# NHS Improvement

# Making mergers work

# Literature review: the experiences of healthcare providers in delivering merger objectives

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## About NHS Improvement

NHS Improvement is responsible for overseeing foundation trusts, NHS trusts and independent providers. We offer the support these providers need to give patients consistently safe, high quality, compassionate care within local health systems that are financially sustainable. By holding providers to account and, where necessary, intervening, we help the NHS to meet its short-term challenges and secure its future.

NHS Improvement is the operational name for the organisation that brings together Monitor, NHS Trust Development Authority, Patient Safety, the National Reporting and Learning System, the Advancing Change team and the Intensive Support Teams.

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# Summary

Mergers have played a central role in shaping the NHS. Between 1997 and 2006 there were over a hundred hospital mergers. Most recently, between 2010 and 2015 there have been around 50 NHS mergers. These have involved combinations of NHS foundation trusts, trusts and primary care trust provider arms.

In this paper we review the literature on the value of healthcare mergers in England and elsewhere. Our research has identified the most prominent papers in the policy and research literature (from academia, think tanks, government departments and consultancies with merger advisory experience) that examine the objectives and outcomes providers have sought to achieve through mergers and what factors affect their deliverability.

Our review suggests that mergers, including those in healthcare, have a mixed track record of realising value for merging organisations. There is little empirical evidence that healthcare mergers consistently improve quality or deliver cost savings, technical or cost efficiency. However, some notable merger successes are cited both in the NHS in England and elsewhere.

We identified the following common outcomes that healthcare providers across different healthcare systems seek to achieve through mergers:

- delivering cost savings and financial stability

- improving clinical outcomes by changing the way that services are delivered

- achieving other organisational scale advantages such an increased ability to recruit staff or undertake clinical research.

We also identified factors that can affect the likelihood of a successful merger:

- **clarity and strength of the strategic rationale for merger**. A merger is most likely to be supported if it instigated by the providers involved and with board commitment. A strong rationale is also central to winning the support of clinicians.

- **robustness of merger preparation and planning**. It is important to quantify the potential value of a merger and to plan fully for it. Understanding how the capabilities of the merging providers complement each other is an important step in this process. It is important not to underestimate the time required to deliver improvements.

- **effectiveness of stakeholder engagement**, particularly with clinicians at various levels of the organisations. Again, it is important not to underestimate the effort required to do this.

- **importance given to building and maintaining momentum** to implement merger objectives, without losing sight of core activities.

- **importance given to creating a common culture**, which highlights the need for organisational integration in addition to the integration of service provision.

- **realism about delivering scale efficiencies**. Scale efficiencies are possible for single sites up to a certain size (200 beds), but there is currently no evidence that they are achievable across multiple sites. It may be also that the quality of management determines size rather than size determining the quality of management.

# 1. Track record of healthcare mergers

Mergers across the board, including in the healthcare sector, have a mixed track record of achieving value for the merging organisations. For example, KPMG (1999, p.2) reviewed the top 700 international merger and acquisition deals by value completed in the previous three years and found that 83% "were unsuccessful in producing any business benefit as regards shareholder value"; as many as 53% "destroyed" shareholder value.

With respect to the healthcare sector specifically, Booz and Co (2013, p.8) found that of 219 US healthcare providers acquired by another provider, only 41% outperformed their peers in terms of operating income and operating margins post merger.

Empirical studies have found little evidence that healthcare mergers improve quality or deliver cost savings, technical or cost efficiency (Nuffield Trust 1997, p.50 Ho and Hamilton 2000; Capps 2005; Kjekshus and Hagen 2007). Gaynor et al (2012, p.18–19) found no indication of improvement in quality in a sample of102 mergers in the NHS in England between 1997 and 2004; clinical productivity did not change and financial performance deteriorated at most of the hospitals.

Against this mixed track record, some successful healthcare provider mergers have been cited in the literature, both in the NHS and internationally:

- creation of University College London Hospitals (UCLH) NHS Foundation Trust in 2004 from the merger of six hospitals. UCLH subsequently grew its market share in several specialties and scores highly in its clinical quality, patient satisfaction and financial position (McKinsey & Company 2012, p.4)

- creation of University Hospital Birmingham NHS Foundation Trust in 2000. This significantly improved the quality and safety of clinical services in the region during this period. (KPMG 2011a, p.11)

- mergers involving of the Mayo Clinic (USA), Cleveland Clinic (USA) and University Hospital Giessen and Marburg (Germany) have all led to improved patient outcomes (McKinsey & Company 2012, pp.2–4).

# 2. What providers seek to achieve through mergers

Published studies consistently show that healthcare providers want to achieve the following outcomes through mergers (Fulop et al 2002, p.1; KPMG 2011a, p15; The King's Fund 2015, pp.13-14, for example):

- cost savings and financial stability

- improved clinical outcomes by changing the way that services are delivered

- other organisational scale advantages such as an increased ability to recruit staff or increased investment in clinical research.

Other motivations cited in the literature are influenced by the nature of the healthcare systems in which the merger was undertaken. For example, providers might also seek to merge to preserve or grow their market share (KPMG 2011a, p.15).

According to Fulop et al (2002, p.2), NHS mergers have previously been used as a means of imposing new management on providers that are perceived by local health authorities or regional offices as undermanaged or lacking control. When discussing this point, a recent report by the King's Fund (2015, pp.34–35) questioned whether merger is a proportionate way to achieve this and suggests several alternatives, eg developing packages to attract high-quality management teams to struggling providers, addressing other underlying reasons for failure or investing in succession planning.

## 2.1. Delivering cost savings and financial stability

Realising cost savings is a common objective of healthcare mergers. Some are also motivated by a desire to stabilise the finances of one or more of the merging parties. The King's Fund (2015, p.10) suggested that the overriding objective of many NHS mergers between 2010 and 2015 was to rescue one of the parties from financial difficulty and in some cases to address concerns about the quality of services. Of the 50 mergers that took place over this time period, the King's Fund suggested that one party in five of the mergers had entered administration, while seven of the mergers included a provider in financial distress (ie significant recurrent deficits). Reflecting government policy, the King's Fund also noted that one of the primary motivations for at least a dozen of the mergers since 2010 was to allow NHS trusts to acquire foundation trust status through the transaction.

The types of cost savings that providers typically seek to achieve through a merger include savings in back-office and management functions. In their study of NHS hospital mergers in London in 1999/2000, Hutching et al (2003) identified that back-office and management costs were more likely to be saved than clinical costs. Fulop et al (2002) similarly reported that the clearest source of savings through a merger was the reduction of the size of management boards. These savings are estimated by providers interviewed in the study to be between £500,000 and £700,000 (0.5% to 1% of turnover) on average for the mergers considered.

Merged organisations can also make financial savings by negotiating lower costs for goods and services. For example, case studies from the Dalton review reported that, post-merger, procurement for all sites is almost always centralised as this can generate the largest economies of scale, with some providers achieving up to 20% savings on procurement costs (Department of Health 2014a, p.19).

The financial managers interviewed for Fulop et al (2002, p.4) were less convinced that other savings were achievable in the first financial year following a merger (The likelihood in subsequent years was not mentioned). Instead, mergers were considered to highlight hidden financial problems in the constituent trusts and to reveal differences in the funding and staffing of services across merged organisations.

McKinsey & Company (2012, p.6–7) have suggested that service integration can generate substantial cost savings (typically through the consolidation of services on fewer sites): savings of between 12% and 14% were estimated for a UK hospital consolidating services across two sites and closing a third site. At the same time, however, it emphasises the difficulty of achieving real service change and the poor track record of mergers realising these savings (see Section 2.2).

The literature suggests that financial savings can be offset by the cost of implementing the merger. Fulop et al (2002, p.6) suggested that mergers may need more management support than initially anticipated. Looking in more detail at the post-merger changes in cost structure, Gaynor et al (2012, pp.13–15) noted a rise in agency and other non-permanent staff. This was attributed to hospitals offsetting falls in permanent staff by increasing temporary hires. The authors also noted that surpluses tended to fall and deficits to rise in the acquiring hospital directly after the merger, reflecting the costs involved in undertaking a merger.

## 2.2. Restructuring how services are delivered to improve outcomes

Mergers are often seen as a way of facilitating change in the way that services are delivered, improving patient experience and clinical outcomes, as well as delivering cost savings. Approaches include:

- service relocation and consolidation to facilitate greater clinical specialisation and sustainability

- standardising clinical best practice.

**Service relocation and consolidation**

Many examples have been reported of providers aspiring to restructure, relocate and/or consolidate services through merger. For example, the King's Fund (2015, p.14) has cited a provider that saw merger as an opportunity to redesign stroke services, acute medicine, end-of-life care, and trauma and orthopaedic services.[1] McKinsey & Company (2012, p.4 and p.8) cited two examples. First, the merger of six local hospitals to create University College London Hospitals NHS Foundation Trust meant that it could achieve critical mass in several key specialties. Second, the

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[1] The King's Fund (2015, p.16) noted that providers' cited improvements to stroke and cancer care could be, and in some cases were being, pursued through co-operative networks.

West Hertfordshire Hospitals NHS Trust, formed in 2000 through the merger of two smaller hospitals, has been able to consolidate A&E services onto one site and to separate elective and non-elective care, improving both patient outcomes and operational efficiency. Separately, a positive outcome from the merger of one UK mental health trust was the opportunity to bring specialists together, unifying previously fragmented services such as child and adolescent mental health (Fulop et al 2002, p.3).

As noted above, the literature suggests that service consolidation can generate substantial cost savings (see Section 2.1) and has the potential to improve patient outcomes. Many of the clinical benefits associated with restructuring and consolidating services through merger appear to be linked to the increase in an organisation's size. RAND Europe, part of the Dalton Review's comparison of hospital models in Europe and the USA, found that increased hospital scale can improve quality in certain services because it enables a higher volume of activity (Department of Health 2014a, p.17). McKinsey & Company (2012, p.8) cited clinical studies showing that for many services staff only maintain their skill levels by treating a sufficient volume of patients.

Clinical standards and guidelines may influence providers' aspirations to restructure and consolidate services through merger (eg because it achieves the recommended minimum volumes and/or requirements on staffing ratios). Fulop et al (2002, p.2) noted that some mergers have been in response to external service and policy reviews recommending the concentration of certain acute and specialist services.

Providers have suggested that merger allows them to use spare capacity more effectively (Fulop et al 2002, p.1; The King's Fund 2015, p.16). McKinsey & Company (2012, p.7-8) suggested that this is because merger eases the challenges associated with restructuring and consolidating services, eg where separate providers' individual interests are incompatible with proposed changes.

Experience suggests that it can be difficult to achieve service change in practice. McKinsey & Company (2012, p.4) attributed the poor track record of healthcare mergers to the lack of substantive changes being made to service delivery; mergers have not achieved the anticipated consolidation of services and sites.

KPMG (2011a, p.15) cites an interviewee's suggestion that while clinical realignment can lead to more efficient service delivery, and ultimately cost savings and improved clinical outcomes, realignment takes time. In contrast, cost savings are often required in response to an urgent need. As a result, leaders can face conflicting pressures.

The King's Fund (2015, p.34-7) questions whether mergers make it easier to deliver service change. The paper states that mergers can give leaders of challenged providers additional time – "putting an umbrella over a struggling provider" – or make it slightly easier for them to present reconfiguration to the public. On the other hand,

the King's Fund states that mergers might act as a substantial distraction from the challenges of reshaping services. At worst, it states that some evidence suggests that mergers allow poorly configured or inefficient services to survive within larger organisations, which makes it easier to defer difficult changes to how they are delivered.

**Standardising clinical practice and processes**

McKinsey & Company (2012, p.6) reported that standardising and integrating clinical work practices can deliver cost savings, but to be successful in this senior managers and clinical leaders in both organisations need to be willing to adopt new processes to generate shared benefits.

A well-executed merger can improve patient outcomes if it increases transparency in care quality or it improves performance management processes that help leaders identify where and why service problems are occurring (McKinsey & Company 2012, p. 8). KPMG (2011a, p.15) cited a merger that "introduced a more systematic approach to performance assessment, based on benchmarks and utilisation review for acute in-patient care, mental health care, and continuing care and rehabilitation."

## 2.3. Other organisational scale advantages

Providers often cite merger objectives relating to increased size and scale of the organisation post-merger. These include:

- easier recruitment and retention of staff

- facilitated access to capital or new technology

- increased investment in clinical research.

However, a larger organisation can also result in certain diseconomies. For example, Fulop et al (2002, p. 4) reported that larger organisations were considered by interviewees to be unresponsive or slow to make decisions. The King's Fund (2015, pp. 16–17) noted that the potential downsides of creating larger, more complex organisations are often not recognised. We discuss the importance of robust and realistic merger planning and the evidence on scale economies further in Sections 3.2 and 3.6 respectively.

**Easier recruitment and retention of staff**

Providers report that mergers typically result in a larger pool of professional staff, which can lead to larger teams of specialists and increase the likelihood of clinical excellence (Fulop et al. 2002, p.4). These authors also reported that more opportunities for staff training can be an immediate and tangible benefit for staff, along with enhanced professional networks. They suggested that, using the example of a mental health merger, increasing organisational size facilitates the sharing of ideas with all staff in the organisation.

However, none of Fulop et al's (2002, p.4) case studies saw substantial improvement in staff recruitment and retention during the early stages of their mergers. In fact, some found that merger made it harder to retain staff, as staff left to avoid the organisational disruption during the merger process. This is reflected in the post-merger increase in agency staff noted by Gaynor et al (2012, p.14).

**Facilitated access to capital or new technology**

Mergers can allow hospitals to acquire new skills or technologies from each other more rapidly than would be possible if the facilities remained separate (eg one facility may be able to get access to its partner's advanced technology). In some cases, the merged entity might be better able to access capital or afford to provide new services that would have been prohibitive for either hospital on its own (McKinsey & Company. 2012, p.8).

**Increased investment in clinical research**

The King's Fund (2015, p.14) noted that eight mergers for which it reviewed publicly available documents listed investing in research as one of the efficiencies that might potentially arise. However, no detailed explanation was given about how providers would have achieved them.

## 3. Factors affecting the deliverability of merger objectives

The literature highlights a number of factors that can affect providers' likelihood of a successful merger:

- clarity and strength of the strategic rationale for the merger

- robustness of merger preparation and planning

- effectiveness of stakeholder engagement, particularly with clinicians

- importance given to building and maintaining momentum to implement merger objectives, without losing sight of core activities

- importance given to creating a common culture

- realism about the scale of efficiencies that can be delivered.

### 3.1. Developing a compelling rationale for the merger

A compelling strategic rationale is necessary for a good merger outcome (see, for example, KPMG 2011a, p.15; McKinsey & Company 2012, p.4; The King's Fund 2015, p.14–15). McKinsey & Company (2012, p.4) stated that: "successful mergers are based on a deep – and objective – appraisal of the clinical and economic value that could be generated for either the combined institution or the broader health economy."

McKinsey & Company (2012, p.10) also emphasised the need to compellingly articulate the rationale to all stakeholders (eg setting out what the organisation will be renowned for in three to five years). The authors suggested that it is difficult to gain support for a merger without a compelling case for how care quality will be improved: without this a merger is more likely to "fall victim to vested interests and public disquiet" (McKinsey & Company 2012, p.6). KPMG (2011a, p.19) drew similar conclusions: "if you can communicate the merger objectives in terms of patient outcomes, clinical quality and service levels, it becomes very difficult for stakeholders to oppose." The importance of stakeholder engagement is discussed further in Section 3.3.

While the need for a clear and strong strategic rationale may seem obvious, the track record of healthcare mergers suggests this can often be overlooked. In its review of publicly available documents for NHS mergers completed between 2010 and 2015, the King's Fund (2015, p.13-15) identified no clear rationale for five of 19 mergers, and eight mergers had a generic rationale rather than one giving specific, expected improvements. Only six were identified as having either "specific synergies" or a "distinctive strategic rationale".

A merger is more likely to have a strong rationale when it is instigated by the providers involved. A review of 29 international healthcare mergers suggested that the involvement of governments and large payers in bringing together providers often gives the perception that mergers are "mandated by a higher power" (KPMG 2011a, p.8). This can significantly affect the motivation of key staff in completing the merger, and consequently the likelihood of its success. It can affect the entire merger process, including the planning, implementation, stakeholder relationships and organisational culture of the merged organisations. Respondents involved in a mandated merger were almost half as likely to have conducted due diligence before the merger, compared to those involved in a merger instigated solely the parties (KPMG 2011a, pp.8–10). In addition, mandated mergers were less likely to fully achieve their objectives and intended outcomes (KPMG 2011a, p.9).

Scanlan (2010, p.145), drawing on US experience, reported broadly similar findings: the strength of a merger's rationale is weakened if the management team does not want the merger, or the board commits superficially to it or does not question management's word that the merger is feasible. Further, the rationale is weakened where the reason to merge is not supported by a sound business decision or is a reaction rather than a sound strategy.

Examining takeovers of failing NHS providers, Corrigan et al (2012, p.17) highlight the tendency in the UK to address issues of hospital performance by directing mergers from the centre. This can undermine the autonomy of leadership in hospitals and its ability and incentives to make strategic decisions.

## 3.2. Preparing and planning for integration

In addition to a compelling rationale, sources also consistently emphasise the need for robust preparation and planning to ensure that a merger delivers the intended improvements (see, for example, KPMG 2011a, p.4; McKinsey & Company 2012, p.12). An international review of healthcare mergers found that the majority of organisations (77%) with good merger planning and a clear strategy achieved their objectives. To emphasise the importance of preparation and planning, it quoted one healthcare executive: "You can't under estimate the benefits of a formal approach driven by and underpinned by clinical/service experience, developed within the context of a clear strategic plan for service change and development" (KPMG 2011a, p.20).

However, KPMG (2011a, p.20) also noted the lack of merger experience among healthcare leaders and consequent lack of awareness of the importance of planning and approach to a merger. Less than half of the interviewed merger organisations felt their organisations had been fully prepared for merger.

**Quantify and plan fully where value is to be created by the merger**

Mergers are often seen as exciting transactions, which can lead to a tendency to overstate potential benefits and understate costs (KPMG 2011a, p.16; McKinsey & Company 2012, p.11; The King's Fund 2015, p.24). As part of the preparation and planning process, McKinsey & Company (2012, p.11–12) urged healthcare leaders to be rigorous in quantifying the value a merger is likely to deliver, including identifying the potential sources of clinical value, quantifying the financial value and anchoring the integration plans in the source(s) of that value. It advised undertaking financial modelling with and without a merger, as well as with and without service restructuring, so the impact of not making substantial change is clear.

KPMG (2011a, p.21–22) suggested that starting the merger planning early should help uncover any challenges and avoid unwanted surprises. It advised consideration of both short-term and long-term benefits, identifying areas for further investigation and analysis. While acknowledging that pre-merger preparation and planning work can be difficult and time consuming, KPMG suggested it will pay off and save time in the long run.

Corrigan et al (2012, p.18) suggested in some NHS mergers that integration planning often does not extend much beyond the initial amalgamation of organisations and back-office functions. Planning for small changes, such as gradual synergies around management and the back office, may appear to be safer than planning broader changes. The danger is that if broader objectives are not planned, the difficulties of actually carrying out the integration can become an excuse for not doing the very things that made the merger a compelling proposition in the first place.

**Understand the capability fit of each organisation**

When scoping and planning a merger, Booz and Co (2013, p. 13) recommended focusing on the "capabilities fit" of each organisation, defined as the ability to add capabilities currently missing from an organisation or that are needed to respond to changes in the operating environment, or applying existing capabilities to new services. Among the 30 largest mergers and acquisitions involving US publicly-owned hospitals over the previous 15 years, those based on "capabilities fit" clearly outperformed those focused on more traditional metrics such as market share. Booz and Co (2013, p.15) also stated that this approach could help providers to estimate which deals are likely to be successful in the future, so avoiding reacting to short-term business trends or the actions of competitors.

McKinsey & Company (2012, p.14) suggested that cultural differences can slow the speed of change, increase the costs of merging and, in some cases, even derail the merger. Analysis of compatibility can provide an opportunity to double-check whether the assessment of value is realistic.

**Do not underestimate how long it can take to deliver improvements**

KPMG (2011a, p.24) suggested that many merging providers underestimate how long it can take to achieve planned objectives. In a number of cases, complete success was only achieved after almost 10 years of ongoing post-merger integration.

Fulop et al (2002, p. 3) found that underestimating the time required to restructure an organisation can be linked to delays of at least 18 months. They stressed the importance of taking into account the possible unintended consequences of mergers during the planning phase.

### 3.3. Importance of engaging with stakeholders

The evidence suggests that engaging clinicians, the public and other stakeholders should be a central part of planning and implementing a merger (see, for example, KPMG 2011a, p.18; Corrigan et al 2012, pp.29–33; McKinsey & Company 2012, pp.10–11). As suggested above, mergers can be derailed because of staff or public opposition. Lord Darzi in 2008 suggested that working with both clinical and managerial leaders is central to changing the system in ways that benefit the patient (Corrigan et al 2012, p.30).

Managing stakeholder relationships can be one of the hardest components of a healthcare merger to plan and execute (KPMG 2011a, p.18) and, for example, McKinsey & Company (2012, p. 10) cautioned leaders against misjudging the effort required to achieve stakeholder alignment. It recommended developing and communicating a clear case for change that can be understood by all stakeholders. As noted in Section 3.1, the case for change should be grounded in how care quality will improve.

Consistent and open communication with stakeholders is also important. Management is often more comfortable describing a takeover as a merger of equals, which can confuse the nature and direction of the changes required, and their delivery (Corrigan 2012, p.18).

Gaining clinicians' support and buy-in is particularly important and can take time. KPMG (2011a, p.18) cites a respondent recommending starting that process early in the merger planning, and continuing it after completion of the transaction: "Time and time again, we see healthcare mergers taking a long time to achieve their objectives because clinician support was not properly secured at the start of the process… This is the greatest lesson for healthcare executives and that – in hindsight – is widely recognised as the cause of many merger challenges."

Corrigan et al (2012, p.29–31) suggested that clinical engagement should include not only board-level clinicians but also, and perhaps more importantly, staff beyond the nursing and medical directors. The medical director is not necessarily the clinician with greatest power and influence in a hospital trust, and fundamental changes require a combination of breadth and depth of engagement.

## 3.4. Need to protect core activities and build momentum

Successful implementation of the merger plan is the next step in ensuring a merger achieves its objectives. Sustaining momentum over this phase is central to this, including for realising clinical benefits (see, for example, McKinsey & Company 2012, p.12). Indeed, the Dalton Review stated that the execution of any plans is important in turning potential gains into real benefits, regardless of the organisational structure used to deliver them (Department of Health 2014b, p.17).

Corrigan et al (2012, p.18) stated that the success of a merger depends on effective management of the end-to-end process – on the creation of a "common mindset" around what is important, and how it will be achieved – from the earliest stages to the ongoing running of the new integrated organisation: "No matter how compelling the business case...acquisitions inevitably run into difficulties post merger. Key people leave, processes break down, information systems get tangled, and customers grouse. Problems can pile so fast that even the best deals can quickly become undermined."

However, though it is important to focus on the implementation of the merger, this needs to be balanced against maintaining the organisation's day-to-day performance. Fulop et al. (2002, p.3) cited comments from interviewees inside and outside merging organisations that suggest managerial focus on services can be lost during the merger, and this can be affect patient care.

Where merger is mandated (as discussed in Section 3.1), the literature suggests this can affect the pace of merger implementation. In KPMG's (2011a, p. 9) review of a sample of mergers, six mandated mergers took in excess of five years to complete,

while only three took less than two years. Non-mandated mergers appear to take less than two years and certainly less than five years to complete.

## 3.5. Importance of creating a common culture

Merging two organisations can present organisational challenges that need to be resolved to deliver improvements to patients. First and foremost, a joint and shared organisational culture facilitates successful integration. Fulop et al (2002, p.3) stated that differences in cultures were important barriers to bringing together organisations. Differences in culture may, for example, reflect different attitudes to innovation and risk, or one organisation's focus on outcomes and the other's on process. Fulop et al (2002, p.4) also noted that clinical and managerial staff felt stressed by what they saw as an imposed change and uncertainty, as well as the increased workload associated with the process of merging.

NHS Confederation (2010, p.8) highlighted that merging hospitals with no common or overlapping traits, such as culture or geography, can result in long-term performance issues.

## 3.6. Delivering scale efficiencies

As set out in Section 2, healthcare providers often cite scale efficiencies (as they relate to financial and clinical changes) as the reasons for merger. However, the evidence suggests that these are delivered only in particular circumstances.

Posnett (1999, p.1064) cited evidence that economies of scale at hospital level are seen only for small hospitals with fewer than 200 beds. The optimal size for an acute hospital is 200 to 400 beds, as average costs increase at hospitals with between 400 and 600 beds. Our own research (Monitor 2014, p.18) into smaller acute hospitals similarly suggested that economies of scale may exist up to a capacity of 200 beds. A report by Frontier and Boston Consulting Group (2012, p. 11) for Monitor (now part of NHS Improvement) also noted that evidence for economies of scale was often based on high-level outcome measures, quality of care and training, rather than costs, and that studies at "whole hospital level" did not examine specific service lines and linkages between them. This suggests that results from studies on economies of scale should be interpreted in the context and basis on which they were undertaken. Analysis of hospital mergers in the USA "offers no support for the hypothesis that costs are lower in multihospital systems or that mergers lead to reduced costs through efficiency gains" (Posnett 1999, p.1064).

The above evidence considers hospital-level economies of scale. There may be scale efficiencies within a hospital too. The literature suggests there may be scope for benefits within a hospital of increased scale on outcomes for certain services, but these are usually relatively small (Nuffield Trust 1997, p.51; Department of Health 2014a, p.17). Frontier and Boston Consulting Group (2012, p.11) suggested that larger units may produce better outcomes for certain specialties, such as surgery,

cardiovascular services and paediatrics. However, Posnett (1999, p.1064) notes that "the royal colleges and others have argued for greater concentration of secondary services on the basis that clinical outcomes for patients are better in larger units. This may be true, but here also the evidence is lacking."

The literature suggests that scale efficiencies depend to some extent on other concurrent factors. Posnett (1999, p.1065) suggested that no degree of hospital concentration can guarantee better or more efficient services unless hospitals are managed in such a way that the importance of cost effectiveness, agreed protocols for treatment and diagnosis, and an open audit of clinical outcomes is accepted as part of the culture. McKinsey & Company (2010, p. 16) suggested that management practices are better in larger than smaller hospitals, and attributes this to the fact that well-managed hospitals can grow more as they become successful, giving the example of the private sector. Therefore, the quality of management is likely to determine size, rather than size determining the quality of management.

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