<td>— Government</td>
<td>91</td>
</tr>
<tr>
<td>— Manufacturing</td>
<td>136</td>
</tr>
<tr>
<td>— Multiple mixed firms</td>
<td>93</td>
</tr>
<tr>
<td>— Pharmaceuticals</td>
<td>9</td>
</tr>
<tr>
<td>— Retail and Catering</td>
<td>15</td>
</tr>
<tr>
<td>— Social care</td>
<td>48</td>
</tr>
<tr>
<td>— Transport</td>
<td>13</td>
</tr>
<tr>
<td>— Utilities and housing</td>
<td>16</td>
</tr>
<tr>
<td>— Other (consultancies etc.)</td>
<td>20</td>
</tr>
</tbody>
</table>

The present review is thus roughly equally divided between health and non-health sector studies.

Table 8 Geographical coverage

<table>
<thead>
<tr>
<th>Geographical coverage</th>
<th>Number of studies</th>
</tr>
</thead>
<tbody>
<tr>
<td>UK</td>
<td>215</td>
</tr>
<tr>
<td>Other European (including former USSR)</td>
<td>105</td>
</tr>
<tr>
<td>Australia</td>
<td>42</td>
</tr>
<tr>
<td>Canada</td>
<td>39</td>
</tr>
<tr>
<td>Israel</td>
<td>10</td>
</tr>
<tr>
<td>New Zealand</td>
<td>14</td>
</tr>
<tr>
<td>USA</td>
<td>305</td>
</tr>
<tr>
<td>Other</td>
<td>85</td>
</tr>
</tbody>
</table>

Apart from 14 multi-country studies, the 'other' category was dominated by India (28), Japan (10) and China (10).

But do these distributions reflect the strength of evidence available about relationships in each of the above categories? A preliminary to answering this question is to show the range of research designs and evidence bases used. Table 9 ranks evidence-bases in descending order of likely scale, and shows the proportion of studies, across the whole review, possessing each. ('Rapportage' refers to news-like rather than case-study reports. It includes reports not far removed from 'advertorial' and public relations material.)
Table 9 Scale of evidence

<table>
<thead>
<tr>
<th>Scale of evidence base</th>
<th>Number of studies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Census of organisations</td>
<td>18</td>
</tr>
<tr>
<td>Survey of organisations</td>
<td>314</td>
</tr>
<tr>
<td>Survey of individuals</td>
<td>333</td>
</tr>
<tr>
<td>Multiple case study</td>
<td>164</td>
</tr>
<tr>
<td>Single case study</td>
<td>280</td>
</tr>
<tr>
<td>Observer, participant or managerial rapportage</td>
<td>72</td>
</tr>
<tr>
<td>Other evidence</td>
<td>30</td>
</tr>
<tr>
<td>Not clearly stated</td>
<td>671</td>
</tr>
</tbody>
</table>

In descending order of likely representativeness of the studies, Table 10 shows the bases on which their evidence was collected. 'Representative' here means 'representative of the population of organisations in the sector and country or countries studied'. The ranking of categories follows standard statistical assumptions. Here, 'census' includes censuses of individuals and or organisations. The other categories in Table 10 are defined analogously.

Table 10 Representativeness of evidence bases

<table>
<thead>
<tr>
<th>Representativeness of evidence base</th>
<th>Number of studies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Census</td>
<td>28</td>
</tr>
<tr>
<td>Randomised sample</td>
<td>26</td>
</tr>
<tr>
<td>Purposive sample</td>
<td>71</td>
</tr>
<tr>
<td>Convenience sample</td>
<td>298</td>
</tr>
<tr>
<td>Single report or case</td>
<td>244</td>
</tr>
<tr>
<td>Other basis</td>
<td>30</td>
</tr>
<tr>
<td>Not clearly stated</td>
<td>534</td>
</tr>
</tbody>
</table>

In EBM, it is generally assumed that a clear methodological hierarchy exists with randomised control trials as the 'gold standard' research design, with others ranked in descending order beneath. Whatever the validity of that assumption in regard to medicine and epidemiology, no such hierarchy is widely accepted in the social sciences (but at most, within parts of certain disciplines such as economics). So although Table 11 simulates the order of research designs found in EBM publications, one must be more cautious than in the clinical fields about taking these categories as a sound guide to the likely validity of study results.

Table 11 Study designs

<table>
<thead>
<tr>
<th>Study design</th>
<th>Number of studies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Randomised controlled trial</td>
<td>1</td>
</tr>
<tr>
<td>Quasi-experiment</td>
<td>17</td>
</tr>
<tr>
<td>Other comparison</td>
<td>392</td>
</tr>
<tr>
<td>Longitudinal</td>
<td>68</td>
</tr>
<tr>
<td>Multiple case study</td>
<td>145</td>
</tr>
<tr>
<td>Single case study</td>
<td>218</td>
</tr>
<tr>
<td>Realistic evaluation</td>
<td>56</td>
</tr>
<tr>
<td>Game / simulation / experiment</td>
<td>13</td>
</tr>
<tr>
<td>Other</td>
<td>102</td>
</tr>
<tr>
<td>Multiple methods</td>
<td>41</td>
</tr>
<tr>
<td>Not clearly stated</td>
<td>515</td>
</tr>
</tbody>
</table>
Of the 'other comparison' category, the great majority (326) were cross-sectional designs, typically surveys. The 'Other' category included 40 reviews (meta studies) and 18 historical studies, typically analyses of survey data. 'Longitudinal' refers to quantitative studies and to case studies which were, according to the abstract, designed to show the progress of changes over a period of time (without any further restriction as to a minimum duration of that period).

We are now in a position to assess the strength of evidence for each of the 21 possible relationships between the seven chosen policy outcomes and the other three levels of organisational analysis i.e. for each of the cells in Table 6. These results can be shown in two ways. In each of the 21 cells, the number of studies can be sub-categorised three ways, producing one table showing how they distribute by scale of evidence-base, one table showing how they distribute in terms of likely representativeness of evidence-base, and one showing their research designs. The 21 resulting tables comprise Appendices 5–25. A more arbitrary but also more intelligible way to summarise these results is to apply the scoring system described in Chapter 3. By adding each study’s score for scale of evidence, representativeness of evidence and design, the study can be given a strength of evidence score of between zero and 18 points. Adding the scores for the studies belong to each cell in Table 6 then gives a summary indication of the strength of evidence in regard to each of the 21 cells. Lower scores indicate relationships about which, although data do exist, there is scope to strengthen the evidence base. As explained above (Chapter 3), the total scores show the strength of evidence found but not its internal consistency. Table 12 shows the resulting scores.

<table>
<thead>
<tr>
<th></th>
<th>Environment</th>
<th>Organisational Structure</th>
<th>Organisational processes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outcomes for patients</td>
<td>163</td>
<td>823</td>
<td>985</td>
</tr>
<tr>
<td>Process quality</td>
<td>34</td>
<td>306</td>
<td>489</td>
</tr>
<tr>
<td>Humanity</td>
<td>20</td>
<td>52</td>
<td>49</td>
</tr>
<tr>
<td>Staff morale</td>
<td>116</td>
<td>774</td>
<td>1251</td>
</tr>
<tr>
<td>Equity</td>
<td>43</td>
<td>87</td>
<td>41</td>
</tr>
<tr>
<td>Efficiency</td>
<td>259</td>
<td>1567</td>
<td>259</td>
</tr>
<tr>
<td>Adherence to external</td>
<td>92</td>
<td>292</td>
<td>540</td>
</tr>
<tr>
<td>performance targets</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Taken together, these tables make certain patterns in the literature quite apparent, even allowing for the assumption-laden character of the strength-of-evidence scores. Although much ink has been spilt on the subject, the question of how organisational environments influence the internal organisational structures and process is nevertheless under-researched compared with the other relationships listed in the conceptual framework. The imbalance of research among the policy outcomes chosen for this review is striking. Broadly defined though
they are, the humanity and equity effects of organisational structures are almost ignored in the literature reviewed. Among the other outcomes efficiency, which the studies most often define in terms of productivity and costs, clearly attracts most research interest. Staff morale attracts more research interest than outcomes for patient (or the equivalent in other sectors), and this on a wide definition of outcome which includes satisfaction, however measured. The predominance of studies focusing on the process–outcome relationships further reinforces the impression of a literature that, as a whole, is decidedly producer-oriented, rather than consumer-oriented. Even although it is defined to include profitability and cognate objectives, the number of studies concerning target adherence is not as large as one might have expected given the dominance of manufacturing, finance and other private sector studies in the literature as a whole. Nevertheless the public sector, in particular education, makes a strong showing in the literature. For the health sector, European studies are almost as numerous as US ones. The apparent UK dominance in the European literature should be tempered by recalling that this review was limited to studies in English. Methodologically, multi-method studies were a small minority but experimental designs were rare indeed. If one had to epitomise a 'typical' study in this literature, it would be as a cross-sectional quantitative study of US firms, probably across several sectors, sampled on a convenience basis (from trade directories or databases) and testing contingency-theory or neo-institutionalist hypotheses by analysing statistical associations amongst data about managerial activities, costs, productivity and perhaps profitability.
Chapter 11  Stakeholder consultation

The purpose of the stakeholder consultation was to identify which types of evidence about the relationships between organisational environment, structures, processes and outcomes are of most practical relevance to NHS decision-makers responsible for restructuring NHS organisations and inter-organisational relationships. Consultation methods are described more fully in Chapter 3, but essentially comprised structured discussions (by interview or focus group) with senior decision-makers (i.e. the chief executive or sometime directly accountable to that person) in a 'diagonal slice' of NHS organisations and health-related bodies. Two chief executives (Ian Carruthers, Dorset and Somerset SHA, and Edna Robinson, Salford PCT) deserve acknowledgement for their help in arranging the consultation.

This chapter presents the consultation findings. The interviews and focus groups were both structured using the schedule in Appendix 26. It was designed to elicit recent experience of decision-making about NHS organisational structures, and anticipated decisions, in order to contextualise the answers to the questions about informants' interests and organisational research and evidence needs that followed. All the questions were open. The final item was a reminder to ask informants if there were any other topics relevant to evidence-basing NHS decisions about organisational structure which we had not already discussed. The final item, and the use of open questions generally, was intended to ensure that the schedule, although structured, had not excluded any important themes.

The analysis and the presentation of the findings initially follows the thematic headings of the interview schedule. In doing so, it temporarily sets aside the question of how accurate some of the respondents' perceptions were (e.g. about the availability of organisational evidence). We have also produced a summary thematic analysis of the interviews and a discussion of the implications for the review as a whole. Respondents were assured anonymity, so the findings are presented in a way that preserves it.

11.1 Recent decisions about organisational form ('structure')

Respondents tended to divide this topic into two main headings: structural changes they had made, or contemplated, within their own organisation; and changes they had tried to make in their external relationships between their own and other NHS organisations.

In changing their internal organisational structures, respondents from NHS trusts and PCTs alike reported they were shifting from a structure (including directorates) based on professional 'silos' towards more
operationally based directorates, intended to manage a group of services defined in terms of specific client groups. These were generally called clinical teams or multi-divisional teams, and were seen to involve 'getting rid of departments' in the belief that they would patient care more streamlined. The clinical team leader was seen as being anyone from any profession. Nonetheless, it was reported that some therapists were very sceptical as they feared that such a move would undermine their professional identity and professional support.

Concomitantly, membership of the Board and the top-level management body (often, 'management executive' but the exact title varied between organisations) had been altered away form representation on the basis of occupational group towards representation on the basis of operational, or support-service, responsibilities. Managers’ and senior professionals’ roles were similarly shifting towards a stronger operational and 'corporate' (i.e. general management) responsibilities and away from a negotiative, professional-representative role.

Two opposite patterns appeared, however, in regard to what this change meant for the roles of individual management executive members. The more common tendency was to make each member directly operationally responsible for a group of services (i.e. to shift the balance of roles towards 'line' and away from 'staff' management). One PCT had, however, deliberately done the opposite, relieving its management executive members of operational roles in order to shift their attention from relatively short term, unimportant issues towards a focus on strategic decision-making and organisational development.

Either way, PCTs and SHAs had to cope with broad roles, as former regional roles shifted to SHAs and former HA roles to PCTs. For PCTs, these additional roles and an increased size due to mergers made it necessary to devolve service management more to localities and to multidisciplinary teams (these two responses were seen as complementary not as alternatives). At service level, both NHS trusts and PCTs had had to discover ways to combine 'linear' (i.e. vertical, hierarchical) structures with the matrix structures required for cross-professional working practices.

Three of the interviewees commented upon the 'modern matron'. Indeed one respondent was acting as one and the example of this structural change gave an interesting insight into some of the learning processes operating in the NHS. Some NHS trusts had introduced 'modern matrons' by re-badging existing posts, indeed existing nurse managers, rather than changing organisational structures.

Changes to the external relationships of organisations had further implications for their organisational structures. Both NHS trusts and PCTs claimed to have played an active part in simplifying the commissioning of secondary care by constructing local networks of PCTs in which each PCT would commission a proportion of secondary services on behalf of all the PCTs. Nevertheless, informants also
reported some uncertainty remained about how to structure commissioning relationships between SHA, PCT and NHS trust. Transfers of services between trusts, from mental health trusts to PCTs and (for the care trusts) from local government to (de facto) NHS management had entailed internal restructuring including, in the care trust, incorporating lead social workers into an NHS trust operational management structure.

One of the interviewees from Wales, commented upon this challenge and felt that they would have to learn from the experience of what had happened in England, where he believed progress was more advanced in terms of inter-agency working. Two NHS trusts (including a major London trust) were facing mergers, which entailed merging the management structures of previously dispersed services. Another set of responses described attempts to create structures for communication with local authorities (for social care and public health purposes) and 'outside' bodies generally; locality for a were a preferred structure.

We were able to get an atypical perspective from an internal NHS OD consultant who, together with his organisation, was involved in an extensive range of organisationally based problem solving. What was interesting was how the issues that he reported very closely mirrored those of the other respondents.

### 11.2 Constraints on these decisions

This question was asked as one way of identifying existing organisation-structure constraints on changing the management of NHS services; a possible topic for future research into NHS organisational structures.

Problem tractability was one reported constraint — some of the issues facing the organisations were just very difficult to solve. One example of this came from the Modernisation Agency itself and was the sheer scale of implementing complex reforms on a national basis, to the extent that in fact they were prepared to allow local solutions. Another constraint was reported as being concerned with the difficulty of knowing at what appropriate level to fit in all the new roles that the government initiatives required. It was also difficult to find comparative information from other areas because implementation of these new roles differed across the country. The re-badging of nurse managers as 'modern matrons' was one such.

Many respondents mentioned financial constraints on organisational re-structuring but the descriptions varied from 'not very tight' to a local imperative, stemming from non-executive directors' worries about 'bureaucracy', to consider re-using existing managerial resources before adding jobs to the existing organisational structures, through to a report that finance was the sole major constraint (revenue-losing mental health trust). NHS management cost controls officially
constrained one trust general manager’s ability to pay consultants for managerial work, but it was possible through ‘subterfuge’ to solve this problem in other ways. Financial constraints had more impact in delaying experiments with innovative service structures (e.g. a ‘fruit van’ service for poor estates).

Several respondents mentioned the time and money costs of restructuring has its costs, and that it was unreasonable to expect adjustments to organisational structures to solve problems that really need other solutions, such as a lack of interest in partnership working, underlying problems of workplace culture or poor communications with outlying services.

Intellectual capability and capacity issues were also proffered as non-financial constraints. One respondent said:

‘These organisations don’t have any spare capacity in terms of time or experience and the intellectual capacity isn’t there. In terms of time, the modernisation agenda is making serial demands upon organisations. There was not much fat there before but that’s all completely gone now.’

Staff reactions to structural changes (e.g. an ‘It’s not my job’ mentality) and the necessity to maintain services whilst these changes occurred were repeatedly mentioned; and, in NHS trusts, consultants' power to obstruct change and their tendency to allow relatively extraneous considerations (e.g. where it was personally convenient to them to site laboratories) to influence decisions about organisational structure. Three PCTs mentioned co-terminosity with local government as the main determinant of their locality structures. Two PCT executives reported difficulty recruiting to top-level management posts due to repeated re-organisations and lower salary levels than in NHS trusts.

Historical precedents were also seen to act as a constraint, particularly in terms of existing staff — their skills and personalities. In one case, the senior managers had to build the structure around existing skills and culture of staff and just try to get them to 'manage' in a different way, through closer supervision, objective setting and 'old fashioned NHS problem solving techniques'. Nearly all respondents reported that 'just having to do something' because the government had said so, even if there was no evaluation of the reason why in terms of the service, acted as a severe constraint: 'There was no choice about doing it, even if it had been researched.'

### 11.3 Outcomes they try to obtain when changing organisational structures

Three desired outcomes of organisational change predominated. With various nuances (e.g. 'make it [NHS trust] less of a coalition, more a cohesive body' (NHS trust chief executive), more multi-disciplinary
structures, fuller involvement of PAMs (professions allied to medicine) and nurses, better links between managers and professions), one main theme was a move away from occupationally demarcated structures towards multi-professional structures organised around specific activities or services. A second main desired outcome was to satisfy higher-level bodies, which for NHS trusts meant the SHA and DH rather than the PCT, except in regard to income, to maintain which PCTs had also to be kept 'confident' about NHS trust restructuring. One trust chief executive stated quite readily that in changing his trust's organisational structures, one aim was to conform to clinical governance requirements 'and get a tick in the box'. Two chief executives wanted to meet recent CHAI review recommendations. The phrase 'fit for purpose' was heard many times, but on enquiry it was found to mean simply 'providing better services', to which one person added fulfilment of the legal and inspectorial duties of the PCT. Less often mentioned was to resolve financial problems (including financing hospital re-development) and closer collaboration with the local authority. Another theme was to promote flexibility and teamwork, whilst retaining clear communications and lines of accountability (of which clear, simple job titles were a sign, in view of one chief executive). Two respondents mentioned making NHS organisational structures intelligible to users.

Outcomes for patient care were referred to infrequently. This may be because they were implicit rather than neglected. Where there was an explicit reference, it tended to be in terms of an ex post facto rationalisation of the government’s agenda:

'It will be interesting to see if the government initiatives with the new roles will make any difference to patients.'

'We followed what the government said they wanted in terms of improved patient care.'

Respondents from the mental health field appeared to be more confident about patient outcomes especially in terms of the importance of client based multi-agency, multi-disciplinary working.

**11.4 What evidence they apply**

Only three respondents said they had attempted to apply any kind of formal evidence to decision-making about organisational structures. One asked one of his staff to make a literature search and another consulted a psychologist on his staff who was interested in organisational behaviour. The third (a clinical director) had been more ambitious, having read up about Kaiser Permanente, Michael West's study on the relationships between OD, staff morale and outcomes, and 'the OD literature', mentioning the McKinsey model. (The main effect of reading debates about the relative merits of the NHS and
Kaiser Permanente had been to convince him how little is actually known about organisational structures.)

Even these respondents, though, averred that NHS management hasn't an evidence-based culture: 'We were rather inward-looking' said one chief executive; and two others used similar words. A director of public health (DPH) remarked, 'They [NHS managers] don't think in terms of what research tells them. They see research as driven by researchers’ and others' interests, not theirs. They perceive what's acceptable, or not, in how NHS money is spent'.

There was an interesting response from those people who had completed post graduate business degrees (either generic, public sector or specialist health management) MBAs or masters degrees. These respondents readily consulted literature (at least text books) about the issues that they were facing. The use of the professional literature and professional college libraries was also mentioned.

Many respondents mentioned what might be called informal evidence; anecdotes, staff feedback, discussions with colleagues in other organisations and their own experience of working in other organisations. Such evidence as policy documents and guidance contain was mentioned by a number of people especially in the hope that there would be some 'how to do' guidance. Three people said that they would use the primary policy documentation, the root legislative guidance and to trace what it was trying to achieve. A telling comment was in terms of the NHS briefing documentation, which was generally described as 'very brief'. Routine management data, including NHS benchmarks, review findings, ambulance review data, performance management feedback, National Primary Care Development Team (NPDT) data and, for one trust, a business case it had assembled to present to the Treasury were all referred to as sources of evidence.

Other forms of evidence that were mentioned were the use of specialised 'packs' — such as the one for the new patient menu schemes (these arrived with cardboard examples of snack boxes and similar). The use of videos was quite highly rated, especially when used with seminars. The example quoted was for the revised role of the ward house-keeper — although it was felt that this would be a more appropriate medium for 'the staff rather than senior management'.

Several people described a lack of evidence about organisational questions, and that they did not find it easy to access. However, comparative, experiential evidence rated highly. One example was job-swapping between health and social care. In respect of the modern matron puzzle, it was explained that Nottingham was initiating a network to share experiences. One organisation had brought in an OD consultant and a number of other respondents said that they would have liked to use the experience and have the help and support of an expert, substantiating their wishes with comments similar to below:
'In terms of evidence there are very few experienced old hands around now — we have lost the organisational memory.'

11.5 Evidence that would have helped but wasn't available

The two most frequently mentioned desirable but (allegedly) unavailable evidence was evidence showing what organisational structures (including what degree of centralisation) conduce to 'best practice', 'joined-up', high-quality, cost-effective health care, especially at the level of service provision itself. This interest focused particularly on team structures and on which organisational frameworks for informatics, HRM, controls assurance, OD and transport are necessary to support the clinical team itself; and how to restructure NHS trusts to produce quicker, more effective decision-making. The second was in respect of patient outcomes — how would structural change improve (or worsen) patient care.

Two respondents (one from an NHS trust and one from a PCT) expressed particular interest in evidence showing how to structure the clinical directors' role, and what clinical directorates could contribute to improving the effectiveness of health care provision. The former related this interest to a very specific (but probably quite prevalent) problem: doctors take it in turn to be clinical director until the turn comes of (say) the fifth doctor, who is the least capable and committed to it. Is there a solution to that problem? Several respondents perceived parallels between the SHA role and that of LEAs in being a combination of performance management and organisational development.

The comments from the modernisation agency indicated that their raison d'être was precisely to give advice and direction in implementing initiatives based upon the rationale of improving patient care. There appeared to be a degree of satisfaction with the processes involved in this — but what was felt to be badly missing was evaluative evidence about the effectiveness of the processes — especially what is referred to as their 'sowing seed approach and letting it grow locally'. Three respondents felt that access to professional development units were a good idea. There were examples (in nursing) where these had been used effectively to spread critical appraisal skills.

These, and a handful of others, expressed interest in evidence about such parallels between the NHS and new modes of organisation elsewhere in the public sector. How do (for example) do school governors hold head-teachers (i.e. managers) to account? Indeed, it was suggested that as a long term solution, the NHS would have to look outside of itself, to other high reliability organisations in order to seek out innovative solutions. Inevitably, the armed forces were mentioned as a comparator and respondents asked what parallels exist between the role of NHS non-executive directors and those in other
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sectors. Also mentioned, but less frequently, was the need for research into what structures best aided consumerism and public empowerment, how to use other organisations' experience to do so, and how to assess health care users' willingness to travel to non-local providers (a question relating more to local health system structure than health organisation structure).

A number of respondents commented on the form besides the content of the evidence they would want. Several mentioned the fragmented character of what organisational data the NHS does collect. One suggested that researchers should synthesise all these results for each individual NHS organisation, drawing the practical implications. In this respect, he preferred CHAI to National Audit Office (NAO) research. Nevertheless, case studies were more often mentioned as the preferred format for research into organisational structures, because this approach was felt better able to expose the connections between organisational structures and particular local contexts; and to show concretely what other NHS organisations had done. They also helped managers to see beyond their own particular local circumstances and personalities. There was less agreement about whether each organisational structure should be regarded as unique. Indeed, there was little use for studies that are so concrete and localised as to be of purely single-site application.

Nobody thought that researchers should seek one optimal structure for each type of NHS organisation but several respondents thought that research should try to identify a number of preferred structures, each suited to a specific kind of setting (e.g. urban versus rural, London — where many NHS trusts are also major educators; there's a big private health sector — versus provincial). In any events, managers disliked 'bumph' and 'large reports on websites'; they preferred concise summaries of research results.

11.6 Most problematic structural characteristics of organisations

In order to identify structural problems to which research might be made relevant, we asked our respondents what they thought the most problematic structural characteristics of NHS organisations are.

One set of answers concerned the lack of adequate of structures to enable planning to occur. SHA and PCT informants alike stated that their organisations were increasingly focused on short and medium term operational and 'modernisation' objectives which divert them from longer-term perspectives. 'We're chasing averages — but are the averages right?' asked one PCT chief executive. Both sides agreed that PCTs are very stretched, have 'capacity issues', are too small, lack skills and face a vast agenda. IM&T coverage is very variable. They all replicate similar structures; at sub-SHA level there has been no real
attempt at specialisation amongst PCTs; but the same was true, we were told, of SHAs. So, 'Long-range planning is still a challenge for us [SHAs] even though we’re set up specifically to do that' (SHA informant). This applied to workforce and PCT development as much as service planning. For services planning another problem was the mismatch LA and NHS boundaries, especially in shire counties, which we were told occurs because SHA boundaries are largely artificial, mapping poorly onto local community boundaries or even local health economies. Furthermore, 'Government need to get their act together about targets' (PCT chief executive); different organisations have different targets which hinders joint working, although the National Service Framework (NSF) targets for mental health received honourable mentions as exceptions to this generalisation. Public health has become a PCT responsibility although it would seem to make better sense to use SHA or even a national structure for that. Equally, both PCT and NHS trust chief executives though it would make sense to have fewer, larger PCTs; one suggested halving the present number.

In regard to service commissioning, our respondents thought that the SHA role was not clearly defined and SHAs lacked means of influencing NHS trusts, having 'only blunt weapons — sacking CEOs. But they can't [really] sack anyone; blunt and light' (a DPH). PCT chief executives tended to think that SHAs don't know local conditions as well as PCTs do, and were therefore more susceptible to provider interests. When it comes to commissioning tertiary services, PCTs just get 'told and top-sliced'. SHA and PCT informants both claimed that NHS trusts think themselves superior to other NHS organisations and 'have a very high opinion of themselves' (a DPH), resist being managed and see the rest of the NHS as an 'area that doesn't have much impact — and they're right' (a DPH).

According to the same DPH, NHS trusts have seen much strategic management change in SHAs and PCTs recently and 'think if they wait long enough this one will go away too. It's a reasonable inference from people's behaviour'. From the other side, NHS trust executives argued that SHAs don't recognise what efforts NHS trust make to (for example) improve patient safety or what innovations are being made. There was too little feedback between NHS trusts and SHAs, and no sharing of knowledge between organisations either.

Even NHS trust informants wondered whether trusts are too big, however. With a familiar simile, NHS trust respondents identified their main structural problem as being that NHS hospital management is still 'like herding cats'. They felt that so far as doctors are concerned, NHS trust structures are still relatively loose, preserving medical autonomy rather than so structuring medical autonomy that doctors support the organisation. One chief executive drew an analogy between consultants and airline pilots, arguing that it's not desirable for general managers to watch and control the pilot's every decision but it is desirable that general managers can set general standards of
competence, the objectives and frameworks of the pilots’ (sc. doctors’) work. Neither were there reliable structures for means for conveying staff views to top managers. Like PCTs, NHS trusts still have, we were told, essentially Gladstonian, input-based budgets that are not really tied to service performance or effectiveness. These same financial structures also prevent clinical teams (as opposed to designated individuals) controlling service budgets. A head of paramedical services also commented that her locality lacked structures for good service coordination between the hospitals and the PCT.

In regard to their primary care structures, our PCT respondents’ comments touched mainly on the need for structures to improve communication with GPs. One reported meeting GPs who didn't know that the PCT now held hospital budgets. Another argued that his PEC should be abolished because all it did was conflict with the PCT Board — ‘Frankly, it's a nightmare’ (chief executive). He argued that PECs should be optional; instead, PCTs should have a legal duty to consult GPs by whatever means best suited the locality.

11.7 Decisions about organisational structures anticipated over the next three years

It was clear to nearly all respondents that the formation of foundation trusts would necessitate further changes in NHS organisational structures, but it was not yet clear exactly what changes. In any event, NHS trusts would have to continue re-structuring themselves on a 'service line' basis and not 'as a collection of clinical “-ologies”’ (NHS trust chief executive). Acute trusts would need to provide much more A&E and general medical services, but present organisational structures would be hard-pressed to achieve this because (we were told) having covered these activities at a minimal level, consultants can still manage their own workload to suit their own clinical interests.

Structural implications of the Patient Choice and Payment by Results policies seemed clearer. Service commissioning would have to be moved closer to locality, or even general practice level, so that the same people who made referral decisions (i.e. GPs) also saw the implications and bore the financial consequences. The role of SHAs and PCTs would change from that of being planners to something more like a regulating body, guaranteeing the probity and quality of transactions between GPs and hospitals. Indeed, HMO-like structures would probably have to be created to improve liaison between primary and hospital care. Other forms of primary care structure would also have to be invented for this purpose, and to respond to the shortage of GPs. One PCT chief executive elaborated a detailed scenario in which out-of-hours co-operatives were taken over by their local PCTs, merged into (and managed by) ambulance trusts but with an additional staff of salaried doctors. A care trust chief executive anticipated forming a ‘virtual
structure' in which social workers and other staff were still nominally local authority employees, but actually integrated into and managed through NHS trust structures. Mental health services were also likely to transfer partly or wholly to PCTs.

Most respondents predicted more PCT mergers after the next general election, although one (a PCT chief executive) expected closer collaborations rather than formal amalgamations.

11.8 What evidence did NHS managers say they might find useful in future?

Some of the evidence our respondents expect to be useful in future mirrored the evidence that might have been useful over the past few years. Others followed directly from the scenarios described in the preceding section. These were suggestions for 'blue skies' research about how to combine primary and secondary care — into what the implications of Patient Choice are, into how to make Foundation Trusts accountable (for instance, would elected directors help?), and into whether payment by results is likely to 'degrade' the PCT–NHS trust relationship.

Another set of requirements evidently reflected the immediate managerial agendas at the time (late 2003 to early 2004) of the interviews. They concerned very concrete questions about the organisational structures now required for day-to-day service delivery, i.e. for evidence showing the following:

- How best to restructure the management of emergency and elective care;
- How best to change nurse roles, in both primary and secondary care;
- The advantages and disadvantages of merging mental health services into PCTs;
- Whether children’s services are better provided through a centralised structure or a network, and if the latter how do you then hold staff to account;
- How mental health organisations can integrate consultants and social workers;
- The benefits and non-benefits (e.g. planning blight) of mergers; and how a trust can retain staff when a merger is in prospect;
- Whether a given procedure or service is better provided in hospital or primary care;
- Whether care pathways actually work, and which ones work;
- How new working roles, such as the nurse consultant or modern matron, should be defined;
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- What services to commission e.g. for elderly people;
- the best way to organise a ward or a paramedical directorate;
- the best ways to structure and manage prison health services;
- What the preconditions for the Expert Patient Programme (EPP) are — what do local people need and have, by way of literacy, access to videos etc.;
- Which community initiatives for health promotion and intersectoral activity work and why;
- What methods enable NHS organisations to track patients going to and from primary and secondary care;
- How do mergers occur; specifically, what happens during the pre-merger phase when two organisations start to collaborate and what structures are necessary to maintain accountability and good communications during this phase;
- What organisational structures best maintain performance management within an SHA.

At the opposite extreme of generality, respondents also expressed interest in the following evidence about long-term structural questions:

- What effects will it have on PCTs if SHAs give patients and GPs more information about services?
- How does the Professional Executive Committee (PEC) system differ from other structures for holding 'NHS bodies' (by which the respondent clearly meant 'GPs') accountable?
- What organisation structures best produce stakeholder, in particular local authority, satisfaction with NHS services (a question evidently reflecting the prospect of local government scrutiny of the NHS)?
- What can be learnt from international comparisons of organisational structure (although they're not as useful as comparisons within the UK)?
- How to become a 'learning organisation', rather than concentrating solely on immediate targets and service redesign?
- How to get manage organisational culture right so that staff internalise the trust's values and know how to carry them out without over-reliance on organisational structures to achieve that?
- What organisation structures are needed to shift the emphasis of NHS activity away from treatments towards public health?
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- What organisational structures produce a culture and behaviours that enable purchasers and providers to work together?
- How do organisational structures support clinical work and workforce development?
- How do distributed organisations function best, and how do they differ in that respect from one-site hospital structures?
- How managers can become sensitive to local issues and adjust their organisation's structure and function to the particular characteristics of their locality?
- What organisational structures produce 'a constructive tension' between 'realists' doing immediate tasks and 'vision leaders' looking to the future?

One PCT chief executive said that his ideal situation would be to have to invent nothing — just learn from successful examples elsewhere, which might include overseas. In general, the evaluations and practical lessons of other organisations' experiments and pilot projects should be centrally available.

11.9 Views about the characteristics of a good organisational structure

The purpose of this question was to elicit clues about what topics for future organisational research were likely to engage with the respondents' beliefs about the most important and interesting aspects of organisational structure. Four main themes emerged.

Most often mentioned was clarity, meaning clear goals, accountabilities, chains of command and (above all) lines of communication, although one respondent added that this clarity was sometimes an emergent property; organisational structures did not necessarily have to emerge fully-defined from their first day. Scope for teamwork was next most frequently mentioned, with an emphasis on flexibility and allowing teams to learn and to innovate. 'Fit for purpose' was the third theme under this heading. Although different respondents interpreted it in different terms; one respondent in terms of making NHS services intelligible and accessible to users; a second in terms of supporting clinical practitioners in developing good quality services; and several in terms of achieving current NHS policy objectives. The last theme can be called 'leaness'; there should be just enough organisational structuring to achieve the stated goals. In particular, financial structures should be devolved to clinical teams, so far as service budgets were concerned. One respondent argued that many NHS financial structures could be centralised (and should be, to achieve economies of scale); he saw no obvious reason why NHS payroll services should not be provided at national level.
11.10 Other themes

A minority of respondents accepted the invitation to make additional comments about aspects of NHS organisational structures not previously covered. Warming to their theme, the respondents’ remarks tended to concern national policy and politicians.

Several respondents perceived the changes in NHS organisational structures planned for the next few years as reinstating the internal market; 'It's back to 1995' (PCT Chief executive). They saw this as one example of UK governments’ propensity continually to re-cycle a narrow range of organisational structures which have been tried — and researched — before. One respondent cited 'modern matrons' as the extreme example; she knew of research from the 1950s describing this structural 'innovation'. Another argued that the purchaser-provider split is really a fiction because NHS organisational structures depend essentially on local collaborations. Foundation Trusts were either likely to be unsustainable (one PCT chief executive) or were being set up for privatisation (another PCT chief executive). These two respondents, and a third, argued for returning to directly-managed NHS providers. The first of these three also stated explicitly the research question implicit in the others’ remarks: How can the NHS (she might have added ‘and national policy-makers’) break this cycle of continually reinventing old organisational structures? A fourth respondent (a DPH) suggested that transparent cost-benefit analyses should be published for all policy recommendations, including those about organisational structures.

The other theme under this heading concerned the negative image which, respondents thought, politicians present about NHS managers and organisational structures. The clearest exposition came from a trust chief executive who maintained that ‘politicians’ want the NHS to deliver better services but are obsessed with, and keep getting drawn into expressing, negative views of NHS management (‘bureaucracy’, ‘too many managers’). He therefore advocated research into what he called 'the politicians' ABCD cycle — analyse, blame, criticise, depart'. This comment was not entirely facetious; he argued that remarks such as John Reid's comments on consultant contracts actually make it more difficult to restructure NHS organisations, and therefore to achieve the service changes that politicians also want.

11.11 Summary of thematic analysis from NHS consultation exercise

In addition to presenting the result of the findings from the consultation exercise according to the structure of the interview schedule, we have also analysed the interviews in broad thematic terms. The themes that we found are as follows:
There was a widespread general expectation that there would be a reduction in professional individuality. This individuality is currently expressed in terms of departments arranged around separate clinical professions. It is suggested that a revised structure will involve a move towards a client-based, multi-professional team working structure. Consequently, there could be concomitant organisational governance and accountability changes. Internal turf wars between departments and professions were still reported as occurring.

The overarching environmental conditions are set by central government. Consequently, the structural freedom that operating units have is very limited. One exception to this could be the work of the Modernisation Agency and the way his has conducted itself may well be act as blueprint for future temporary organisations that need to implement large structural change initiatives.

There are still ongoing operational management versus strategic management tensions especially in terms of the capacity and capability issues of operational managers who are tasked with achieving strategic change. There was a very little mention of strategic action — more about responsive operational activity in response to strategic initiatives.

There is a belief that the information needs of NHS organisations are highly specialised and cannot be met by publishing more evidence about general management.

In terms of resources it was interesting that financial resources and the need for them is not mentioned as much as in terms of the need for expert expertise and knowledge. What was felt to be really needed was for organisations to have access to specialists and consultants or hands-on researchers who can access and share experientially based evidence. Good strategic, human resource management was repeatedly referred to — in a role that would include continuing education and development of skills, both at a technical and managerial level. There is a preference for comparative learning, not only from different sectors, but also from abroad.

NHS decision-makers have a very limited understanding of the different structural options that are available.

There is a real problem about the scale, a speed, difficulty and complexity of dealing with the challenges which faced the NHS in terms of structural change and responding to the environment.

History has a place in every aspect of the broader discussion. This is particularly so for those managers to whom the task of structural innovation and strategic change falls, but who inherit
staff and systems that may well be operating within the different management paradigm. There was mention of loss of organisational memory, expertise and experience from people working in highly unstable environments.

9 There is limited abstract conceptualisation (as opposed to focusing upon local rationalities) of issues from the managers we spoke to, although this was not so much the case if managers had received some postgraduate management education. In these cases they were able to use a common organisational analysis vocabulary.

10 There was a constant emphasis on the need for evidence about patient outcomes and for evaluative evidence about the effectiveness of various structural initiatives. Yet there was only a passing recognition of the need for the public understanding of such complexity as was under discussion. Respondents had a very realistic expectation about the use of evidence-based knowledge — they understood that there was no optimal structural solution. They genuinely recognised that the availability of evidence is not necessarily sufficient to enable causal action.

11 Performance management acted as a highly important motivating factor for staff. Although, there was some belief in the benefits of performance management particular in terms of a way of obtaining meaningful data.

12 A number of respondents described their problems in spatial terms. In terms of spatial conceptualisation there was a lot of talk of a 'horizontal spreading out' and as an image this was much more referred to than vertical structures.
Chapter 12  Interpreting the results

Several factors have already been outlined (in Chapters 3 and 9) which necessitate caution in drawing firm conclusions from the literature in the vast field linking organisational form to function. In summary, the key limitations which the literature displays are as follows:

- The lack of agreement about the definitions and boundaries for each of the domains;
- The lack of clear conceptual and theoretical frameworks to guide the analysis and interpretation of the evidence;
- The weak methodologies underpinning many of the studies and the uncertainty about the generalisability or transferability of the results of the evidence, which tend to be based on small qualitative case studies;
- The uncertainty about the appropriateness of generalising findings to the British NHS in 2004 from studies conducted outside the health sector, outside the UK, or carried out in another period.

In this scoping project, we have attempted to address these problems by being explicit about definitions and by establishing a clear, conceptual and theoretical framework to guide the analysis and interpretation of the evidence linking organisational form to function. In this chapter, we summarise the key findings and attempt to make them accessible to policy-makers, service managers and clinical staff. We do this by classifying them into two groups:

- Findings (both positive and negative) that we can be confident about and we think could be made use of straight away, because they emerge consistently from empirical research and have a high level of face validity;
- Findings that are uncertain or equivocal, that we think should be applied cautiously to current practice and which require further research.

Inevitably, there is a degree of subjectivity about this classification but we think that there are some benefits to polarising the findings.

12.1 *Findings we can be confident about*

The strongest message emerging from the literature is that there is no simple or clear-cut relationship between the form of an organisation and the way that it functions. Instead, the relationship is complex and contingent. This general statement is true of most organisational characteristics, including leadership style, size, culture, structure, and economic environment.
With this caveat in mind, the key findings of this scoping exercise that could be applied with some confidence are listed below.

1. The political, socio-cultural and historical environment within which an organisation operates has a significant impact on its structure, the formulation of strategy and its work processes but an uncertain impact on its outcomes. Success appears to be dependent on the fit between an organisation’s strengths and weaknesses and its environment (Burrel and Morgan, 1979; Simonetti and Boseman, 1975).

2. Organisations with hierarchical and bureaucratic characteristics appear to operate most effectively in a stable external environment and one in which the processes and outcomes are clearly defined and agreed (Blair and Boal, 1991; Carley, 1992; Cheng, 1996; James, 2000; Tannenbaum and Dupurefruno, 1994; Taviera, 2003; Zinn and Mor, 1998). In such environments, tools such as guidelines appear to work effectively (Burns and Stalker, 1961; Redfern and Christian, 2003). The formalisation of processes within hierarchical organisations appears to improve communication and implementation (Fennell and Sandefur, 1983; Kelley et al., 1996; McCarthy and Wolfson, 1996; Morgan, 2002; Miller, 1987; Tay and). However, very hierarchical structures have a negative impact on the empowerment of staff and may inhibit innovation and progress (Brooks, 1995; Clair, 1995; Dovey, 1997; Milliken et al., 2003; Tsai, 2002;). Such hierarchical structures promote the ability of middle managers to either facilitate or block progress (Dillard, 2000; Kelley et al., 1996; Parnell et al., 1992; Prince, 2003; Ravi and Porth, 2003; Williams et al., 2000; Spender and Grinyer, 1995; van der Vlist, 1989).

3. Organisations with matrix or networked characteristics appear to operate more effectively in rapidly changing environments and ones in which there is a high level of uncertainty (Miller, 1998; Newton et al., 2000, Sivadas and Dwyer, 2000). The horizontal structures characteristic of such organisations appear to result in greater staff satisfaction (Stevens et al., 1992; Newton et al., 2003; Sivadas and Dwyer, 2000). In such environments, decentralisation appears to be more effective than exercising central control (Armandi and Mills, 1982; Flood et al., 1998; Hage and Aiken, 1967; Moch and Morse, 1977; Schmid, 2002; Singh, 1986; van der Vlist, 1989). Decentralisation increases engagement with quality improvement activities (Spear 1999; Zetka, 1998), improves job satisfaction (Singh, 1986; van der Vlist, 1989; Hage and Aiken 1967), efficiency (Flood et al., 1998; Schmid, 2002) and managerial effectiveness (Armandi and Mills, 1982). The promotion of ‘semi-detached silos’ of professional groupings in networked organisations improves the motivation and commitment of professionals, promotes technical
innovation and encourages adoption of innovative ideas (Miner et al., 1994; Lane et al., 1991; Vandenberghe, 1999; Zinn and Mor, 1998; Damanour, 1991.). It also strengthens professionals ability to assist or block managerially-led change (Blair and Boal, 1991; Currie, 1997; Newton et al., 2000; Parker and Dent, 1996; Redfern and Christian, 2003, Royston et al., 2002). However, decentralisation has an uncertain impact on implementation of strategy (Love et al., 2002) and might reduce organisational coherence (Pendleton, 1994).

4 The engagement of staff at all levels in an organisation is an important prerequisite for success. In particular, the success of managerial change initiatives is dependent on staff engagement (Wallace et al., 2001). Professional support is essential for the implementation of meaningful and sustained change (Blair and Boal, 1991; Ferlie, 1997).

5 Organisations that set, or are set, simple goals and priorities are more likely to be successful in achieving them and in implementing change (Ferlie, 1997; Harber et al., 1997; Pettigrew et al., 1992; Redfern and Christian, 2003; Ryan et al., 2001; Schofield, 2001; Shortell et al., 1998; Wallace et al., 2001).

6 There is an association between the volume of activity undertaken and the outcomes of that activity, especially for some specific technical procedures (Damanpour, 1991; Germain and Spears, 1999; Kimberley and Evanisko, 1981; Rogers, 1987).

7 There is no consistent relationship between the size and the performance of an organisation (Gooding and Wagner, 1985; Wilkin et al., 2003). However, larger organisations appear to have some advantages (e.g. greater purchasing power (Bojke et al., 2001)), whilst smaller organisations have other advantages (e.g. they are easier to manage, respond more rapidly and have happier staff (Hannan and Freeman, 1984; Hetherington and Hewa, 2000; Issel et al., 2003; Zinn and Mor, 1998). Strategic flexibility is greater in small, high trust and simply designed organisations (Pollert, 1998; Reed and Blunsdon, 1998).

8 The public reporting of information helps to focus organisational activity and this can have a significant impact on managerial processes and a small but statistically significant impact on clinical outcomes.

9 Collaboration across agencies and sectors is inhibited by lack of coherence at the level of policy making (Khan, 2003; Ledwith, 1999; North, 2000).

10 The de-professionalisation of some technical tasks is feasible, acceptable to patients and leads to acceptable outcomes.
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11 Cross-professional working (such as clinical networks or communities of practice) may be an effective way of improving practice (Stuck et al., 1993; Wallace et al., 2001). People who are able to work at professional interfaces ('boundary spanners') produce more effective teams (Cross et al., 2000; Dvir and Ben David, 1999; Rajesh and Nicholson, 2001; Rhian and Westley, 2002; Rose, 2000; Spector and Beer, 1994; Tsai, 2002; Waldensee et al., 1995).

12 Extensive US evidence (Devereaux et al., 2002) shows lower patient mortality in non-profit than in for-profit hospitals.

12.2 Findings that are equivocal

A large amount of the literature in the field is inconsistent, methodologically weak and lacks face validity. For these reasons, there are a number of issues emerging from the literature which require more thought and empirical investigation before they should be applied in practice. These include the following:

1 The impact of competition on organisational function: Before the mid-1980s, most of the research was conducted in the US and this demonstrated that market competition appeared mostly to increase supply, costs and prices (Hughes and Luft, 1991; Joskow, 1980; Robinson and Luft, 1985; Noether, 1988; Propper et al., 2004; Robinson, 1988). By contrast, research conducted after the mid 1980s, suggests that competition leads to reduced costs and prices (Dranove et al., 1994; Gruber, 1994; Keeler et al., 1999; Melnick et al., 1992; Zwanziger and Melnick, 1988). However, it appears to have less impact on clinical outcomes than on organisational processes (Shortell and Hughes, 1998). This historical difference is probably related to the introduction of managed competition (Arnould et al., 1993). The impact of internal market changes introduced in UK is equivocal. It seems to have had a marginal impact on quality, equity, efficiency and choice (le Grand et al. 1998), though some impact on productivity (Propper, 1996; Propper et al., 2004).

2 The impact of leadership style on organisational performance: It is recognised that different leadership styles are required for different organisational environments (Salauuro and Burnes, 1998) and that different leadership styles impact strongly on staff motivation (Oliver and Anderson, 1994) and less strongly on their ability to produce different outcomes (Bowers and Seashore, 1966; Weiner and Mahony, 1981). However, there seems insufficient evidence to suggest that any particular leadership style is more effective than any other.

3 The net impact of performance management and managed care. In particular, it is unclear whether, and in what circumstances,
the advantages of improved co-ordination and integration (Lynn et al., 1998) outweigh the disadvantages of unintended and dysfunctional consequences by the managed organisations (Marshall et al., 2000; Smith, 2003).

4 The relationship between volume and outcomes for non-technical procedures (such as decision making in areas of uncertainty, or the quality of interpersonal communication).

5 The impact of decentralisation on the performance of organisations.

6 The impact of ownership and control of an organisation on the ways in which it responds to external environmental pressures.

7 The importance of social capital for outcomes (although there is evidence showing the necessity for social capital in making organisational processes operate). There is some evidence that trust in society and institutions can influence economic performance at a national level (Knack and Keefer, 1997) but the evidence is not strong.

8 The impact of strategy formulation on organisational performance. There is some evidence that it may facilitate structural change which then allows an organisation to better pursue its strategy (Keats, 1988; Habib, 1991; Blair and Boal, 1991; Young et al., 1992). However, whether this leads to better performance is unclear (Blair and Boal, 1991). There is good evidence that the formulation of strategy is influenced by the external environment (Bruce, 1998; Hardy, 1990).

9 The relationship between supply and demand for clinical staff (Elliot, 2003).

10 The relationship between staff pay and labour supply (Bogognanno et al., 1974; Brewer, 1996; Gray and Phillips, 1994; Gray et al., 1998; Lehrer et al., 1991; Link and Settle, 1985; Sloan and Richupan, 1975.)

11 The impact of ownership (public versus private, profit versus non-profit) on innovation and most aspects of patient welfare except mortality (Zinn and Mor, 1998). Public sector organisations spend more time negotiating and resolving conflict than private sector organisations (Considine, 1990; Massey, 1993; Pollitt, 1990; Scot and Falcone, 1998). There is some evidence that clinical staff in not-for-profit organisations tend to be more willing to innovate (Hoffman et al., 1996). However, US evidence suggests no consistent relationship between the type of ownership and other aspects of an organisation's performance (Heinrich, 2000).
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12 The impact of the contractual status of staff (employed versus contracted) on organisational performance (Ehlen et al., 1999; Harrison et al., 1992; Zinn and Mor, 1998).


14 The impact of process change initiatives. Complex change process activities such as TQM, BPR appear to have a variable, often small and poorly sustained effect on staff commitment (Altinkemer et al., 1998; Kivimaki et al., 1997; Paper, 1998), and on outcomes (Narine and Persaud, 2003).

15 The impact of organisational climate and culture on organisational performance. Organisational climate and culture has a contingent impact on performance. In particular, there is evidence that organisations with a dominant clan culture are happier places to work in but organisations with a dominant rational culture are more productive (Scott and Mannion, 2001). The most significant impact of culture is on morale and staff retention (Lane et al., 1991; Meyer et al., 2002).

16 The impact of the maturity of an organisation on the way that it functions. There is some evidence that young organisations are more successful if they adopt simple structures (Doty et al., 1993) but this evidence is not robust.

17 The impact of human resource management innovations is variable. There is evidence that they are dependent upon labour availability (Tannenbaum and Dupurefbruno, 1994) and have a positive impact on staff morale (Daley, 1986; Harris and Ogbonna, 2001; Ronan and Primps, 2001) but they seem to have little impact on organisational performance.

The less equivocal findings indicate a few policy implications; the more equivocal findings, questions which further research would be needed to answer.
Chapter 13  Policy implications

Although the main purpose of this review has been to indicate ways of strengthening the evidence-base for future policy decisions about NHS organisational structures, it does also assist in evidence-basing a few of the current policy decisions in UK health care.

A substantial body of evidence also points to dysfunctional effects (on the transparency of organisational processes, learning, and the fragmentation of organisational cultures) of highly centralised organisational structures with sharp differences of power and status between different hierarchical layers. This finding constitutes a warning about continuing to centralise the internal structures and management processes of NHS organisations, and the management of relationships between NHS providers and higher-level NHS organisations. It is hardly surprising that the present review shows that occupationally organised structures (the 'semi-detached silos', found in their purest form in medicine) are at times in tension with maintaining NHS organisations' capacity for adaptation and innovation and with enabling (as evidence-based medicine increasingly necessitates) the management of patient services on a 'product-line' care-group or care-pathway basis.

The review indicates three possible short- to medium-term structural responses to this tension: 'matrix' organisational structures (with each care group in a role analogous to that of a particular 'project'); tolerance, indeed promotion, of informal or semi-formal multi-professional work-groups at clinic level; and moving the point of intersection between different occupational hierarchies 'down' NHS organisational structures to directorate level or below. (There is no evidence that these three are mutually exclusive.) A longer-term response might be to continue the gradual re-integration of these semi-detached professional structures through the development of an 'interface' stratum of medical managers and the re-structuring of medical contracts. In any event, it would be naïve to expect structural changes either to eliminate differences between occupational cultures or to remove the necessity to accommodate professional culture as a central element in such organisational processes as change management. Our studies also support the public release of information about clinical performance as a means of influencing the provision of health care, but suggest that that influence occurs through interactions between health care providers and other health care organisations rather than through consumer choice.

Mergers of NHS bodies are another current policy issue. The present review suggests that it is probably misguided to search for the 'one right size' for each kind of NHS bodies. Different advantages accrue to relatively small organisations (flexibility, scope for 'charismatic' management) and relatively large ones (specialisation, formalisation). At most, there may be a threshold 'floor' or 'ceiling' for the scale for
each organisational process or producing each organisational outcome but most organisations have many such functions with, it may be, different thresholds. Indeed, the relevant studies imply that it misses the point to conceptualise mergers in health care in terms of organisational size. What matters is whether working processes can be made more effective by concentrating expertise and assembling complementary sets of skills and technologies, or cheaper by removing duplication. Mergers that simply federate organisations which otherwise retain separate core working activities and physical resources are likely to make little practical difference to the productivity or efficiency of their constituent organisations.

It is also evident that, for reasons are not well understood, health care users are reluctant to use 'choice', in the sense of exploiting or promoting competition between health care providers, as means to influence what services their GPs (and, in the US, hospitals) provide. UK evidence shows that structures which incorporate small numbers of user representatives have equally limited effects. This suggests the need to invent other structures and organisational processes by which NHS providers can make their services more responsive to users' needs. Nevertheless, publicly reporting providers' clinical activities does appear to influence the providers' behaviour.

There is also evidence of three 'policy messes' (unco-ordinated policies which frustrate one another when both are implemented) in England. One such mess is the reported discrepancy between social care and NHS targets in such spheres as mental health. Another is the secular under-production of doctors in the light of plans to improve service access and replace the outgoing generation of GPs. Third, a high frequency of government initiatives can result in an unstable environment to which, our review suggests, organic organisational structures are best adapted; but the increasing centralisation and performance management of the NHS are actually producing more Tayloristic control and measurement approaches.

The evidence also suggests caution in promoting for-profit hospital provision, either within the NHS or as a parallel system. The balance of evidence suggests that the advantages in terms of organisational (especially managerial processes) which some policy discourse attributes to private for-profit organisational structures (less risk-averse, more innovative, more active management of quality, higher productivity) have little evidential basis. Other advantages (decentralisation, clearer goals, strong orientation towards outputs and cost control, performance related pay) have also been achieved in other parts of the UK public sector through 'public firm' structures, as has the more doubtful 'advantage' of workforce reduction. On the question of patient survival, the most important of patient outcomes, and costs US hospital-sector evidence clearly though by a small but possibly under-stated margin favours non-profit structures. These findings suggest that the soundest policy in regard to NHS provider
structures would be to develop variants on those that already exist rather than seek complete replacement of them. The evidence points towards the development of new and of better-adjusted forms of 'public firm' organisational structures.

The account of causation used in the conceptual framework and the subsequent review draws attention to the complexity of links between policy decisions and their effects (McNulty and Ferlie, 2002). To find evidence of a 'relationship' between organisational structures and policy outcomes is one thing; to assume that changes in organisational structure therefore provide a trusty mechanism for producing such outcomes is quite another. The history of successive NHS reorganisations is a caution on that point.
Chapter 14  Scope for future research

From the perspective of British, NHS-oriented researchers, preceding chapters identify possible further research where the review of substantive existing research findings, the bibliometry and the consultation with NHS decision makers indicate gaps, and where there are unresolved theoretical debates to whose resolution empirical research might contribute.

Given the policy focus of this review and its findings, the most extensive and important scope for future research is to make good the dearth of research expressly linking the specific kinds of organisational structures that already exist in or are appearing in the NHS, or their analogues in other sectors, to the policy outcomes of interest to this review. In particular, there is scope — and indeed need — for empirical research to fill the following gaps:

1  Organisational research into the emerging, policy-driven organisational structures, most obviously attempts to create more autonomous 'public firms' (e.g. Foundation trusts) for health care provision but also the new public-private joint structures that are now appearing both in the hospital sector and (through the Local Improvement Finance Trust (LIFT)) in primary care. What organisational processes do these new structures promote and which ones do they stymie? What unintended and dysfunctional, besides intended, organisational processes and outcomes do these new organisational structures produce?

2  Particularly under-researched are the structures of non-hierarchical organisations such as GP co-operatives (something of their extent is known but much less about their internal working), professional partnerships, provision of NHS services in collaboration with voluntary sector bodies (both pressure groups and self-help groups) and 'open source' knowledge management structures (which in fact existed although not under that name in the NHS long before appearing in sciences and software production).

3  There is equal scope for research into the parallels between health care organisations, including non-hierarchical structures, and analogous organisational structures elsewhere in the public sector. Our NHS consultees pointed out under-explored parallels between NHS structures and those in education, for example. The examination of analogous organisational structures could also be taken to other health systems. Foundation trusts, for example, were an idea taken from Spain and Portugal. US research normally differentiates profit and non-profit organisations, but there are fewer analyses either in the US or
Europe focusing on the structural differences, and their implications for outcomes, between public, voluntary and other non-profit organisations. Many studies on HMOs are available, but not many of them focus specifically on HMO structures developed in and by publicly-managed health systems, or which would be readily transferable to them. Most research into not-for-profit health care organisations comes from the US but there, as Westphal et al. (1997) point out, the difference between for-profit and non-for-profit structures is becoming a rather nice accounting and tax distinction in how the profits are distributed. Much less research examines the structures of non-public health care organisations which are not-for-profit in the European sense. Such research would not only inform policy debates but help widen the range of policy options by exploring the range of organisational structures that are possible in systems such as the NHS.

In any event, there is scope for direct comparisons, in terms of patient outcomes, between different types of organisational structures providing NHS health care. To varying extents (sometimes small), there exist studies of these types of organisational structures in isolation. Much scarcer are head-to-head comparisons of the patient outcomes they produce. Obvious examples include comparisons between Foundation Trusts and NHS trusts; between co-operative, PCT-managed and commercial out-of-hours primary care services; between GP-led and nurse-led primary care; and between PFI and non-PFI hospitals. To these might be added comparison between NHS structures and their counterparts in elsewhere, especially in Europe.

On balance, the literature on relationships between organisational structures and outcomes is, as noted, provider rather than consumer-oriented in terms of its foci of interest and outcomes studied. Even more than in the private sector (cp. Pettigrew et al., 1999), there is much research on measuring outcomes for NHS users but almost nothing on using these measures to discover which organisational structures produce what performance results, and how they do so. There are literally thousands of clinical outcome indicators and measures, but fewer which focus on the outcomes likely to be of most interest to NHS users (e.g. pain control, function in the activities of daily life, information and reassurance, accessibility to health care, and — more difficult — gross but nevertheless case-mix adjusted measures of recovery). It was evident from this review that remarkably little has been done to operationalise the concepts subsumed under the terms 'equity' and 'humanity' (for instance, the extreme paucity of studies examining gender or ethnicity), and the concept of 'need' which links both terms and has always been conspicuous in the most important
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NHS policy statements. Relating these concepts to existing measures of outcomes is an overdue secondary research task.

Although such outcome indicators require further development, as does the measurement of patient experiences and attitudes to health care, the most sophisticated measures are of little value if they are never actually used to measure anything. Of the research into the effects of different organisational structures, relatively little compares the effects of different organisational structures in these terms. Considering the political visibility of waiting lists and access times, for example, it is noticeable how few studies enquire what characteristics of NHS trusts organisational structures and of general practices conduce to the persistence of these problems. The sensitive question of how the co-existing structures for NHS and private medicine practice interact has produced a few studies, but not nearly so many as its policy salience might lead one to expect. Similarly, relatively few studies examine how organisational structures, both in the NHS side and in government, either conduce to or hinder realisation of the new public health agenda. Yet there seem to be clear lessons to be learnt in from the experience of smoking control, dietary policy and transport policy (to name but three). These are all domains for further empirical research.

In health care especially, the interior workings of organisational structures tend to be studied more than the environmental determinants of organisational structures and processes. Three empirical research needs appear to exist:

1. A precondition for research into the effects of new organisational structures is 'horizon-scanning' research into the emergence of new organisational structures, primarily in the UK and foreign health systems, but also in other sectors of the economy, especially the public sector.

2. Studies into the organisational structures, and the interactions between them and other 'environmental' forces, that enable — or fail to enable — public bodies such as SHAs and PCTs (or their equivalents in other systems) to manage the gross profile of activities and directions of development of the organisations which actually provide publicly-funded services. Our NHS consultations suggest that NHS trusts, for example, often manage to buffer or dismiss outside pressures to change their pattern of service (and so, by implications, its outcomes for users). A clearly policy-relevant piece of research would be to investigate what effect the restructuring and anticipated mergers of PCTs have on this state of affairs. Another gap in research in this area is an understanding of the part which social capital plays in the relationships between (and indeed within) the different types of organisational structure found in the NHS.
3 The latest forms of primary care led health care commissioning, in the forms of the Patient Choice and Payment by Results, provide a second opportunity, repairing the one lost in 1991, to study the effects of these important structural innovations. The relationship between this aspect of NHS organisations’ environment, their organisational structures and working processes can now be studied in parallel from both standpoint of both primary and secondary care organisations. One particular question arises. Medicare uses standard, DRG-based pricing but US evidence suggests it has not had much effect in stimulating non-price (‘quality’) competition between health care providers. It would be valuable for organisation theory and for economics, and perhaps for UK policy-makers, to know what structural conditions produced that unpredicted effect. Research into the current introduction of DRGs in Germany would be worth undertaking to explore whether German experience could provide a possibly illuminating contrast with the USA.

Looking within existing health care organisational structures, the review suggests further avenues for future empirical research:

1 Our NHS consultees also reported a large burden of policy initiatives and continual change. Both they and the published evidence about the effects of high degrees of organisational centralisation raise the question of how NHS organisational structures which are so heavily oriented towards the implementation of national policy manage to avoid — when they do — gridlock and other dysfunctional consequences of over-centralisation, including the consequences of superficially non-problematic policies such as performance management and public reporting of health outcomes.

2 Health workers are an important source of new organisational structures, usually at the level of service provision. With a few honourable exceptions (e.g. Knight and Procter, 1999) there is a lack of research into how workplace teams and groups structure themselves around processes of care and the effects of different ways of doing so upon patient outcomes. If indeed these semi-formal and informal working arrangements represent attempts to make good the lack or deficiencies of formal NHS organisational structures, this topic is an important area for research. It might be instructive to contrast these ad hoc attempts at re-engineering (although they are rarely called that) with official attempts at BPR such as those which Ferlie and McNulty (2002) describe. A corollary would be research how the occupationally based ‘semi-detached silo’ structure found in many NHS trusts is being adapted (as our consultees reported) into more ‘product-line’ directorates, and what the effects and constraints of this re-structuring are.
Clinical practice and the selection of new health care technologies are becoming more evidence-based but aspects of the relationships between health care technologies and organisational structures are still not well understood, despite the obvious importance of health care technologies in determining patient outcomes. It is not well understood how NHS organisational structures actually select (and de-select) possible new health care technologies, in particular how NHS trusts' occupationally based structures affect the selection. Neither is it well understood how the technical requirements of new clinical techniques (e.g. for a specific skill-mixes and inter-dependencies in clinical work) constrain organisational structures. Such research appears to require an interdisciplinary approach involving (at least) medicine, sociology and organisational studies. There have been few empirical evaluations of the impact of process-based health or protocol-driven health care.

The review also indicates a more disparate category of other outstanding research tasks connected with the organisational structure–outcome relationship:

1. To investigate empirically why medical manpower planning has gone so awry in the UK. This appears at least in part to be a structural problem, since medical training lies at the interstices of the Department of Health, NHS, higher education and professional bodies.

2. There remain few empirical micro-level studies of NHS decision making and how NHS organisational structures influence it.

3. The present review found unexpectedly few studies which empirically test alternative varieties of 'classical' organisation theory (see Chapter 2) against each other. So few, indeed, it proved difficult to identify precisely many points of dispute between them. For the most part, the different theories more often focus on their own pre-occupations than generate competing explanation of the same organisational structures, process and outcomes. This suggests a need for further, initially theoretical secondary research to develop alternative 'classical' theories to the point where empirical research in the NHS can be used to make a differential diagnosis between them, and thereby make a theoretical, as well as empirical, contributions to knowledge.

4. To investigate the connections between ownership, autonomy, work motivation and incentives in independent general practices.
To investigate further how organisational cultures develop and differ between occupational groups within NHS organisations (*empirical research*).

Further methodological work (*secondary research*) to develop techniques for reviewing the qualitative research literatures that predominate in this field.

Extending the present review with further *secondary research* into the contiguous disciplines mentioned in Chapter 3 in particular, given the focus above on user outcomes, marketing research literature.

In summary, there is wide scope for intellectually substantial, policy-relevant research into the developing NHS organisation structures. Given the remit of the present review, making a start on *empirical research* into the neglected comparative evaluations of alternative NHS organisational structures in terms of their patient outcomes is the obvious choice of starting point.
Appendices

Appendix 1  Specimen search strategy

**Medline search strategy**

1  ((organi#ation$ adj2 (structur$ or form$ or function$ or determinant$ or factors or environment$ or process$ or culture$)) and (outcome? or perform$ or satisf$ or efficien$ or effective$ or equ$ or growth or develop$ or justice or quality or culture$ or manage$ or leader$)).tw.

2  exp *psychology, industrial/ or *absenteeism/ or *efficiency/ or *job satisfaction/ or **"task performance and analysis"/ or **"time and motion studies"/ or *work simplification/ or *time management/ or *vocational guidance/

3  exp *Health Services Administration/

4  exp *Organizations/

5  exp *Health Planning/

6  2 or 3 or 4 or 5

7  1 and 6

8  limit 7 to human
### Appendix 2  Number of records identified from each database source

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<td>CSA Assia</td>
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<td>Expanded Academic*</td>
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Appendix 3  Relevance criteria for study selection

Organisational form and function literature review

List 1: Organisational factors

Organisational Environment
Market*
environment
context
merge*
Contestability
Climate
Regulation
Knowledge economy

Organisation/organization [terms to identify the organisation in the concrete sense]
firm
corporat* 
industry

Organisation/organization [in abstract sense, as 'organised']
Form
Structure
Culture
function,
integrat*,
Co-operation
Labour Process
Technology
Knowledge
Management
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Administration
Control
Authority
Configur*
Centralis*
Decentralis*
Devol*

Organisational characteristics
Size
Scale
Climate
Ideology
Values
Legitimacy
Incentives
Workload
Social
Stress
Reward
Penalties
Sanctions
Salary
Pay
Wages
Motivation
Intrinsic
Extrinsic

Governance structur*
Networks
Interdisciplin*
Profession*
Policy
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Provider
Hierarchy
  Leadership
Planning
Budget*
Coercion
Soft
Market*

List 2: Outcomes

Organisation*/organization* performance

Performance
  Indicators
    Outcome*
    Process*
League tables
Yardstick
Benchmark*
Management
Definition
Emergent
Intended/unintended
Dysfunctional
Change management
Culture change
Results

Equity
Stakeholder

Efficiency
Organisational slack

Effectiveness
Integrated service
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Seamless
Joined-up

Satisfaction
Career
Staff
User
Experience
Morale
Communication

Financ*
Profitability
Transaction costs
Value added

Clinical
Quality
Balanced score-card

Modernisation
Innovation
Learning
Feedback
Audit
Trust
Co-operation

Responsiveness
Policy
User
Transparency
Open
Public
Appendix 4 Data extraction sheet (and spreadsheet format)

Data extraction sheet

Coverage

Study factors covered (tick any that apply):

1. Environment of organisation  
   Y/N
2. Organisational structure ('form')  
   Y/N
3. Organisational processes ('organisational behaviour')  
   Y/N
4. Organisational outcomes ('function')  
   Y/N

Relationships covered (tick any that apply):

1. Environment — organisational structure ('form')  
   Y/N
2. Environment — organisational processes ('organisational behaviour')  
   Y/N
3. Environment — organisational outcomes ('function')  
   Y/N
4. Organisational form — organisational processes / behaviour  
   Y/N
5. Organisational form — outcomes ('function')  
   Y/N
6. Organisational processes — outcomes ('function')  
   Y/N

Relationships to policy outcomes:

Which cell(s) in Table A does this study cover (tick any that apply)?

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<th>Organisational processes</th>
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<td>Efficiency</td>
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<td>Adherence to external performance targets</td>
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Country and sector (tick any that apply; write in where necessary):
- Does the study cover the health sector? Y/N
- Does the study cover non-health sectors? Y/N
  Which non-health sector(s)?

Which country / countries are covered?
UK Y/N
Other European (including former USSR) Y/N
Australia Y/N
Canada Y/N
Israel Y/N
New Zealand Y/N
USA Y/N
Other(s), please state ..........................................................

Headline findings

Relationships found (summarise or enter 'N/A'):
1. How environment influences organisational structure ('form')
2. How environment influences organisational processes ('organisational behaviour')
3. How environment influences organisational outcomes ('function')
4. How organisational form influences organisational processes ('organisational behaviour')
5. How organisational form influences organisational outcome ('function')
6. How organisational processes influence organisational outcomes ('function')

Evidence base (tick any that apply)
- Census of organisations Y/N
- Survey of organisations Y/N
- Survey of individuals Y/N
- Multiple case study Y/N
- Single case study Y/N
- Observer, participant or managerial rapportage Y/N
- Other, please state ..........................................................
Representativeness (tick any that apply)

- Census Y/N
- Randomised sample Y/N
- Purposive sample Y/N
- Convenience sample Y/N
- Single report or case Y/N
- Other, please state ...........................................

Method (Tick any which apply)

- Randomised control trial Y/N
- Quasi-experiment (i.e. non-randomised control) Y/N
- Other comparative design (2+ organisations, sectors or systems) Y/N
- Longitudinal (historical, narrative, cohort, before-and-after, time series) Y/N
- Multiple case study Y/N
- Single case study Y/N
- Realistic evaluation Y/N
- Laboratory game / simulation / experiment Y/N
- Other (please state .............................................
- Is this a multi-method study (e.g. survey + case studies)? Y/N
Appendix 5  Studies relating environment to efficiency (n=51)

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Appendix 6  Studies relating environment to equity (n=6)

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Appendix 7  Studies relating environment to humanity (n=3)

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## Appendix 8  Studies relating environment to process quality (n=23)

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*‘Other’ = meta study*
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*Other basis*: 1 cross-sector comparison; 1: meta-study

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Appendix 10  Studies relating environment to staff morale (n=22)

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Appendix 11  Studies relating environment to adherence to external targets (n=11)

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### Appendix 15  Studies relating structure to process quality (n=100)

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*‘Other’: 4 meta studies*

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*‘Other’: 4 meta studies; 1 historical*

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*‘Other’: 4 meta studies; 1 historical*
## Appendix 16  Studies relating structure to patient outcomes (n=106)

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*'Other': 3 meta studies*

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*‘Other’ 3 meta studies; 1 historical; 1 validation study*
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*Other*: 1 historical study

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*Other*: 2 meta study; 1 historical study; 1 analysis of documents
Appendix 19  Studies relating processes to efficiency (n=347)

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*Other*: 9 meta studies

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*Other*: 10 meta studies; 1 theory-building; 1 methods-testing; 2 ethnographic

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Other: 9 meta studies; 3 historical; 3 'inductive'; 1 ethnographic; 1 model-building; 1 'Balint-style' discussion groups
Appendix 20  Studies relating processes to equity (n=16)

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Appendix 22  Studies relating process to process quality (n=122)

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'Other': 4 meta studies; 1 historical

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'Other': 2 meta studies; 2 methodological experiments; 1 delphi
### Appendix 23  Studies relating organisational processes to patient outcome (n=151)

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Appendix 24  Studies relating organisational processes to staff morale (n=191)

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## Appendix 25  Studies relating organisational processes to target adherence (n=75)

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Appendix 26  Interview and focus group schedule

Scoping project: organisational factors and performance

Schedule: Interviews and focus groups

Introduction

Explain: This study is sponsored by SDO. It aims to discover which aspects of 'organisational function' and its relationship to organisational form most interest stakeholders in the NHS and its periphery, and why.

State that all responses will be anonymised and non-attributable.

Topics to cover (sequence not important):

- Types of decision about organisational form ('structure') that NHS managers face
- Main constraints on these decisions
- What outcomes or results do they trying to obtain when making organisational changes
- What evidence they apply
- Any evidence that would have helped but isn't available
- Most problematic organisational characteristics of NHS Trusts/SHAs/PCTs/other organisations
- Decisions about organisational form ('structure') anticipated over the next three years
- What evidence they would find useful
- Their views about what the characteristics of a good organisational form(structure) are

NB Remember to investigate any other topics raised that are relevant to the research questions
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Organisational Factors and Performance: A Review of the Literature


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Organisational Factors and Performance: A Review of the Literature


Figure 1  Conceptual framework. Levels of analysis, their component factors, and the linkages between them

Conceptual framework figure 1

Levels of analysis, their component factors, and the linkages between them

- Environment
  - External relationships
  - Sectoral structure
  - Socio-political context
  - Resource dependencies
  - External incentives
  - Trans-organisational institutions
  - Population & personal characteristics

- Structure
  - ‘Vertical’ organisational design
  - Ownership & property rights
  - Technical resources
  - Place
  - Horizontal organisational design
  - Size & age

Etc...
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